

*In The Name Of God*



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**Faculty of literature and humanities**

**Department of English language & literature**

**MA Thesis Entitled:**

**Iranian EFL Learners' Short-term and Long-term Memory: Does Learning  
Additional Languages Matter?**

Submitted in the Partial Fulfillments of the Requirement for the  
Degree of Masters of Arts in English Language Teaching

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**To the Graduate Council of Urmia University:**

Hereby we are submitting a thesis written by Rana Zeynali Hamied Entitled **“Iranian EFL Learners’ Short-term and Long-term Memory: Does Learning Additional Languages Matter?”**. We have examined the final copy of this thesis for form and content, and recommended that it be accepted in partial fulfillments of requirement for the Degree of Masters of Arts in the Field of English Language Teaching.

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*Dedicated to:*

*My Dear Mother*

## Table of Contents

ACKNOWLEDGMENT.....	i
ABSTRACT.....	ii
LIST OF TABLES.....	iii
LIST OF FIGURES.....	iv
LIST OF ABBREVIATIONS.....	v
<b>CHAPTER I: INTRODUCTION .....</b>	<b>1</b>
1.1 Background.....	1
1.2 Statement of the problem.....	4
1.3 Significance of the study .....	5
1.4 Research questions and hypotheses .....	7
1.5 Definitions of key terms .....	8
1.6 Organization of the thesis .....	9
<b>CHAPTER II: LITERATURE REVIEW .....</b>	<b>10</b>
2.1 Introduction.....	10
2.2 Theoretical concepts.....	10
2.2.1 Bi/Multilingualism .....	10
2.2.2 Consequences of Bilingualism .....	13
2.2.3 Multilingualism .....	17
2.2.4 Consequences of Multilingualism .....	18
2.2.5 Mind and Memory .....	19
2.2.5.1 Models of memory.....	19
2.2.6 Models of Bilingual Memory .....	22
2.3 Studies on the relation between multilingualism and cognition .....	24
2.4 Chapter summary .....	30
<b>Chapter III: METHOD.....</b>	<b>31</b>
3.1 Introduction.....	31

3.2 Design of the study.....	31
3.3 Participants .....	32
3.4 Instruments .....	33
3.4.1 Language History Questionnaire.....	33
3.4.2 FCE test.....	34
3.4.3 Reading Span Task .....	34
3.5 Procedure .....	36
3.6 Data Analysis .....	40
<b>CHAPTER IV: RESULTS AND DISCUSSION.....</b>	<b>41</b>
4.1 Introduction.....	41
4.2 Main findings .....	41
4.3 Discussion.....	48
4.5 Chapter summary .....	55
<b>CHAPTER V: CONCLUSION.....</b>	<b>56</b>
5.1 Introduction.....	56
5.2 Implications .....	56
5.3 Limitation .....	57
5.4 Suggestions for further research .....	58
5.5 Final remarks .....	60
<b>References .....</b>	<b>61</b>
<b>Appendices .....</b>	<b>70</b>
<b>Abstract in Persian.....</b>	<b>82</b>

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## ABSTRACT

**Thesis Title:**

Iranian EFL Learners' Short-term and Long-term Memory: Does Learning Additional Languages Matter?

One of the most conspicuous advantages of multilingualism manifests in cognitive domains. Bearing this in mind and to shed light on the cognitive aspects of multilingualism, the current study was an attempt to investigate memory capacity of multilingual individuals. To better understand this issue, the comparisons were drawn on the memory capacity of 77 multilingual EFL learners in three linguistic groups including Persian/English bilinguals (N=42), Azeri Turkish/Persian/French trilinguals (N=23), and Kurdish/Persian/Azeri Turkish/French quadrilinguals (N=12). The study based on the data from: (a) a language history questionnaire, (b) an adapted version of the FCE test, and (c) reading span tasks, attempted to investigate short/long-term memory capacity of intermediate EFL learners. With the presentation of two reading span tasks during a three-week interval, EFL learners' performances in memory capacity tasks were analyzed through two-way ANOVA for the evidence of any differences among the three linguistic groups. The findings provided the evidence that quadrilinguals were significantly better than bilinguals in terms of short-term and long-term memory. Significant difference in performance of long-term memory task was also found between trilinguals and bilinguals. However, the mean performances in both short-term and long-term memory for quadrilinguals were not significantly different from trilingual. Taken together, the findings pronounced inconsistencies in the comparison of the memory performances in three linguistic groups which necessities further research to profoundly delve into the issue. The findings are discussed in relation to effective EFL instruction in the multilingual context of Iran.

**Keywords:** Bilingualism, Long-term memory, Quadrilingualism, Short-term memory, Trilingualism

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## LIST OF TABLES

Table 3.1 Participants' profile .....	33
Table.4.1 Mean performance scores of short-term span task for three groups .....	42
Table 4.2 Results of two-way ANOVA for STM span task.....	43
Table 4.3 STM mean performances: multiple comparisons of groups.....	44
Table 4.4 Mean performance scores of long-term span task for three groups.....	45
Table 4.5 Results of two-way ANOVA for LTM span task.....	46
Table 4.6 LTM mean performances: multiple comparisons of groups.....	47

## LIST OF FIGURES

Figure 4.1 Estimated marginal means of STM span task .....	43
Figure 4.2 Estimated marginal means of LTM span task.....	47

## **LIST OF ABBREVIATIONS**

ANOVA	Analysis of Variance
EFL	English as a Foreign Language
FCE	First Certificate in English
FL	Foreign Language
LTM	Long-Term Memory
N	Number
SD	Standard Deviation
SPSS	Statistical Package for Social Science
STM	Short-Term Memory
USA	United States of America

## **CHAPTER I: INTRODUCTION**

### **1.1 Background**

In fast moving tides of global development, the ownership of two or more languages is perceived as a prominent asset (Baker, 2001) wherein acquiring a language other than the heritage language is not at all uncommon but also is necessity of modern life. In the era of globalization, owing to exceeding necessity for influential communication in modern world, human beings understand the importance of having more languages in their linguistic repertoire and they make remarkably great efforts to obtain it. Indeed, language has a defining and large impact in communicating thoughts and perspectives and is an appealing and a crucial medium of interaction with which individuals are able to reflect their insights and opinions.

Language is a vehicle of thought (Bialystok, 2002) through which individuals establish relationships and contacts. In some cases, however, contact between individuals who do not share the same first language results in language contact which in turn can stimulate one common threshold for bilingualism. Today, major forces including immigration, business, travel, and education on one hand and social and sporting events on the other hand bring people from all around the world together. In order to be successful in these circumstances, it is, therefore, essential to learn another language.

In such conditions, as a response to a set of specific needs and circumstances, people prefer to use each of their languages for different purposes. Depending on the context of speech and their interlocutors, they relatively employ a specific language with which they can satisfy the required needs of that situation (Bialystok, 2001). To simply put, as long as there is a tremendous potential for the need or desire to learn languages (Myers-Scotton, 2006) multi/bilingualism is the prevalent phenomenon and fact of life in most of societies.

The spread of English, as a reflection of globalization, by presenting new doors to a person (Cenoz, 2009) contributes much to the process of multi/bilingualism. Since the end of 1950s, the rise of English as the world's major lingua franca has created new bilingual generations.

People see the benefit and the need of acquiring English and they make an effort to obtain it (Myers-Scotton, 2006).

And what's more, in today's environment most of the vocational and daily dealings are carried out with English. Considering that English is the default language of most technological devices and computer, in order to carry out their dealings, people are supposed to be familiar with English (Myers-Scotton, 2006). In other words, accomplishment in modern life affairs and to successfully exploit appliances depend on knowing English and so true is this fact for the computer as a vital and ubiquitous existing device in modern world (Myers-Scotton, 2006).

Furthermore, by the advent of computer and other technological devices, human life has been transformed a lot. Undoubtedly, computer represents a major turning point in the process of globalization (Baker, 2001). Today, most modern life affairs and interactions are carried out with much more speed and scrutiny through computers which is why computer is becoming a vital part of human life. Thus, with increasing ease of communication through computer, there apparently is more contact between language communities which as a result necessitates knowing one common language which is commonly English.

Taken together, a burgeoning trend and need to acquire English on one hand and a proliferation of enthusiasm on the other hand for learning additional languages have contributed much in creating bilingualism in our surrounding world.

What is assumed, however, in recent years is that bilingualism is insufficient so what is needed and should be the aim is to develop multilingualism. In fact, the need is no longer to have proficiency in two languages but also it is important to be equipped with more than two languages to be able to switch between them (O. García, 2009). Evidently, in recent years, different languages are utilized for various purposes to satisfy communicative needs; where each of these specified languages can have a facilitating role in conducting influential communications. To that sense, the ongoing trend is not bilingualism but is also multilingualism.

The main reason for the wide spread of multilingualism is that most people are reluctant to lose their heritage language since each language does "social work" for its speakers (Myers-

Scotton, 2006). They distinguish themselves by this language from other communities. Each language features the positive sign of identification for its speakers in a way that when people are in contact, they value their own language. Nevertheless, this kind of valuing does not confer that they are not willing to learn the language of their interlocutors rather through language contact, they gain the tendency of learning another language.

Multilingualism apart from establishing among people social relations results in grasping social skills in other domains. Maintaining multiple uses of various languages in daily life and altering among them, provides some insights for individuals about how the knowledge of more than two languages can increase the productivity in social activities; furthermore, it enhances the motivation of them to use the appropriate language of the context; Which in turn contributes significantly to higher self concept and self-esteem (Paradowski, 2008).

Thus, the important trend around the world to acquire English as an international language on one hand, and emphasis on both maintaining heritage language and manipulating the main language of the community, on the other hand, have reinforced the emergence of the multilingual continuum. Regarding the universal appeal toward multilingualism, nowadays people have sort of facility in more than two languages (Edwards, 2003). Hence, studying different aspects of multilingualism receives specific attention and is the priority for those wishing to know its positive and negative consequences.

Multilingualism is a complex phenomenon (Cenoz, 2009) where different aspects of multilingualism receives specific attention; namely in the realm of linguistics, psycholinguistics, anthropology, sociolinguistics, and education, studies were conducted to know the impact of learning additional languages. Nevertheless, one of the widely challenging premises concerns psycholinguistics whose major interest underlies mental processes in language learning, commonly, perception, introspection, creativity, reasoning, and most importantly memory.

Memory evidently is a language learning device (Baddeley, Gathercole, Papagno, 1998) that makes language learning possible. Thus, assessing the capacity of memory and attentively knowing how much individuals are capable of recalling information takes the paramount importance in language learning constructs and especially in multilingual contexts.

## **1.2 Statement of the problem**

As already mentioned, bilingualism and accordingly multilingualism are major phenomena of today's world. For the majority of the world's population, knowing more than one language is remarkably a normal necessity of life. Due to the increasing necessity of communication in globalization process, people of the world recognize the advantage of adding new languages to their repertoires. With this widespread orientation toward becoming bilingual and multilingual in recent years whereby societies extensively enjoy either bilingual or multilingual phenomenon (Myers-Scotton, 2006), Iran is not an exception in this regard where most of the citizens are bilinguals possessing both a heritage and a main language. And what's more, learning foreign languages, specially, English as a pervasive issue in Iran has been enhancing the number of people who possess at least two or three languages.

The education system of Iran provides the possibility of learning a foreign language (FL), however, what gives rise to the phenomenon of multilingualism, is the plethora of established institutes associated with language teaching in Iran. Institutes are everywhere, scattered from small towns to large cities and by providing opportunities to people make language learning possible. The Northwest part of Iran is not an exception in this existing and culminating norm where more and more increase in the number of people attending institutes fosters novel bilingual or multilingual generations through direct instruction.

Whether individuals learn English through attending institutes or via school programs, it is all too obvious that their qualifications to some extent in academic fields or vocational domains depend on their familiarity with English. Acquiring English is not a value free issue to be completely disregarded. Knowing English is a fundamental key to upward mobility and increased life chances in local or even in international arenas (J. Cummins, 2000) by which individuals' accomplishments would improve dramatically.

However, one point is worthy of consideration in this respect. While appealing and interesting, language learning is the demanding experience needing a lot of effort and patience. For a language to be learned, it is necessary to devote a considerable amount of time besides its undertaking expenses, therefore, what is set forth by most individuals considering the proposed concept is that whether bilingualism or multilingualism is worth possessing. Presumably, if it were the case that negative consequences of bilingualism or multilingualism

have to be weighed against its positives consequences (Baker, 2001), the positive aspects would substantially outweigh its negative aspects or the result would be vice versa.

Living in such quandary, most scholars or even ordinary people mostly parents are in doubt whether to support multilingualism or not. Predominantly, a response to this question is yes considering that since 1960s, there are close to 150 studies evidencing the positive advantages of either bilingualism or multilingualism (J. Cummins, 2000). With this in mind, the linguistic diversity of Iran can be an appropriate context to carry out the study on the consequences of multilingualism to either confirm the previously obtained results or reject them. To be more specific, the challenging issue is related to the cognitive advantages of multilingualism where further research needs to be conducted to aid in better understanding of multilingual mind. Principally, the concept of memory, which is the main concern in the current investigation, is one of the biggest issues requiring further investigations in multilingual contexts. Therefore, what seems to be worthy of investigation is to find out whether, in terms of short-term memory (STM) and long-term memory (LTM) multilinguals exploit any cognitive development or not.

### **1.3 Significance of the study**

The coming century will continue the trend of multilingualism. Widespread need for acquiring English as an additional language among the speakers of various languages all over the world is remarkably bringing about the move toward multilingualism. The process of bi/multilingualism and its relationship with its attributed benefits, receives central importance in multilingual studies. It is certainly needed to know more about the possible effects of multilingualism, and make use of new ways or different perspectives to evaluate it.

In a field as vast as multilingualism, representing the range of advantages individuals benefit from must be highly confirmed. It seems widely accepted that bilinguals have some advantages over monolinguals. Considering research conducted in the realm of bilingualism over the years, it has been revealed that bilinguals outperform monolinguals in various aspects; for instance, in problem solving, creative thinking (Baker, 2001), language learning (Jessner, 2008), and many other tasks bilinguals outperformed monolinguals.



Moreover, there have been considerable studies that evidence the advantages of bilingual learners over monolinguals. Most studies attribute it to cognitive development of bilinguals where dual coding system of bilingual mind results in better and more efficient cognitive performance. While there are many studies evidencing the cognitive advantages of bilingualism, the pioneering one which accords roughly with positive effect of bilingualism on cognitive development is the Peal and Lambert's (1962) which has tremendously switched more studies toward the cognitive privilege of bilinguals with the aim of assessing language learning effect.

Language as a tool of thought has determining consequences for individual's cognitive development. Through developing language skills, individuals' cognitive processes become more independent. In other words by maturing in language abilities, individuals gain more control on cognitive processes. E. E. García (2005) maintained that through learning in merely one language, people deprive themselves from the opportunity of novel ways of gaining knowledge and ultimately limit their cognitive growth as well.

What is set forth considering the proposed concept is that whether multilinguals similarly benefit likewise bilinguals in terms of cognitive development. What is missing in the existing literature is the possible cognitive (e.g. effects on STM & LTM) effects that learning beyond the first language and the second language may involve. Therefore, what seems to be worthy of investigation is to find out whether, in terms of STM or LTM, multilingual similar to bilinguals, benefit from the cognitive development or not.

In response to this crucial comment, multilingualism (trilingualism and quadrilingualism in this study) as a rarely touched area will direct more issues to the storage capacity of memory. Although there have been studies that attempted to show the advantages of multilingualism on cognitive development, however, most of the studies have not dealt extensively with the concept of memory. Thus, organizing the study to thoroughly evaluate the memory capacity of multilinguals would strengthen the mentioned proposals made about cognitive development of multilingualism.

Quite well, one issue which requires a particular concern is the community of Iran wherein speaking two or sometimes more languages are part of Iranian citizens. In support of the previous statements, studying about bilingualism or even multilingualism in Iran will expand

our understanding of this phenomenon and will provide some important insights about human faculty and its relationship with learning additional languages (Myers-Scotton, 2006). Particularly, examining the STM and attentively the LTM of English as a foreign language (EFL) learners in order to explicate how learning additional language(s) can impact the cognitive development can provide profound information about the EFL learners and their linguistic capacity. Furthermore, the results of the study may be a good framework for language teachers to improve their way of instructing English in the divergent linguistic community of Iran.

#### **1.4 Research questions and hypotheses**

Q1: Is there a significant difference among Iranian EFL learners with diverse linguistic backgrounds (bilinguals, trilinguals, & quadrilinguals) in terms of their STM?

Q2: Is there a significant difference among Iranian EFL learners with diverse linguistic backgrounds (bilinguals, trilinguals, & quadrilinguals) in terms of their LTM?

Q3: Is there any interaction between gender and STM of Iranian EFL learners with diverse linguistic backgrounds?

Q4: Is there any interaction between gender and LTM of Iranian EFL learners with diverse linguistic backgrounds?

Accordingly, the following hypotheses were formulated:

1. There is not any significant difference among Iranian EFL learners with diverse linguistic backgrounds (bilinguals, trilinguals, & quadrilinguals) in terms of their STM.
2. There is not any significant difference among Iranian EFL learners with diverse linguistic backgrounds (bilinguals, trilinguals, & quadrilinguals) in terms of their LTM.
3. There is not any interaction between gender and STM of Iranian EFL learners with diverse linguistics background.
4. There is not any interaction between gender and LTM of Iranian EFL learners with diverse linguistic backgrounds.

## **1.5 Definitions of key terms**

Considering that there are some terms used abundantly in the study and they comprise our main research paradigms, defining them is felt necessary.

### **Bilingualism**

Over the years the term bilingualism has been defined and interpreted in a number of different ways; it is the ability to use more than one language (Baker, 2001). To simply put, by the term of bilingualism we mean a person who is able to use two languages effectively, either orally or in written form.

### **Long-term memory (LTM)**

The ability of LTM is on storing the received information for future use. LTM accounts for the vast and long standing capacity of memory wherein the placement of new information is occurred for future use (Chastain, 1988, p.41).

### **Multilingualism**

Multilingualism is used to refer to the acquisition of several languages by individuals, or it is the ability of individuals to engage with more than one language on a regular basis of life (Cenoz, 2009). It is in the current study used as the umbrella term which encompasses bilingualism, trilingualism, or even quadrilingualism.

### **Quadrilingualism**

Quadrilingualism can be defined simply as the ability to use more than three languages; however, this simple definition underlies varied classifications according to receptive and productive abilities in each of the languages.

### **Short-term memory (STM)**

It is a conscious memory with limited capacity on which individuals depend to work with newly received information (Chastain, 1988, p.40).

### **Trilingualism**

Trilingualism is the state in which an individual has the capacity of processing and code switching in three languages that are learned consecutively (Jessner, 2008).

## **1.6 Organization of the thesis**

To begin with, chapter one as the introduction of the current study presents briefly the framework on which the study is based. In order to thoroughly deal with the framework of study and in more details there are four following chapters comprising the thesis:

### ***Chapter two: Review of the related literature***

This chapter focuses on the theoretical issues involving multilingualism along with providing related conducted researches. It comprises two parts. In the first part, the theatrical issues regarding multilingualism and its relative cognitive developments namely STM and LTM are presented. The results of studies in the realm multilingualism and its relationship with cognitive development are also reported. Specifically, the analyses of studies are interpreted with reference to memory development assuming that related cognitive development influences memory capacity in multilinguals.

### ***Chapter three: Method***

The aim of the current study was rooted in significantly determining any possible effect of additional language learning on memory. This chapter illustrates the design of the study and then moves on to description of the participants. It also provides explanations of the instruments employed in the study. After the detailed explanation of the instruments, the chapter proceeds to elaborate on the procedure. Finally, data analysis methods are explained.

### ***Chapter four: Results and discussions***

This chapter comprises of two parts that highlights the main findings throughout the study. The first part focuses on representing the results and the second part deals with the discussion of the findings analyzed in the previous section.

### ***Chapter five: Conclusion and implications***

The final chapter points to new directions for studies on various aspects of multilingualism and memory and tries to mention some of the limitations, the study encountered with. It also underlies the related implications and concluding remarks.