



The Effect of Bilingualism on Iranian EFL Learners' Vocabulary Retention

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ABSTRACT

The present study investigated the effect of bilingualism on Iranian EFL learners' vocabulary retention to see the probable differences between Iranian monolingual and bilingual learners of English regarding vocabulary retention. The main concern of the present study was to examine whether bilingual and monolingual learners of English differ in keeping and retaining words. To carry out this study, a sample of 120 female participants aged between 15 and 18 at pre-intermediate level of English at Safir language school in Saveh were randomly selected from among two groups of Turkish-Persian bilinguals and Persian monolinguals. A general English proficiency test, a questionnaire and a researcher-made vocabulary test in three phases as pre-test, posttest, and delayed post-test were administered to both mono and bilingual subjects. Soon after the pre-test, the students got treatment through color pictures. In fact picture recognition was used as an instrument for vocabulary retention (Makato Yoshi, Jeffra & Flaitz, 2002). Twenty days after treatment the second vocabulary test (post-test) was administered and the effect of treatment was observed. Finally, the delayed posttest (after a 7-day gap) was administered to see how monolingual and bilingual learners remembered and retained the words. Statistical analysis including descriptive statistics and inferential statistics (repeated measures-ANOVA) revealed that firstly, monolinguals and bilinguals differed significantly in their performance on language proficiency test. In fact bilinguals outperformed monolinguals in doing language proficiency test. Secondly, there was difference between monolingual and bilinguals learners in vocabulary retention: bilinguals had an enhanced ability to retain the words as compared to monolinguals.

Key words: Bilingualism- Monolingualism- Word Retention



Introduction

We are surrounded by language during nearly every waking moment of our lives. We use language to communicate our thoughts and feelings, to connect with others and identify with our culture, and to understand the world around us. And for many people, this rich linguistic environment involves not just one language but two or more. In fact, the majority of the world's population is bilingual or multilingual. Over the past few decades, technological advances have allowed researchers to peer deeper into the brain to investigate how bilingualism interacts with and changes the cognitive and neurological systems. Britannica Concise Dictionary defines the language as a system of conventional spoken or written symbols used by people in a shared culture to communicate with each other. A language both reflects and affects a culture's way of thinking, and changes in a culture influence the development of its language. The power of the language faculty, however it came to be part of the species endowment, is acknowledged across all human cultures (Cbailey, 2012). Learning different languages is an enriching and rewarding experience that enables individuals to get an insight into that language's culture. They also get to see their own culture from a new perspective. To be able to connect with another culture – through books, newspapers, TV, websites and, of course, through conversations, can give them a lot of pleasure. And they can share their own culture with others in their native language. A new world of connection and understanding will be open to them. Across the globe, the majority of the population is either bilingual or multilingual. Historical documents indicate that individuals and whole communities around the world have been compelled to learn other languages for centuries and they have done so for a variety of reasons like language contact, colonization, trade, education through a colonial language (e.g., Latin, Greek), and intermarriage (Lewis, 1977). Iran, a multicultural society, is home to a number of language communities speaking Turkish, Kurdish, Arabic, etc. (Khadivi, 2010). In this country it has been for some time that the need for bilingual programs and education of two languages is growing and has been taken into attention (Setayesh, 2013). Studies have shown the positive effects of learning a second language on the brain and that learning a second language significantly delays the onset of many brain related diseases such as Alzheimer and dementia, compared to those who can only speak their native tongue (Jennifer Smith, 2012). It highlights the role of language in memory function. Temporal lobe especially hippocampus has a very important role in preserving memories or conceptual and linguistic memories.

Statement of the Problem

The study of social phenomenon of bilingualism is one of the interesting areas in the study of language and society. Bilingualism makes the necessity of the language in the society more distinct. Study of this phenomenon creates an opportunity to relate language studies to other areas of human sciences such as sociology, psychology, anthropology and also other linguistic areas like grammar, syntax, pragmatics, and so on. Bilingualism is a complex issue and has different dimensions and is presented differently in different societies. This phenomenon has interdisciplinary nature and goes beyond linguistics. Psychologists pay attention to the study of brain effects and organization and work of mind in bilinguals. Sociologists consider bilingualism as a social phenomenon that causes heterogeneity in the society. The social environment plays an important role in the development of language. Lambert (1975) attributes the positive influence of bilingualism to additive context in which second language is socially relevant and is learned by supplementing the first language, that is, without replacing the first language for these



researchers, social aspects of language are important. Education experts consider the effects of the bilingualism on intelligence (Bowen, al, 2012). The reality is that bilingualism is a universal phenomenon that exists in the most countries of the world and that it is a norm. A bilingual learns a language other than his/her mother tongue (Der Leij, 2010). Mother tongue is the language in which first words are spoken and thoughts expressed by an individual. Thus, it is generally the language that a person speaks most fluently. Cognitively, the mother language is a crucial tool every child uses to understand the world. Culturally, the mother language is a fundamental expression of history and identity (Kirk Person & Sena Lee, 2012). Mother-tongue plays a tremendously useful role in the education of a child. Therefore, mother tongue must be given an important and prominent place in the school curriculum. It is the language community of the mother tongue, the language spoken in a region, which enables the process of enculturation, the growing of an individual into a particular system of linguistic perception of the world and participation in the century's old history of linguistic production (W.Tulasiewicz and A. Adams, 2005). Unfortunately, in many countries when a child needs formal education, he/she is educated with a different language that is recognized as an official language throughout his/her country. It is the stage that bilingualism begins. Bilingualism is a very complicated term that cannot be just applied to those who speak two languages and have mastery of either language. Therefore, many people are out of this definition since they are more dominant in their mother tongue. Evidence from around the world shows that children learn best when taught in their mother language in the initial years at school. Yet, too often, children are immersed in classrooms and taught in a language that they do not recognize. Children are expected to effortlessly learn in the school language without additional support. Language barrier excludes them from effective learning. For children from minority-language backgrounds, learning in their own language in the early years is not a luxury; it is a fundamental right to access educational opportunities. Furthermore, their ability to acquire second and additional languages is determined by the strength of their linguistic foundations in the first language. Therefore, learning in the mother language is also the right way to promote better learning of the national language (Kirk Person and Sena Lee, 2012).

Being bilingual can lead to improved listening skills, since the brain has to work harder to distinguish different types of sounds in two or more languages (Krizman et al., 2012). Some studies did seem to back up the idea that learning two languages could be problematic; early researchers noted that bilingual people tended to have smaller vocabularies and slower access to words. But these myths and minor disadvantages have now been overshadowed by a wave of new research showing the incredible psychological benefits of learning another language. And these extend way beyond being able to order a cup of coffee abroad or ask directions to your hotel (Dr Jeremy Dean, 2013). So far a comprehensive and multilateral research has not been done to find the relations between bilingualism and words retention to see how learning more than one language affects word retention. Besides, vocabulary learning has been always one of the most challenging and important facets of language learning. The present study tried to show that learning more than one language not only prevents confusion but also facilitate vocabulary learning and retention.

Significance and Justification of the Study

Studies in the field of effects of bilingualism on brain and its benefits have shown various results. Most of them indicate that learning more than a language in general can be effective in



brain growth, memory improvement and language skills. However, its impact on word retention isn't examined. It seems almost impossible to overstate the power of words; they literally have changed and will continue to change the course of world history. Perhaps the greatest tools we can give students for succeeding, not only in their education but more generally in life, is a large, rich vocabulary and the skills for using those words (John J. Pikulski and Shane Templeton, 2004). Wilkins (1972) stated that while without grammar very little can be conveyed, without vocabulary nothing can be even conveyed. Nation (2001) stated that meaning encompasses the way that form and meaning work together, in other words, the concept and what items it refers to, and the associations that come to mind when people think about a specific word or expression. Memorizing new vocabulary and making it stick and retain in long-term memory are questions that nearly every language learner has asked him/herself at one time or another. Given that learning and remembering new words is such a huge and important part of foreign language acquisition, it would make sense to learn about how to become better at it. It might be boring, but learning new words is simply unavoidable (Sam Gendreau, 2013)

Research Questions and Hypotheses

1: Do monolingual and bilingual learners differ significantly in their performance on English language proficiency test.

2: Do bilingual learners differ from monolinguals in vocabulary retention?

Two null hypotheses were formulated for the purpose of this study:

H01- Monolingual and bilingual learners do not differ significantly in their performance on general English proficiency test.

H02- There is no difference between monolingual and bilingual learners in vocabulary retention.

REVIEW OF THE RELATED LITERATURE

Presented Researches in Iran

Hooman (2013) conducted an essay with the title "bilingualism problem or phenomenon". In his article he has written that today researchers in the world have made considerable progress and significant improvement in the fields of language psychology, second language learning, bilingualism and education. However, lots of universal researches have cited the advantages of bilingualism some have pointed out its problems. In the present world bilingualism is normal and it is almost impossible to find a country where there is not at least two languages. Some cultural and political considerations makes only one language which is usually majority language be used as official and educational language. Many researches indicate positive effects of bilingualism on perception and learning. These studies state that bilinguals are more experienced due to control over two languages and culture. Some believe that for some people bilingualism means the ability to establish the same relations with two languages and some other believe bilingualism is the ability to establish connection with two languages but with more skill in using a language more than the other. Based on some old beliefs bilingualism confuse children and decreases their understanding or catch them between two cultures and they think that bilinguals have two-half personality. Bilingualism is one of the most complex realities that our ministry of education and many countries of the world have faced it. Multilingualism in Iran is a widespread matter which is not allocated to special region. This reality conveys an important message for the education



authorities and that is emphasis on bilingual education especially by knowing this that children are the most susceptible and vulnerable bilingual groups educationally.

Abdollahi (2012) conducted a research with the title of bilingualism and suitable educational approaches for developing reading skill". The goal of article was studying the suitable educational approaches for developing reading skill in bilingual regions. Bilingualism is the regular use of two or more languages that is applied with two individual and social concepts. The main purpose of language learning program is the strengthening of treading, speaking and writing skill. Among language skills, writing skill is one of the most important learning needs of students in today's life and perhaps the most important skill among school skills. This study introduces three types of specific skill for reading skills training in education process. In input model the axis does the decoding written symptoms and understanding concept and meaning, in the concept model-the axis cares the previous knowledge and interactive model of input processes-the axis and axis concept are in interaction with each other and according to this pattern meaning understanding which is known as "meaning construction" is the result of recognition of text inside our mind.

Ghazi Tabatabaie (2012) did a research with the title "vocabulary semantic differences in condition of bilingual education. According to the results of this research when an individual learns a language which is not his mother tongue he has basic meanings in his background for the words in his mother tongue that are defined as per the characteristic of that language ,besides he knows new words in the form of different forms and voices. To understand the meaning of new vocabulary both trainer and trainee choose the simplest way which is finding synonyms.In other words for each new word in second language there is a synonym in mother tongue. Since word meanings in one language dependent on its sociological, psychological, and cultural factors the second language trainer should be aware of mother tongue semantic differences and their synonyms in second language in order to avoid negative meaning interference in speech and writing of the second language learner. This article tried to minimize negative semantic differences in mother tongue and second language.

Mogharabi (2012) did a research with the title "view on bilingualism in education" Arguments over bilingualism education have started different viewpoints among its supporters and opponents. Education for language minority students in Iran has become a complicated matter and caused mutual educational planning in this regard. In addition issues like great value Iranian society and the scope of inter-cultural effects have faced challenge .However parents of bilingual children believe that it leads to increasing children's level of achievements, opponents believe that it has caused students' failure. Success or failure of bilingualism education cannot be necessarily used, since different bilingual educational programs are used for students. These programs in class differ according to "promotion", use of the Persian language or the used language at home. Therefore it seems that the amount of bilingualism is different in different programs.

Berahni (2012) found that bilingualism causes difficulty in understanding precise meaning of the messages, written and oral information and possible misunderstanding in social contacts. However, in case that the bilingual are level with monolingual socially and economically bilingualism is accompanied with s individual's understanding and intellectual capabilities. Roohollah Mikaeili (2010) has shown that female and male bilingual students in learning English vocabulary have performed better in comparison with their monolingual



counterparts and that bilingualism causes better verbal and mental performance. Eslami (2010) believes that the most important reason for bilingual students' failure is that they are not familiar with Persian language and their problem in understanding. Karimi (2010) conducted a research with the title "relationship between critical thinking skills and human relations of the education manager". In this research the performance of students in fourth grade of bilingual and monolingual primary school in reading literacy was compared. So international reading literacy progress (PIRLS) was used. The results showed that the performance of monolingual students in reading and comprehension of given texts was higher than bilinguals. On the whole this stated that bilinguals need more attention in studying and Persian language and it was considered as one of the basic keys in educational success.

Ahmad Ahmadpour (2010) in the study of the influence of bilingualism on learning concluded that there is meaningful distinction between the two groups, experimental (bilingual) and control (monolingual) considering participation in group activities, communication with others, responsibility acceptance, cooperation with others and finding friends however, such a difference can't be seen between two groups in learning mathematics, satisfaction of school environment, interest to study and observation of the school regulations school .

Kamali (2010) believes that bilingualism isn't a determining factor in educational performance of bilingual children but social-cultural factors, conditions of becoming bilingual and also richness of language have been considered as determining factors in educational performance of bilingual children. Shamsi and Emamipour (2010) found out that the learning style of Kordish monolingual students is better than Kordish bilinguals. Monolinguals have more visual learning style in comparison with bilinguals but bilinguals have more verbal learning style.

Hoospian (2007) showed that Persian-Armenian children due to their meaning recognition abilities in Persian language and their school performance are at lower level than Persian monolinguals. As per the findings of Yari (2007) male bilinguals compared with their monolingual counterparts lack adequate and essential skills and for acceptable and desirable behavior and social independence. Khoshroo's (2005) studies in effect of bilingualism on the education progress and intelligence of primary school students show indicates that the bilingual progress in dictation, literature and has been less than monolinguals but educational progress of either group has been almost the same in mathematics.

Researches out of Iran

Extensive studies have been done in the field of vocabulary learning and retention using different presentation strategies. Learning vocabulary has been always one of the most serious concerns of the learners. In the old days of language acquisition, vocabulary teaching and learning were given little importance (Alemi and Tayebi, 2011). However the scenario today is drastically different as very few language instructors-if any-would even consider overlooking the lexical dimension in their regular teaching (Beechoo Lee, 2012). The crucial role of lexis in both first and second language acquisition has been acknowledged by researchers (Lee Bee Choo, Debita TAN Ai Lin, 2012).

Hermann's and his colleagues' researches (2012) about the effects of bilingualism on working memory and cognitive processes showed that bilingual in comparison with monolinguals have more active memory capacity due to their more concentration over duties. Bhavana and Madison (2012) checked the relation between working memory and



language structure in 9 to 12 year old English-Portuguese and Canadian-English students. The official language of these students was English and their mother tongue at home spoken at home was Spanish. The results showed that there was a meaningful relation between reading, working memory and the bilinguals' language structure of both groups.

H. Lee Swanson and Jerman (2012) in their researches showed that there is a meaningful relation between working memory and reading performance of students with disability in reading. The results showed that the performance of reading in people with high working memory is better and on the contrary people with better performance have higher working memory.

The research results of Richard and colleagues (2011) showed that the people who are weak in reading and their school progress is less, in comparison with the control group have deficit in two parts of working memory which means phonemics repetition and phonemics storage, however some have this deficit in only one part some have in two. Darvon and his colleagues (2011) found that the left hemisphere of the brain has a role in second language processing and the age and language acquisition type are effective in type of critical thinking of bilingual person. In 2010 Sir showed that bilingual children in rural areas in comparison with monolingual children got lower grades in intelligence test. The grades had ascending trend between seven to eleven year old students but in urban areas there was not a considerable difference between monolingual and bilingual children.

Alovi and Aloy (2010) considered this whether working memory of pre-school students can predict their education progress in the first year to the third year of school (i.e., age seven to 10). The results showed that the short term memory is a suitable predictor for mathematics progress, analysis and solidarity diagnosing showed that working memory predicts general performance of learning. Paradise (2010) stated that many researchers believe that learning vocabulary is the only aspect of second language learning. In order to develop linguistic ability, second language readers need to reach a certain level of vocabulary threshold (Brisbois, 1995; Lomiska 1998).

The major challenge of learning and using a language whether as L1 or L2 acquisition, lies not in the area of broad syntactic principles but in the "nitty-gritty" of the lexicon (Singleton, 1999). On the other hand Importance of bilingualism has been proved by researchers. Majority of studies suggest that bilinguals tend to be more creative than monolinguals and conform bilinguals' linguistic flexibility in monitoring their language production appropriately in different contexts (Ricciardelli, 1992). There are number of advantages that bilingual children have over monolingual children.

Those who know more than one language surpass their monolingual counterparts in different aspects of language learning that vocabulary learning is not an exception. Bilinguals enjoy higher priorities compared with monolinguals. Learning a second language benefits a child's cognitive development (Petitto, 2005).

In comparison with monolingualism, bilingualism as an ability to speak, understand and communicate two languages, increases vocabulary learning which leads to vocabulary retention. Scientists believe that bilinguals due to study and control of structure of two different languages have sharper mind compared with monolinguals. On the other hand it has been expressed that when information is received through two oral and verbal canals to construct meaning, better



learning happens. (Paivio, 1986; are subject, 1991; Myer links Sims, 1994) and impac in learning other languages apart from the first language will be definitely more obvious.

METHODOLOGY

Design of the Study

To do this research an experimental method was used .Vocabulary test in three phases including pre-test, post-test and delayed post test was done and the analysis was carried out through repeated measures ANOVA.

Participants

The initial number of participants was 120 Iranian language female students with the age range of 15 to 18 from Safir language school –Saveh, Iran in the year 2014.The participants were chosen randomly from English students .After obtaining the scores of proficiency test, those students whose scores were within one SDs (Standard Deviation) minus and one SDs plus the mean were selected to take part in vocabulary test and the rest were excluded.

Instruments

The instruments used to elicit information for this study were:

1-Background questionnaire

A background questionnaire including questions like name, age, gender, and monolingual and bilingual status, was developed to elicit some personal information of the participants.

2-Language proficiency test

Nelson's English language proficiency test (150D- series, pre-intermediate level) composed of 50 multiple choice items was administered to the participants to specify their level of proficiency and to be homogenized

3-Vocabulary test (researcher-made)

A vocabulary test including 50 words (selected from the first one thousand English words with high frequency from Longman dictionary) in three phases as pre-test, post-test and delayed posttest was constructed to see how monolingual and bilinguals' performance was different according to the objective of the study.

Procedures

In this study an experimental design was used. To do this research the researcher took the following procedures to attain the objective of the study. All procedures including, general proficiency test (Nelson-pre intermediate level-150D-series), background questionnaire, researcher-made English vocabulary pre- test, and vocabulary treatment through color pictures, English vocabulary post-test and finally delayed-posttest are explained in details below.

First of all, Language proficiency test including 50 (multiple choice-150Dseries-pre-intermediate level) questions was administered to 120 female participants between15-18 years old to see whether they were at almost the same level of English knowledge After obtaining the scores of proficiency test and getting mean score, standard deviation, minimum and maximum score 68 students (28bilinguals and 40monolinguals) whose scores were within one Standard Deviations minus and one SDs plus the mean were selected (to have homogenized group) and the rest was excluded .It was done to assure homogeneity. The reliability of the proficiency test was obtained through Kr21 too. After administering proficiency test, a background questionnaire



was to the students to answer questions like name, age, gender, languages they know. Then a vocabulary test including 50 words that were selected from among first 1000 words with high frequency of Longman dictionary, in the form of matching, gap filling and multiple choice was given to 11 students who were not the members of the group under study but as pilot group to make sure of the reliability of the test. So after administering the test on our pilot group and correcting sheets 10 words (easily answered or left by most students) were deleted and 40 words remained. Next the vocabulary test including those 40 words was given to 68 bilinguals and monolinguals to answer. The purpose of the pre-test was to assess the students' knowledge of these words before the treatment. Soon after completing the test, papers were corrected to see which group (bilingual or monolingual) got higher scores? After that the researcher taught those 40 words. Teaching words was done through color pictures since visually coded information (pictorial clues) is able to promote retention. Pictures are particularly beneficial in advancing ability to learn and retain new words. There were 40 pictures for those forty words prepared by researcher in advance. Each picture depicted meaning of one word. Next, the same vocabulary test (post-test) including those forty words was administered to the same 68 learners to get the result after treatment and finally twenty days later the same vocabulary test (delayed post-test) was administered to the same learners to get results and understand how monolinguals and bilinguals retained and remembered the words after the left gap. In each step by calculating mean scores and using repeated measures ANOVA the difference between monolinguals and bilinguals in vocabulary retention was revealed.

Data Collection

In this research 120 language students were chosen to answer personal questionnaire including questions such as age, sex, monolingual and bilingual status, and they were given a proficiency test. After assurance of reliability of the test through administering test on the pilot group vocabulary test in three stages (pre-test, posttest, delayed posttest). Then the samples were evaluated by repeated measures ANOVA and through Spss to get differences.

Data Analysis

In analysis of research data, descriptive and inferential statistics were used:

Descriptive Statistics

To describe the data, measures such as mean, standard deviation, charts and graphs were used.

Inferential Statistics

After collecting data with regard to the nature of research variables with normal distribution, research hypotheses were tested through repeated measures ANOVA design.

RESULT AND DISCUSSION

Introduction

Thanks to the various means of communication, transportation as well as globalization, the world today has become a smaller place. Today, we have people from one part of the world, shifting to another, for work, travel and education, a lot more than what it was a few decades back. This, coming in contact and intermingling of people belonging to different cultures, has increased the importance of learning more than one language. Researchers have shown that students who learn more than one language, have greater analytical and problem solving



abilities. Such children are much more creative, confident and have a higher IQ than their peers, who know only one language. People who can speak more than one language, is considered an extremely valuable asset. It is demonstrated that positive cognitive gains are associated with learning a second language in childhood (Bialystok 1991). Bilingualism has been shown to foster classification skills, concept formation, analogical reasoning, visual-spatial skills, creativity, and other cognitive gains.

This study aimed at finding effect of bilingualism on vocabulary retention. The data that are collected for the research should change into statistical tests in order to be analyzed and concluded. In fact data analysis is of great importance to evaluate rejection or acceptance of the research hypotheses and is considered as the most important and main part of the research. Analysis of data is a multi-phase process by which data (collected through suitable instruments), is summarized, coded and finally processed in order to find the relationship between the data to accept or reject the research hypotheses.

The current study first gathered the data collected through questionnaire and arranged them in the main table later on the whole data was analyzed through spss software.

Research Hypotheses Analysis

In this study it was tried to explore the effect of bilingualism on vocabulary retention. Hence, to assure of the homogeneity it is often important to determine if a set of data is homogeneous. To aim this, language proficiency test including 50 (multiple choice) questions was administered to 120 female students between 15-18 and finally those whose scores were within one Standard Deviations (SDs) minus and one SDs plus the mean were selected and the rest was excluded. The following table shows the statistics for proficiency test scores.

Table4.1 Statistics

N	120
Mean	26.21
Std.Deviation	8.776
Minimum	8
Maximum	39

The table shows that the initial number of students was 120. The lowest score was 8 and the highest one was 39. The mean score is 26.21 and the standard deviation is 8.776. So students with language level between 17/434-34/986 remained in hypotheses statistical test. Having scored the papers and computed the mean and standard deviation, in order to select a homogeneous group of participants, those whose scores were one standard deviation above or below the mean were selected as the sample of the present study. So after proficiency test the number of participants reduced to 68.

First hypothesis: There is no significant difference between bilinguals and monolinguals in their proficiency level.

The following table shows the students' performance on proficiency test. Mean and standard deviation scores for two different groups of monolingual (those who know Persian and are



learning English), and bilingual learners, (those who know Turkish other than Persian and are learning English) are presented as well.

Table 4.2. Group Statistics

	Group	N	Mean	Std.Deviation
Nelson Test	Monolingual	40	26.90	4.629
	Bilingual	28	29.57	4.358

As per the descriptive statistics in the table(4.2.) 40 monolinguals' mean score and standard deviation in proficiency test are 26.90 and 4.629 and 28 bilinguals' are 29.57 and 4.358 respectively. In other words, mean score of bilingual learners in language proficiency test was higher than monolingual ones.

To get significance level between two groups of monolingual and bilingual in language proficiency test, the student's t-test is used. It can be used to determine if two sets of data are significantly different from each other, and is most commonly applied when the test statistic would follow a normal distribution This test is sensitive to equality or inequality of two mentioned groups' variances so at first the equality of variances for two mentioned independent groups ($H_0: \sigma_1^2 = \sigma_2^2$ against $H_1: \sigma_1^2 \neq \sigma_2^2$) on language proficiency test scores should be evaluated by Levene's test. The following table shows the results.

Table 4.3. Levene's test for Equality of Variances

		F	Sig.
Nelson Test	Equal Variances Assumed	.050	.824

According to the big significance level (.824) of the Levene's test in the table, it was concluded that variances equality of two independent groups (monolingual and bilingual groups) was supported so, student's t-test of two independent groups with the same variance was used to detect equality assumption of means of the two independent groups ($H_0: \mu_1 = \mu_2$ against $H_1: \mu_1 \neq \mu_2$) and the result is shown in the following table.

Table 4.4. T-test for Equality of Means

t	Df	Sig.(2-tailed)	Mean Difference	0/95 confidence interval of the Difference	
				Lower	Upper
-2.399	66	.019	-2.671	-4.895	-.448

As table shows the students' t-observed is -2.399 and the df (degree of freedom) is 66 and also the significance level (sig=.019).It shows that the null hypothesis is rejected .In other words there is a significant difference between proficiency test mean scores of the two monolingual and bilingual groups. Besides, confidence interval 0.95 for difference of the two mentioned groups' means is -4.895 and -.448 .It states that if we repeat it 100 times on the present research participants, 95 times, the mean scores' difference of monolingual and bilingual groups will be within this interval. As per the mean scores of monolinguals and bilinguals (26.90 and 29.57 respectively) and their mean difference (-2.671) in proficiency test, it is evident that bilinguals'



performance on proficiency test was better than monolinguals' and they scored significantly higher than monolingual ones. (table4.2)

The following graph shows the mean score of bilingual and monolinguals in proficiency test.

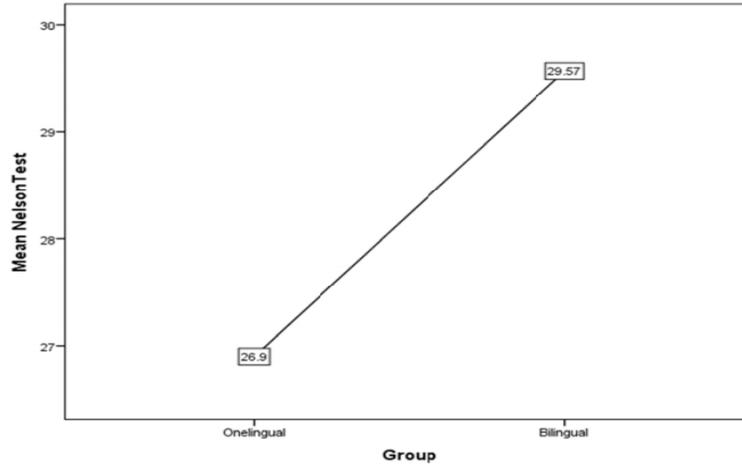


Figure4.1. Comparison of results of a proficiency test in monolingual and bilingual learners. This figure shows the significance level between mean scores of monolingual and bilingual learners in language proficiency test. As the chart shows the proficiency test mean score of monolinguals is 26.90 and bilingual is 29.57. It is obvious that there is a significant difference between these two independent groups. So as per the results the first hypothesis of the research was rejected and there was a significant difference between monolingual and bilingual learners in doing proficiency test and bilinguals' performance on proficiency test was better and higher than monolinguals'.

Second hypothesis: There is no difference between monolinguals and bilinguals in vocabulary retention.

To consider the second hypothesis of the research, due to existence of three dependent variables (pre-test, post-test, delayed posttest) repeated measures ANOVA was used. The scores of three vocabulary tests of bilingual and monolingual learners were evaluated. The following table shows the descriptive statistics of the mentioned variables. It shows the mean and standard deviations of vocabulary scores in pre-test, post-test and delayed posttest for monolingual and bilingual learners.

Table4.5. Descriptive Statistics

	Group	Mean	Std. Deviation	N
Pre-test	Monolingual	19.80	3.811	40
	Bilingual	20.25	3.099	28
	Total	19.99	3.518	68
Post-test	Monolingual	23.53	3.935	40
	Bilingual	28.68	2.829	28
	Total	25.65	4.332	68



Delay post test	Monolingual	20.68	3.912	40
	Bilingual	26.57	2.795	28
	Total	23.10	4.539	68

The descriptive statistics of the above table shows that the total mean and standard deviation of the vocabulary pre-test scores are 19.99 and 3.518, for post-test 25.65 and 4.332 and for the delay post test 23.10 and 4.539 respectively. Also, mean score and standard deviation of vocabulary pre-test for 40 monolinguals are 19.80 and 3.811 and for 28 bilinguals are 20.25 and 3.099 respectively. Mean score and standard deviation of vocabulary post-test for 40 monolinguals are 23.53 and 3.935 and for 28 bilinguals are 28.68 and 2.829 and finally the result of delay posttest are 20.68 and 3.912 for monolinguals and 26.57 and 2.795 for bilinguals.

ANOVAs with repeated measures (within-subject factors) are particularly susceptible to the violation of the assumption of sphericity. Sphericity is the condition where the variances of the differences between all combinations of related groups (levels) are equal. Violation of sphericity is when the variances of the differences between all combinations of related groups are not equal. Sphericity can be likened to homogeneity of variances in between-subjects ANOVA. So, it is a formal way of testing the assumption of sphericity. Mauchly's Test of Sphericity tests the null hypothesis that the variances of the differences are equal. Thus, if Mauchly's Test of Sphericity is statistically significant ($p < .05$), we can reject the null hypothesis and accept the alternative hypothesis that the variances of the differences are not equal (sphericity has been violated). The results of the Mauchly's test are shown in the following table.

Table4.6. Mauchly's Test of Sphericity

Within subjectEffect	Mauchly's W	Approx.Chi-Square	df	Sig.	Epsilon
					Huynh-Feldt
Time	.226	96.802	2	.000	.575

As per the small amount of the sig (sig=.000) in the table it showed that the null hypothesis was rejected and the alternative hypothesis that the variances of the differences are not equal was accepted. It means that sphericity was violated. So, for analysis Huynh-Feldt (epsilon value) should be used for correction of degree of freedom. The results of F test are shown in the following table.

Table4.7. Tests of Within-Subjects Effects

Source	Type IV SUM of Square	Df	Mean Square	F	Sig
Time Huynh-Feldt	1230.195	1.151	1069.173	2458.084	.000
Time Group-Huynh-Feldt	287.351	1.151	249.740	574.164	.000
Error(Time) Huynh-Feldt	33.031	75.940	.435		.000

According to the table 4.6. in the last column the significant level is small (sig =.000). So, it is less than .05. When significance level is less than .05 the effect of independent variable on dependent variable is significant but if it is not less than this amount it will be non-significant. As per the small amount of significance (sig=.000) in the first row of table 4.6. it is clear that the effect of independent variable on independent one is significant at any error levels. So, it reveals that the difference between vocabulary retention mean scores between three tests of vocabulary (pre-test, post-test and delayed posttest) was significant.



In addition, as per the amount of sig (sig=.000) in the second row of the above table for evaluating the interaction effects of different groups of learners (monolinguals and bilinguals) on vocabulary retention it is concluded that this effect is significant. In other words retention of words among monolingual and bilingual learners is not the same at any error levels. It means that bilinguals' performance on vocabulary retention compared with monolinguals' was different and significant (table2).According to the table2 it is concluded that bilinguals' performance on vocabulary retention is better than monolinguals'. So, the second research hypothesis stating that there is no difference between monolingual and bilingual learners in vocabulary retention was rejected .The following graph shows the results.

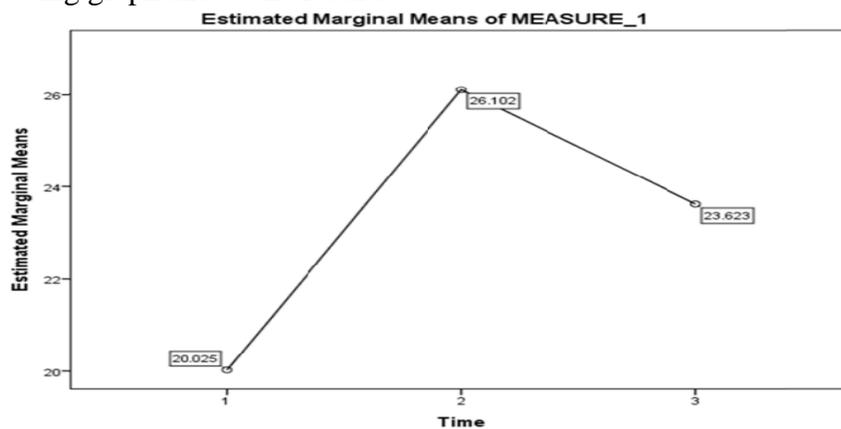


Figure4.2. the line chart of estimated marginal mean of vocabulary test scores in pre-test, post-test and delay post test

The above figure shows the line chart of estimated marginal means of vocabulary test scores in pre-test, post-test, and delay posttest. According to the shape it is clear that there is difference between means of three vocabulary tests(pre-test, post-test, delay posttest) and the learners haven't done the same in all three tests. It revealed that the teaching words (through pictures) to the learners has influenced their vocabulary retention and increased their performance.

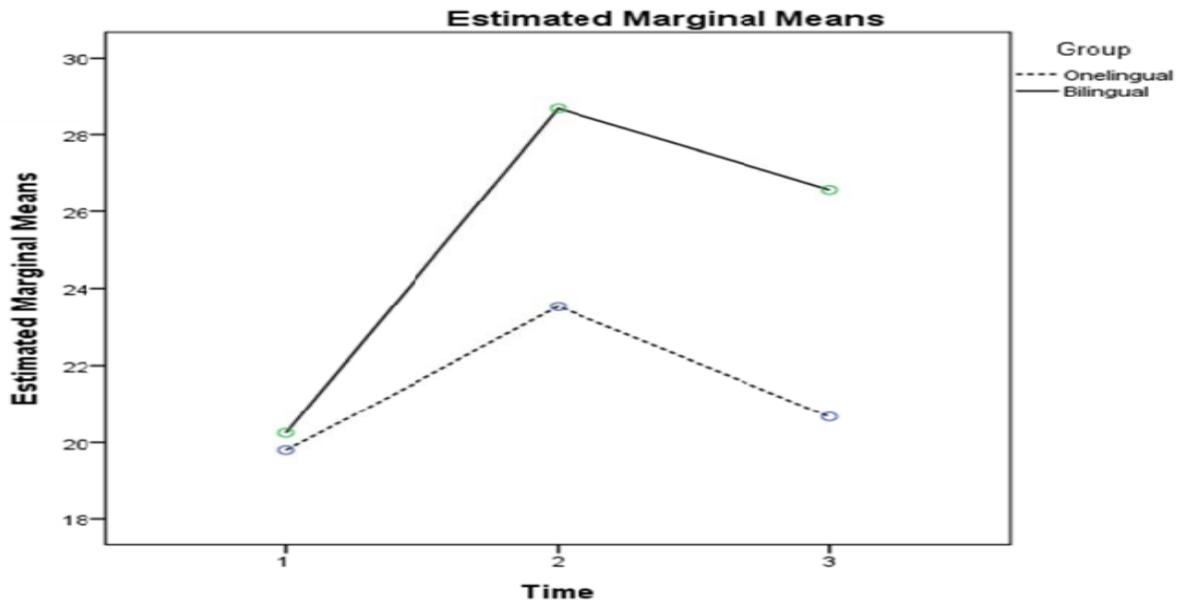


Figure4.3. The line chart of estimated marginal mean of vocabulary test scores in pre-test, post-test and delay posttest of monolingual and bilingual learners.

The figure shows the line chart of estimated marginal mean of vocabulary tests scores (vertical axis) in pre-test, post-test, and delay posttest (horizontal axis) of bilinguals (lined) and monolinguals (dotted). As the figure shows that vocabulary retention considering teaching words in bilinguals and monolinguals is not the same. In other words, bilinguals compared with monolinguals did better in vocabulary retention. It means that bilinguals could retain words better than monolinguals.

Discussion

As per the data analysis and given tables both of research hypotheses were rejected. Regarding the first hypothesis of this research (there is not a significant difference between monolinguals and bilinguals on their performance in language proficiency test), however Maghsoudi stated that bilingual participants due to lack of acquiring literacy skills of reading and writing in L1 and suffering from "age appropriate" skills in L2 could not surpass monolingual ones in language proficiency test, IRobbins (1984) stated that bilingual children had a slight advantage over their matched partial monolingual counterparts. Besides, as Ellen Bialystok claimed (2009) bilinguals may compensate for weaker language proficiency with their greater executive control to achieve the same or better levels of performance as monolinguals. Bilinguals' proficiency level is higher than monolingual ones. Bilinguals have more potential competitor words to suppress compared to monolinguals; this increase in competitor words may provide bilinguals with more experience managing competition. Bilinguals activate words that overlap with auditory input in either language (Blumenfeld & Marian, 2007; Marian & Spivey, 2003; Marian, Spivey, & Hirsch, 2003; Spivey & Marian 1999), word recognition becomes more difficult when the number of competitors increases (Luce & Pisoni, 1998), and bilinguals may adapt to the increased demands by augmenting their ability to suppress irrelevant information. Experience suppressing irrelevant words is thought to contribute to bilinguals' improved



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cognitive control across the lifespan compared to monolinguals (Bialystok, 1999,2007; Bialystok, Craik, Klein, & Viswanathan, 2004; Costa, Hernández, & Sebastián-Gallés, 2008).

As it was shown the second hypothesis of the research was rejected and it was revealed that there was a difference between monolingual and bilingual learners in vocabulary retention and that bilingual learners got better results and outperformed their monolingual counterparts in remembering and retaining words. However, most of earlier studies suggested that bilingualism was associated with the negative consequences (Anastasia and Cordova, 1953; Darcy, 1953; Printer and Keller, 1992; Saer, 1923), findings of this study revealed the opposite view at least in vocabulary learning and retention. Nayak (1999) reported that multilingual learners indicated superior performance under certain conditions. They generally revealed no clear evidence that they were superior in language learning ability. Bialystok's findings (2006) showed that bilingual children tend to have a smaller vocabulary in each language than monolingual children in their language. Some studies reported that bilingualism has a negative impact on language development and is associated with delays in lexical acquisition (e.g., Pearson, Fernandez, & Oller, 1993; Umbel & Oller, 1995) and a smaller vocabulary than that of monolingual children (Verhallen & Schoonen, 1993; Vermeer, 1992), Bilingual children score on par with their monolingual counterparts on tests of verbal ability by middle school, and well-controlled studies provide no evidence for lower intellectual abilities of bilingual children compared to monolinguals (Baker & Jones, 1998; Cook, 1997; Hakuta, 1986). The early differences in linguistic performance of bilingual children can be attributed to a somewhat different language development pattern. Bilingual children learn earlier than their monolingual counterparts that objects and their names are not the same and that one object can have more than one name. Besides, Keshavarz & Astaneh (2004) conducted a research in which they studied the impact of bilingualism on third language vocabulary learning of three groups of bi/monolingual female students (Turkish-Persian bilinguals, Armenian-Persian bilinguals and Persian monolinguals) in two regions of the country. They concluded that the subjects' bilingualism has a positive effect on third language vocabulary learning.

As Hashimoto, McGregor, & Graham stated in 2007, children learning two languages simultaneously or sequentially must store and retrieve a larger number of words, because vocabularies are distributed across two linguistic systems. In a similar study, Dibaj (2011) compared the performance of 52 monolingual Persian-speaking learners of English with 45 bilingual Azari-Persian speaking learners of English in English vocabulary learning. All the female participants were studying English as a foreign language at two universities in Iran. The subjects received two incidental and four intentional vocabulary learning exercises. They were measured at four difficulty levels. He found out that bilingual language learners outperformed their monolingual counterparts at all word difficulty levels. However, Maghsoudi (2010) notes that monolingual and bilingual learners do not differ in acquiring syntactic structure, Merrikhi (2012) states that bilinguals definitely outperform monolinguals on the English grammar and it came true about vocabulary retention too.

ViorivMarian research comparing bilingual and monolingual adults on their ability to learn new words consistently suggested that bilingual adults tested in their native language outperform monolingual adults on word-learning tasks. For example, Kaushanskaya and Marian (2009a) examined word-learning performance in monolingual speakers, English-Spanish bilinguals, and



English-Mandarin bilinguals, and found that both bilingual groups outperformed the monolingual group.

Kaushanskaya, Yoo, Van Hecke, & Mirsberger in 2009 suggested that monolinguals' ability to learn new words depends on whether they learn new words silently or out loud. Conversely, bilinguals' performance does not depend on any particular learning strategy, and they can acquire new words efficiently under any learning conditions. Their findings indicated that bilingualism facilitates word learning performance and retention.

CONCLUSION AND IMPLICATIONS

In today's world, bilingualism is a common phenomenon and finding a country without at least two spoken languages, almost seems impossible. Phenomena such as exploitation, religious and commercial missions, mass migration, and catastrophes such as famine, war, economical-political conditions, and technological advances, all have created bilingual or multilingual societies. In addition to cognitive outcomes, bilingualism plays an important role in the educational and career opportunities for bilingual individuals. Bilingualism can also have an effect on personal and social relations, especially when people have a negative attitude towards the minority language or the language itself. The reflection of such influence can be traced in the opinion of bilingual individuals.

Our educational system is based on Persian language as the official language and all the students in our country are considered and assumed as Persian speakers. However, not all children have the same control and mastery over the Persian language and their language proficiency is not the same. In this condition the creation of educational problems is inevitable and non-Persian students whose native language is not Persian may suffer emotional, social, and cultural problems. So the language becomes an obstacle to prevent education and information provision. Formal education begins with reading and writing which means understanding and production of language. Getting special skills for reading depends on different factors from which language preparation is the main one. In this chapter, the interpretation of the findings is discussed following with the suggestions and limitations of the study.

Conclusion and Implication of the Study

- The study of bilingualism is an opportunity to make the relationship between language studies and other fields of human sciences such as sociology, psychology, anthropology, linguistics and other fields, such as morphology, syntax, pragmatics and typology.
- Bilingualism is a wide, complex and relative term with various dimensions, and is seen differently in different countries.
- Automatic reading dimensions (e.g., word recognition, spelling patterns, and their spelling) demand little attention. However, changing a symbol into audio code and matching it with the spoken word requires close and careful attention. Therefore, the role of speech and language in the process of reading, memory and academic achievement becomes important.
- Bilingualism is the use of two languages for communication. So, it enables people with different languages to exchange information and messages between themselves.
- Bilingualism has a positive impact on children's language development and learning



- Memory is a complex and broad concept which impacts individual and social behavior and is necessary to store the encoded information, thinking, reasoning, analyzing, organizing, evaluating, restoring and other cognitive and meta-cognitive activities
 - It is generally believed that a student who learns to read in a language except mother tongue (i.e. the language learnt at home naturally) will be faced with additional challenges in reading since the structure of two languages are different and the person has learned the cognitive rules, syntax and semantics of the native language and this basic knowledge may create a kind of retroactive inhibition. If children's bi/multilingual abilities grow in the elementary school, they will have a deeper understanding of the language and learn how to use their abilities. Besides, they will get more experience to strengthen their language, especially if they learn written form of these languages. They'll be able to recognize and organize facts.
 - Children who go to school with a solid foundation in language and knowledge of their native language, show higher abilities and talents, in terms of teaching and learning languages at school
 - The more parents spent time with their children telling story, talking to them to develop their vocabulary and concepts of native language, the better they learn educational language which results in rapid growth and development.
 - Children's knowledge and abilities can be moved and transferred between languages. It means what they have learned at home and outside of school in native language can be transferred to the educational language and vice versa.
 - Language learning is regarded as synonymous with knowing a large number of words by heart by many learners. Although it stands to reason that this is not a valid assumption, it should not be forgotten that words constitute a major part of a language so finding a way to master them is of great importance.
- Bilingualism in children is associated with increased meta-cognitive skills and superior divergent thinking ability (a type of cognitive flexibility), as well as with better performance on some perceptual tasks (such as recognizing a perceptual object "embedded" in a visual background) and classification tasks. Bilingual children learn earlier than their monolingual counterparts that objects and their names are not the same and that one object can have more than one name. Understanding that language is a symbolic reference system is advantageous for metacognitive development and it translates to improved performance on early vocabulary development and retention tests.

Limitations of the Study

Although in this study there was no mention of students' names but some consideration might affect learners' responses to the questions. The effect of questions' size on students was beyond researcher's control. Students' bias which might affect the accuracy of their answers was beyond the control of the researcher. The researcher didn't have control over the possible physical fatigue of the students and their mental state at the time of answering the test questions.

Suggestions for Further Research

Since native language education is the first right of every person and minorities, the issue of official license for its training, reduces the feeling of deprivation and discrimination among ethnic groups and minorities



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- The need for acceptance and the development of linguistic, cultural and multilingualism diversity especially in multicultural countries can provide enhanced social cohesion.
- Educational authorities should organize the curriculums and instructions in a way that the learners' language and culture are preserved and respected along with valuable insight toward language learning diversity in the society and everyone knows that the different cultures, languages, and varieties that coexist in Iran and are acquired in the natural process of socialization constitute an important part of the national wealth, and that cultural-linguistic diversity can be a valued recourse for continued social development and renovation and the maintenance of social health in a rapidly changing society.
- Many children learn and speak their first language at home and study all of their courses in Persian throughout their education. It means that many children didn't receive any education in their native languages; the majority of the students were members of an ethnic or linguistic minority, whereas the school was dominated by the mainstream language and culture. It means that educational curriculum is based on Persian, the majority language. (Khadivi, 2010). So, Bilingual education system, through children's native language use in the classroom, and study its literature validate the native language. Students will be proud of their native language, culture. Besides schools should prepare situations in a way that students can discover their abilities to be motivated and encouraged to learn second language and use their potential to make a brilliant future
- Cultural differences shouldn't be seen as problems to be solved instead it should be tried to learn about different cultures and languages and that how they are brought to our country and community. With such an approach we can raise our intellectual and linguistic ability and cultural capital of our country.

In fact, there are a lot of advantages to knowing more than one language. First, many linguists feel that knowing a second language actually benefits a child's cognitive development. Second, if the child comes from a family may speak a language other than English at home and may still have strong ties to their ethnic roots. In this case being able to speak the language of the family's ethnic heritage may be important for the child's sense of cultural identity. To be unable to speak the family's language could make a child feel like an outsider within his or her own family; speaking the family's language gives an increasingly global marketplace, it's an advantage for anyone to know more than one language regardless of whether one's family is new to the U.S. And finally, for people of any age or profession, knowing a second language encourages cross-cultural awareness and understanding (Betty Birner).

According to research done in the field of bilingualism effect on vocabulary retention in Iranian language learners, other suggestions for future research are as follow:

- Identify and assess the impact of bilingualism on the other factors which could affect the retention of learners' vocabulary.
- Developing this type of research in organizations other than language institutions.
- Developing this type of research in several provinces, and compare them with each other.
- Knowing about Iran's place regarding its attention toward bilingualism compared with other countries.
- Comparing bilingualism as an effective way with other strategies for vocabulary retention.



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- Those who are somehow involved in the process of language learning and teaching to ponder differences between monolingual and bilinguals to base the educational programs on more localized methods.

-Out of the 120 students who received the vocabulary test, 68 students were available for retention testing. It may be beneficial for researchers who choose to conduct a similar study to attempt to test a larger percentage of the students for retention testing to see whether results differ dramatically.

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