AN EXPERIMENTAL STUDY ON ACQUISITION OF PREPOSITIONS IN ENGLISH AS A THIRD LANGUAGE

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ABSTRACT

AN EXPERIMENTAL STUDY ON ACQUISITION OF PREPOSITIONS IN ENGLISH AS A THIRD LANGUAGE

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This study explores the role of cross-linguistic influence in third language acquisition process by examining English adpositions. Comprehension, processing and production of English prepositions (*in, on, at, behind, over, to*) were examined through off-line and on-line data collection tasks to find out which of the two known languages (L1 or L2) is the major source of cross-linguistic influence on the acquisition of English (L3) adpositions given the fact that adpositions are morphologically and syntactically different in Turkish, Kurdish and English languages. The main reason behind the choice of these particular prepositions lies in their morpho-syntactic properties in Kurdish, Turkish and English. While some adpositions have similar representations in these languages (e.g., *behind, over* appear as prepositions in both Kurdish and English), some others have different representations (e.g., *in, on, at* appear as prepositions in English, case markers and/or postpositions in Turkish and preposition and/or circumpositions in Kurdish). Participants of the study were Turkish-Kurdish bilinguals who formed experimental group and L1-Turkish monolinguals who served as control group. Two off-line picture description tasks (picture description task with multiple choices and teddy bear picture description task) and an on-line self-paced

reading task were employed to collect data. The finding of the study revealed that Turkish-Kurdish bilinguals were better in comprehending, producing and processing target prepositions than L1-Turkish control group, particularly when they have structural overlaps between the adpositional systems of L1-Kurdish and L3-English. The findings are suggestive of typology as an overriding factor in cross-linguistic influence in the acquisition of L3 English. Structural overlaps between Kurdish and English facilitated the acquisition of English preposition for Turkish-Kurdish bilinguals.

Keywords: Cross-linguistic Influence, Third Language Acquisition, Prepositions, Language Typology, English, Turkish, Kurdish

ÖZ

EDATLARIN ÜÇÜNCÜ DİL OLARAK İNGİLİZCE'DE EDİNİMİ ÜZERİNE DENEYSEL BİR ÇALIŞMA

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Bu çalışma İngilizce edatları inceleyerek üçüncü dil edinim sürecinde diller arası etkileşimin rolünü araştırmaktadır. İngilizce edatların (içinde, üstünde, -DA, arkasında, üzerinde, ve –E doğru) algılanma, işlemleme ve üretimi incelenerek bilinen dillerden (birinci dil ya da ikinci dil) hangisinin İngilizce (üçüncü dil) edatların edinilmesine diller arası etkileşimde kaynaklık ettiği araştırılmıştır. İçinde, üstünde, -DA, arkasında, üzerinde, ve –E doğru edatların araştırılmasının ana sebebi Kürtçe, Türkçe ve İngilizce dillerindeki morfo-sentaktik özellikleridir. Bazı edatlar bu dillerde benzer şekilde temsil edilirken (örneğin arkasında ve üzerinde Kürtçe ve İngilizcede önedat olarak kullanılır) diğerleri farklı şekillerde temsil edilir (örneğin *in, on, at* 'içinde, üstünde, ve –DA' İngilizcede önedat, Türkçede tamladığı ismin ardına gelen edat ya da hal eki, Kürtçede ise önedat ya da circumposition (ismin iki ucuna eklenen edat yapısı). Araştırma çevrimdışı ve çevrim içi veri toplama araçlarıyla gerçekleştirilmiştir. Çalışmanın örneklemi deneysel grubu oluşturan iki dilli (Türkçe-Kürtçe) katılımcılar ile kontrol grubu olan tek dilli (Türkçe) katılımcılardan oluşmaktadır. Veri toplamada iki çevrimdışı resim tasvir etkinliği (Çoktan seçmeli resim tasviri ve ayıcık resim tasviri) ve çevrim içi kendi hızıyla okuma teknikleri

kullanılmıştır. Çalışmanın sonuçları İngilizcenin üçüncü dil olarak edinimi sürecinde diller arası etkileşimde tipoloji etmenini öne çıkarmıştır. Kürtçe ve İngilizce edatlar arasındaki yapısal benzerlikler İngilizce edatların edinimini Türkçe-Kürtçe bilen iki dilliler için kolaylaştırmıştır.

Anahtar Kelimeler: Diller Arası Etkileşim, Üçüncü Dil Edinimi, Edatlar, Tipoloji, İngilizce, Türkçe, Kürtçe

To My Family

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Have patience with everything that remains unsolved in your heart. Try to love the questions themselves, like locked rooms and like books written in a foreign language. Do not now look for the answers. They cannot now be given to you because you could not live them. It is a question of experiencing everything. At present you need to live the question. Perhaps you will gradually, without even noticing it, find yourself experiencing the answer, some distant day.

— Rainer Maria Rilke

Despite all the hardships in this process, today is the day: writing this note of thanks is the finishing touch on my thesis. It has been a period of intense learning for me, not only in scientific arena, but also on a personal level. First and foremost, I wish to thank my advisors, Assoc. Prof. Çiğdem Sağın Şimşek and Assoc. Prof. Martina Gracanin Yüksek. They definitely provided me with the tools that I needed to choose the right direction and successfully complete my dissertation. Çiğdem *hocam* always welcomed me with a warm smile and helped me to find the answers for all the questions I have with relaxing music in the background. Martina *hocam* sat with me whenever I need help and taught me to catch a fish. She sometimes sat with me to find the right way to analyze the data, or to interpret the results. The way they cared for my academic, but also personal well-being during this process deserves millions of thanks. Without their patience and guidance, this thesis would never be completed. One simply could not wish for better or friendlier supervisors.

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LIST OF ABBREVIATIONS

ADP	Adposition
TAM	Tense Aspect Marker
DEF	Definite
IND	Indefinite
IZF	Izafe
LOC	Locative
LOC-n	Locative Noun
NEG	Negation
NP	Noun Phrase
PL	Plural
POSTP	Postposition
PP	Prepositional Phrase
PTC	Particle
PRS	Present
PROG	Progressive
PST	Past
SG	Singular
SUBJ	Subjunctive Present
VP	Verb Phrase
1SG	First person singular
2SG	Second person singular
3SG	Third Person singular

1PL	First person plural
2PL	Second person plural
3PL	Third person plural

CHAPTER 1

INTRODUCTION

'The limits of my language are the limits of my world.'
—*Ludwig Wittgenstein*

'Since there is no real silence,
Silence will contain all the sounds,
All the words, all the languages,
All knowledge, all memory.'
—*Dejan Stojanovic*

In this introductory chapter, first, the background of the study is presented (Section 1.1) and then key characteristics of the languages under investigation (English, Turkish and Kurdish) are summarized (Section 1.2). After that, the purpose and significance of the study (Section 1.3) are discussed. Next, research questions sought in the study (Section 1.4) are presented. Finally, in Section 1.5, key terms used throughout the thesis are presented.

1.1. Background to the Study

The main focus of this thesis is cross-linguistic influence of (a) previously known language(s) on a new language that an individual is acquiring. The concept of cross-linguistic influence (henceforth CLI) is a term coined by Sharwood Smith (1983) and Kellerman (1984) and has been used by several scholars in the study of language contact, bilingualism/multilingualism, and second language acquisition over a long period of time. CLI embraces a number of concepts like *language transfer, linguistic interference, the role of the mother tongue, and native language influence.* It is now common for both *transfer* and *cross-linguistic influence* to be used interchangeably to refer to the same phenomenon. According to Jarvis and Pavlenko (2008), both can be seen as theory-neutral cover terms despite the fact that transfer was for some time associated with the behaviorist theory of language learning (e.g. Kellerman, 1979; Schachter, 1974). Ringbom (2007), however, states that transfer is still the most

commonly used term and that most of its associations with structuralism and behaviorism have been lost. In the present study the term *cross-linguistic influence* will be used as a cover term in that it functions as a theory-neutral term, appropriate to refer to the full range of ways in which a person's knowledge of one language may affect the knowledge and use of another language.

Cross-linguistic influence refers to a process whereby learners carry over what they already know about their first language to their performance in their new language. If two languages have corresponding features, *'facilitation'* (positive transfer) will occur. *'Interference'* (negative transfer) will occur where two languages do not have corresponding features and this leads to non-native forms or errors (Odlin, 2003). Language learners may transfer consciously or unconsciously. On the one hand, they consciously transfer from their L1 as a communication strategy to fill in a gap in their knowledge of target language. On the other hand, they unconsciously transfer possibly because they have not learnt the correct form of the target structure.

CLI includes avoidance, borrowing and L2-related aspects of language loss as well (Sharwood-Smith & Kellerman, 1986). CLI is viewed by different researchers as one of the central processes in Second Language Acquisition (henceforth SLA) (Gass & Selinker, 1992; Odlin, 2003; Selinker, 1972) and one that causes a lot of disagreement among researchers with regards to determining what factors trigger it, how it occurs, to what extent and in what areas of language it occurs.

When and to what extent CLI occurs has to do with various factors like setting (classroom environment, SLA context), proficiency (the higher the level, the lower the chance of CLI), style (careful, monitored style versus unmonitored spontaneous style), and learner type (Benson, 2002). Research on CLI has acknowledged that CLI occurs; however, rather than the approach of interference, current thinking of transfer covers various forms of transfer. Benson (2002) summarized general functions of CLI as follows:

a) Facilitative in areas where two languages have similarities, which is positive transfer (e.g. Both L1 and L2 have Subject-Verb-Object (SVO) order, which eases learning process at syntactic level)

b) Resulting in avoidance where L1 does not have target structure (e.g. Chinese and Japanese students of English systematically avoided using relative clauses in English, largely due to this feature being absent or structurally very different in their native language)

c) Causing different rates of development either by delaying (e.g. Kurdish verb construction *'no + verb'* may delay the acquisition of negation in English) or accelerating learning process of the target language

d) Leading to different routes of acquisition (e.g. in Turkish the meaning of prepositions '*in*', '*on*', and '*at*' all map onto the same case marker (-DA), so the learners may have difficulties using them in English)

e) Resulting in overproduction (e.g. overuse of articles by Turkish learners of English)

CLI may occur at various levels. Odlin (2003) states that all linguistic subsystems are affected by language transfer. Among the areas affected by CLI are pragmatics (e.g. different formulization of speech acts) and rhetoric, semantics, syntax (e.g. word order across different languages), lexis (e.g. false cognates), phonology (e.g. foreign accent), phonetics (e.g. mispronunciation of allophones), and orthography (e.g. misspelling of cognates), and so forth. All these areas have remained important over the years and plentitude of research is available in most fields including phonology (Gut, 2010; Kim, 2009; Leather & James, 1996), morphology (Clyne & Cassia, 1999; Lowie, 2000), syntax (Klein, 1995; Leung, 2009), pragmatics (Safont-Jorda, 2005), and language universals and linguistic typology (Eckman, 1996; White, 2000).

CLI has played an important role in both Second and Third Language Acquisition research. Research findings in both areas contend that the learners' prior linguistic repertoire has a significant impact on the acquisition of a second and third language (Cenoz, 2001; Clyne, 1997; Jarvis & Pavlenko, 2008; Kellerman, 1983; Ringbom, 2001, among others). These studies have demonstrated that both learners' native (L1) and non-native languages (L2, L3, Ln) can be the sources of influence when acquiring a new language (Cenoz, 2001; Hammarberg, 2001; Möhle, 1989; Ringbom, 2001). This study will accordingly address the influence of L1 or L2 on third

language acquisition in a linguistic constellation that has not been well investigated. In particular, the aim of the present research is to investigate the roles of L1-Kurdish and/or L2-Turkish on the acquisition of L3-English in relation to the use of adpositions. Both comprehension and production of English adpositions are investigated via off-line and on-line tasks to contribute to an emerging area in cross-linguistic influence research, i.e., psycholinguistic aspect of CLI. In the following section, an overview of the three languages that are the foci of the study is given. Afterwards, adpositional systems of the three languages are briefly presented.

1.2. Overview of Languages under Investigation

Before an overview of adpositional systems in the three languages, a brief comparison of three languages is necessary. Among the myriad differences between the English, Turkish and Kurdish languages, the following stand out:

i. The languages belong to different language families. English belongs to the Germanic branch of the Indo-European family of languages, Turkish belongs to the Ural-Altaic language family, and Kurdish[1] is located in the western Iranian group of the Indo-Iranian branch of the Indo-European family.

ii. The word order both English is Subject Verb Object (SVO). The normal word order in Kurdish is Subject Object Verb (SOV) and modifiers follow the nouns

[1] Kurdish is a cover term for the largest group of closely-related Western Iranian dialects, spoken in a large contiguous area that extends from Turkey to Iraq, Iran, and Armenia (McCarus, 2007). It has three main subgroups: Northern Kurdish, which is the most widely spoken variety and which is known as *Kurmanjî*, Central Kurdish (*Sorani*), and Southern Kurdish (*Pehlewani)*. Present norms of Kurdish are extensively based on the standards established by Celadet Alî Bedir-Xan in 1970, which were later codified in Bedir-Xan and Lescot's *Grammaire Kurde Dialecte Kurmanjîi*, published in 1971. From then on, standard Kurmanji has relied on that code. Accordingly, in the present study, conventions codified in Bedir-Khan and Lescot's *Grammaire Kurde (Dialecte Kurmanjî)* will be accepted as standard. We will refer to this variety as *Standard Kurmanjî* (SK) and take it as the bases in this study and if there is any variation, we will note it where relevant.

they modify.[2] Turkish is also a Subject Object Verb (SOV) language, which is almost diametrically opposed to the word order of English and Kurdish syntax.[3]

iii. English and Kurdish are inflected languages, that is, they add prefixes and suffixes to roots to express grammatical relations and form words. In Kurdish, nouns are marked usually by inflections added in the form of a suffix to the noun for number, definiteness, gender, and case. Turkish is an agglutinative language, i.e., root words take on many suffixes to indicate case, tense, and many other elements.

iv. English has no grammatical gender, but it has natural gender. Turkish, on the other hand, has neither natural nor grammatical gender. Kurdish has natural gender, which is manifested on nouns[4]. Grammatical gender is manifested in the oblique case markers and Ezafe[5] particles on nouns (Haig, 2004).

v. English relies on prepositions and/or word order to convey the meanings that are conveyed by case-marking in Turkish. Kurdish is ergative[6] with respect to both case-marking and verb agreement.[7]

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[2] Kurdish word order is not rigid and allows for movement.

[3] Haig and Öpengin (2015) noted that the word order in pragmatically neutral clauses is Subject-Object-Verb-Goal (SVOG), where "G" stands for 'Goal', which is used as a cover term for spatial goals of verbs of movement, recipients of verbs of transfer, and addressees of verbs of speech.

[4] All gender distinctions are neutralized when the nouns appear in the plural form.

[5] Izafe/Ezafe is a particle linking the head noun to a modifier, which follows that noun and it inflects for gender and number (See Haig, 2004 for details)

[6] The northern dialects of Kurdish are ergative, showing non-nominative marking of the subject and object-agreement with the transitive verb, but nominative subject-marking and subject-agreement in intransitive verbs (Dorleijn, 1996; Matras, 2009). Kurmanjî has ergative construction, which is used with the past tenses of transitive verbs. The syntax is generally accusative where ergativity does not function.

[7] Haig (2002) noted that Kurdish relies heavily on combinations of nouns/adjectives plus one of small number of light verbs like '*kirin* (do), *bûn* (be, become), *ketin* (fall)' for creating verbal expressions.

vi. Adpositions function differently in three languages. English has prepositions (e.g., ***in*** *the garden*) and Turkish has postpositions (e.g., *bahçenin* ***içinde*** **'garden.GEN inside-LOC'**) and/or case markers (e.g., *bahçe**de*** **'garden-LOC'**). Kurdish employs two main forms of adpositions, which are prepositions (e.g., ***li*** *bexçe*) and circumpositions (e.g., ***li*** *bexçe* ***de*** runiştiyi **'in garden- LOC** sit-PROG.3SG') and postpositional particles that are added to to prepositions (e.g., de, ra) as in Sorani dialect of Kurdish[8].

1.2.1. Comparisons of Adpositions across the Three Languages

As the main purpose of this study is to investigate adpositions across the three languages, a brief comparison of adpositions in English, Turkish and Kurdish is of significance as their representation of is very different across the languages analyzed in this study. A brief overview is given below.

Adpositions are instantiated as prepositions in English (e.g. ***at*** *home*). Prepositions head phrases – prepositional phrases (PPs) – that function as dependents of verbs, nouns, and adjectives. As counterparts of English prepositions, Turkish employs postpositions which follow the noun phrases (e.g. *kapının* ***önünde*** 'door.GEN 'in-front-of.LOC') and case suffixes (e.g. *ev**de*** 'home.LOC'), which are suffixed to the noun. The basic distinction between postpositions and case markings is that the former combine with their complement syntactically, whereas the latter combine with it morphologically. The case suffixes in Turkish are nominative, accusative, dative, locative, genitive, and ablative. Finally, Kurdish has two main forms of adpositions: prepositions (e.g. ***li*** Ankara 'in Ankara'), and circumpositions (e.g. ***li*** ist gehe ***de*** 'at the bus stop'). In addition to two main forms of adpositions, Kurdish has postpositional particles (e.g. *ra, ve, de*) which combine with basic prepositions and form circumpositions.

[8] The postpositional element does not usually appear on its own in Sorani dialect of Kurdish (Thackston, 2006) and Kurmanjî dialect.

In this study, the focus is on the acquisition of prepositions *in, on, at, over, behind,* and *to* when they denote spatial relations. These prepositions and their counterparts in Kurdish and Turkish are given in the Table 1.1 below.

Table 1.1: Comparison of Adpositions in English, Turkish, and Kurdish

English	**Turkish**		**Kurdish**		
Preposition	***Postposition***	***Case Marker***	***Preposition***	***Circumposition***	***Suffix***
in	iç-i-(n)de	-DA	***Copula***	***Lexical Verb***	
			li	Dİ … DE/li… DE	
on	üst-ü- (n)de	-DA	***Copula***	***Lexical Verb***	
			li ser	li ser …DE	
at		-DA		Dİ … DE/li… DE	
behind	arka-(s)ı-n-da		li paş		
over	üzeri-(n)de		li ser		
to	-E doğru	-(y)A		Bi ber….Dİ	-E

As seen in the Table 1.1 above, Turkish equivalents of the English preposition *in* are both the locative case marker *–DA* and a postposition *içi(n)de*, while in Kurdish, *in* is represented either as preposition *li* or a circumposition *Dİ...DE* or *li... DE* depending on the verb it is used with (copula or lexical verb*)*. The same holds for the representation of *on* in Turkish, which is represented as a postposition *üstü(n)de* and/or the locative case marker *–DA*, while in Kurdish, it is represented as a preposition *li ser* and/or a circumposition *li ser... DE/Dİ ser... DE*. In Kurdish, prepositions *in* and *on* have two forms of representation: prepositions or circumpositions. When they take copula, they appear in the form of a preposition (e.g. *Keçik* ***li ser*** *xeniyi* 'girl-OBL on

house-COP.PRS'). They take the form of a circumposition when they appear with a lexical verb (*Keçik **li ser** xeni **de*** runiştiyi 'girl-OBL on house-DEF POSTP sit-PROG.3SG). *At* corresponds to the locative case marker in Turkish and it does not have an analogous postposition in this language. In Kurdish, *at* is expressed by a circumposition *Dİ… DE* or *li… DE*. Importantly, *in, on,* and *at* are all represented by the same locative case marker *–DA* in Turkish (in addition to postpositions *içi(n)de (in)* and *üstü(n)de (on)*). English prepositions *behind* and *over* correspond to postpositions in Turkish (üzerinde, üstünde) and a preposition in Kurdish (li ser). In Turkish, *to* is represented by a more intricate form: (*-E*) + postposition (–E doğru) or only with the dative case marker (Noun.DAT) in Turkish. In Kurdish, on the other hand, *to* is analogous to a circumposition *bi ber…. Dİ* or suffix *–E* which is added to the noun. Examples for the prepositions under investigation and their counterparts in Turkish and Kurdish are given below:

1) English **in the garden**

Turkish	***bahçe-de***	***bahçe-(n)in***	***iç-i(n)-de***
	garden-LOC (case)	garden-GEN	in-3SG.POSS-LOC
Kurdish	***li bexçe***	li hündir	bexçe de
	Prep garden	prep LOC-n	garden-OBL POSTP

2) English **in London**

Turkish	***Londra-da***	***Londra-(n)ın***	***iç-i(n)-de***
	London-LOC (case)	London-GEN	in-3SG.POSS-LOC
Kurdish	***li Londre***	***li hündir Londre de***	
	prep London	prep LOC-n London POSTP	

3) English **on the wall**

Turkish ***duvar-da*** ***duvar-ın*** ***üst-ü(n)-de***

wall-LOC (case) wall-POSS top-3SG.POSS-LOC)

Kurdish ***li ser diwer*** ***li ser diwer***

on LOC-n wall-OBL on LOC-n wall-OBL

4) English **on the sofa**

Turkish ***sofa-da*** ***sofa-nın*** ***üst-ü(n)-de***

sofa-LOC (case) sofa-GEN top-3SG.POSS-LOC

Kurdish ***li ser bermale***

prep sofa-OBL

5) English **at the corner**

Turkish ***köşe-de***

corner-LOC (case)

Kurdish ***li koziye de***

prep corner-OBL POSTP

6) English **at the bus stop**

Turkish ***otobüs durağ-ın-da***

bus stop-3SG.POSS-LOC (case)

li rawestgaha otobose de

Kurdish

prep stop-IZF bus-DEF POSTP

7) English **behind the door**

kapı-(n)ın arka-sı(n)-da

Turkish

Door-GEN behind-3SG.POSS-LOC (postp)

li paş deri

Kurdish

behind door-OBL

8) English **over the clouds**

bulut-lar-ın üzeri-(n)de

Turkish

cloud-PL-GEN over-3SG.POSS-LOC (postp)

li ser awra

Kurdish

over cloud-PL

9) English Peter walked **to** the door.

Peter kapı-(y)a doğru yürü-dü.

Turkish

Peter door-DAT to walk-PST

Peter bi ber deri de meşya.

Kurdish

Peter to LOC-n door-OBL POSTP walk-PST

10) English Mary went **to** school.

Turkish ***Mary okul-a git-ti.***

Mary school-DAT go-PST-3SG

Kurdish ***Mary çu mekteb-e.***

Mary go-PST-3SG school-LOC

As seen in the examples given above, prepositions of interest in the present study (*in, on, at, over, behind, to)* are represented differently across the three languages investigated, both morphologically (adpositions vs. case markers) and syntactically (prepositions vs. postpositions). In Turkish, counterparts of investigated prepositions are either case markers and/or postpositions. In Kurdish, on the other hand, the prepositions are represented either with prepositions or with circumpositions. The explanations concerning adpositions given above are very concise. A detailed description of adpositions in three languages is presented in Chapter 2.

1.3. Purpose and Significance of the Study

The role of cross-linguistic influence has been investigated in SLA from different perspectives starting with the famous work of Weinreich (1953). Recently, however, researchers have started paying attention to the role of a third or fourth language within the framework of CLI. This study aims to contribute to this body of research by examining English adpositions in the process of third language acquisition.

To the best of my knowledge, there is no comprehensive and comparative study of acquisition of adpositions (i.e., prepositions, postpositions and circumpositions) in the linguistic setting that includes English, Turkish and Kurdish languages. Existing studies have focused on investigating the use of prepositions by Turkish learners of English and are therefore limited to the analysis of a few prepositions (e.g. *in, on, at*) within the framework of Error Analysis. There is, however, still a lack of scholarly interest in third language acquisition, which is even more intriguing when it involves

adpositions that are represented differently in the languages under investigation (i.e., English, Turkish, and Kurdish). The present study intends to contribute to this area by providing a comparison of the knowledge of prepositions in L2 speakers of English (with Turkish as L1) and L3 speakers of English (with Kurdish as L1 and Turkish as L2) paying special attention to possible cross-linguistic influence of L1 (Kurdish) and/or L2 (Turkish) in the acquisition of L3 (English). The purpose of this study is twofold:

i. to analyze comprehension, processing and production of English adpositions by Kurdish-Turkish bilinguals and compare them with the performance of Turkish monolinguals via off-line and on-line tasks

ii. to find out whether it is L1 or L2 that influences the acquisition of L3 given the fact that adpositions are morphologically and syntactically different in Turkish, Kurdish and English languages

The present work will examine English prepositions by focusing on comprehension, processing and production and will do so in both on-line and off-line tasks. The results of the off-line tasks will be informative about what shapes the knowledge of L3 English prepositions, while the on-line task will tell us what factors are relevant in their processing. I believe such an undertaking may contribute to a better understanding of cross-linguistic influence and source language in third language acquisition process.

The current work does not propose to be comprehensive in its cross-linguistic analysis of prepositions (postpositions/circumpositions) in the languages investigated, but rather to examine a particular set of these constructions in depth. This study will analyze prepositions *in, on, at, over, behind,* and *to* with their spatial relations across the three languages. The main reason behind the choice of these particular prepositions lies in their morpho-syntactic properties in Kurdish, Turkish and English. While some adpositions have similar representations in these languages (e.g*., behind, over* appear as prepositions in both Kurdish and English), some others have different representations (e.g., *in, on, at* appear as prepositions in English, case markers and/or postpositions in Turkish and preposition and/or circumpositions in Kurdish). By

choosing from both adpositions with similar and different representations in participants' L1 (Kurdish), L2 (Turkish), and L3 (English), it is possible to examine the source of CLI in the use of L3 (English), which may be from L1 (Kurdish) or L2 (Turkish).[9]

1.4. Research Questions and Predictions

Recall from the Introduction that the main concern of the present study is the use of prepositions by learners of English as an L3. The languages chosen for the investigation have different representations of adpositions. While the target language (English) has only prepositions, Turkish has postpositions and case markers. Kurdish, on the other hand, has both prepositions and circumpositions. Already established languages (L1-Kurdish and L2-Turkish) that participants have acquired before English may have differential effects on English as the emerging language. Our aim is to investigate these effects by collecting and analyzing data from two groups of participants: the Experimental Group consisting of learners of English with L1 Kurdish and L2 Turkish background, and the Control Group consisting of learners of English with L1 Turkish background.

It is acknowledged in literature that source of cross-linguistic influence can take different forms. The first language (L1) has been considered the main source of transfer for the acquisition of further languages for a long time (Angelovska & Hahn, 2012). Recent studies show that L2 status, i.e. the effect of languages other than the L1 (foreignness) is the variable that predicts CLI in third language acquisition (Dewaele, 1998; De Angelis & Selinker, 2001; Ecke, 2001; Williams and Hammarberg, 1998, among others). Some other studies cite typological similarity as the source of CLI and show that typologically similar languages are influential in CLI regardless of whether it is L1 or L2. Several researchers reported that when language learners perceive a similarity between their L2 and L3, this has a facilitative effect on

[9] Another reason for the choice of these English prepositions in particular and their counterparts in Turkish and Kurdish is their frequency. The prepositions '*in, on, at, over,* and *to* reported to be among the most frequent words by many researchers (Saint-Dizier, 2006; Tyler and Evans, 2003; Zelinsky-Wibbelt, 1993).

the learning process of L3 (Cenoz, 2005; De Angelis, 2005; Ecke, 2001; Fouser, 2001; Möhle, 1989; Ringbom, 2001, 2005, among others). This thesis aims to contribute to this body of research by examining Turkish, Kurdish and English languages, in which English and Kurdish share structural similarities in their appositional systems.

The thesis seeks to answer the following research questions:

1. Which of the two known languages is the major source of CLI in comprehension and production of English (L3) prepositions?
    a. Is it L1 (Kurdish) which is typologically similar to L3 that becomes the source of CLI in comprehension and production of English prepositions?
    b. Is it L2 (Turkish) which is typologically different from L3 but is the L2 of participants that becomes the source of CLI in comprehension and production of English prepositions?

This question will be answered by the results obtained from off-line picture description tasks (picture description with multiple choices task with a focus on comprehension and teddy bear picture description task with a focus on production).

2. Which of the two known languages (L1 or L2) is the major source of CLI on the processing of prepositions in English (L3)?
    a. Is it L1 (Kurdish) which is typologically similar to L3 that becomes the source of CLI in processing of English prepositions?
    b. Is it L2 (Turkish) which is typologically different from L3 but is the L2 of participants that becomes the source of CLI in processing of English prepositions?

The second research question will be answered by the findings of on-line self-paced reading task.

In response to the research questions above, the following predictions can be made.

1. If CLI in third language acquisition comes from L1 or typologically similar language, Kurdish should facilitate acquisition of English prepositions in the

light of previous findings concerning multilinguals and cross-linguistic influence(Cenoz, Hufeisen & Jessner, 2002; De Angelis, 2005).Turkish-Kurdish bilinguals are expected to be better in comprehension, processing, and production of English prepositions as the adpositional system of their native language which includes structural overlaps with the adpositional system of English (L3). Adpositional system of Kurdish has prepositions just like in English as well as circumpositions, which might also facilitate the acquisition of prepositions because of the "pre-" part in the structure of circumpositions (e.g. *li*.....*de*). As for the control group (Turkish native speakers), it is predicted that knowledge of adpositional system of Turkish (i.e., postpositions and case markers), which is quite different from that of English, will not facilitate the use of English prepositions.

2. If CLI in third language acquisition comes from L2 or foreign language, no difference will emerge between the two groups on any prepositions. As Turkish is the language that is acquired later than Kurdish and it is the L2 for third language learners of English, L2 might become the source of CLI in the acquisition of further languages (L3 English).
3. Given that bi/multilingualism has been associated with improved metalinguistic awareness (Jessner, 2008) and third language learners have two linguistic systems when acquiring a third language and therefore more language experience at their disposal, bi/multilinguals are expected to have better performance in third language acquisition process than monolinguals.

1.5. Key Terms

Cross-linguistic influence: This term denotes influence of a person's knowledge of one language on that person's knowledge or use of another language (Jarvis & Pavlenko, 2008). It is used interchangeably with transfer in the present study and in recent research body concerning CLI.

First language (L1): It is used to refer to the first language acquired by a speaker from a chronological perspective. This language may not be the speaker's dominant

language.

Second language (L2): This term denotes second language acquired/learned by a speaker regardless of the context of acquisition or attained level of acquisition.

Third language (L3): This term is used to refer to third language acquired/learned by a speaker regardless of the context of acquisition or attained level of acquisition.

Bilingualism/bilingual: It refers to knowledge of two languages by a speaker regardless of attained level of acquisition or proficiency. Even though a wide range of definitions of bilingualism and bilinguals can be found in literature, a broader definition of bilinguals includes individuals who have various degrees of language abilities in different domains in both languages, such as 'those people who need and use two or more languages in their everyday lives' (Grosjean, 1998).

Multilingualism/multilinguals: It refers to knowledge of more than two languages by a speaker regardless of attained level of acquisition or proficiency. Multilinguals refer to users of more than two languages.

Second Language Acquisition: It refers to the process of learning or acquiring a second language in addition to the native language.

Third Language Acquisition: It refers to the process of learning or acquiring a third language.

Adposition: This term is used to cover a number of structures like prepositions, postpositions, circumpositions, and ambipositions. Adposition is basically used to cover lexical or morpho-syntactic structures that have spatial and temporal or some other sophisticated roles as well as marking relationship between two parts of a sentence.

Preposition: As a subcategory of adpositions, a preposition is used to describe movement, place, and other relations between different entities, but it also has many syntactic uses such as introducing complement clauses and oblique arguments of verbs. It is treated as a lexical category in that it determines spatial and temporal relationships between word classes. A preposition precedes its complement (i.e., *preposition + complement combinations* such as '***in the kitchen***', '***on Tuesday***

morning') in a prepositional phrase. It generally combines with a noun phrase, that is, its complement or a determiner.

Postposition: A postposition is a word that shows the relation of a noun or pronoun to some other word in a sentence. A postposition is similar in function to a preposition, but it follows rather than precedes the object. A postpositional phrase is the head and the noun phrase is the complement of the phrase (e.g. in Turkish '***in the file***' is worded like *dosya-n-ın iç-i(n)-de* [file-GEN inside- POSS- LOC]).

Circumposition: Circumposition is a less common type of adpositions, and it consists of two parts that appear on each side of the complement. The function is performed by two parts, which come before and after the complement. The noun phrase "***pirtûka di destê we de***" [book-DEF ***in*** hand-IZF her ***POSTP***] (the book in her hand) contains '*de…da'* circumposition which is a common element in Kurdish.

CHAPTER 2

CROSS-LINGUISTIC INFLUENCE IN SECOND AND THIRD LANGUAGE ACQUISITION AND ADPOSITIONS

This chapter first addresses the role of cross-linguistic influence in second and third language acquisition. Second, factors operative in cross-linguistic influence are explained with studies conducted in the contexts of various languages. Finally, the syntactic, semantic, and discourse-functional properties of adpositions are surveyed in general and then analysis of adpositions in the three languages under investigation is done.

2.1. Cross-linguistic Influence in Second and Third Language Acquisition

Over the past few decades, a plethora of studies have been made on language acquisition. Numerous attempts have been made by scholars to demonstrate how people/learners learn languages other than their native language and in what situations a particular language is chosen for communication among other languages. Accordingly, all theories of language acquisition seek to describe individuals' developing linguistic competences, as is the case with first and second language acquisition theories. Of additional interest to second language acquisition theorists, is whether the patterns and processes of language learning are the same when learning two or more languages simultaneously or when a second language after the first language has been acquired (Jarvis & Pavlenko, 2008). Apparently, going beyond SLA to the acquisition of an additional language, i.e. third or fourth language, learning processes become even more complex and diverse. When reviewing the literature on TLA is that there appears not to be a clear definition of TLA term. In addition, as Garcia-Mayo (2012) points out there has been some controversy in using L3 acquisition as a field of study. This is supported by the fact that research in both first and second language acquisition and bilingualism has a well-established discipline while third language acquisition (TLA) research has only recently attracted more

attention. Even though many speakers around the world have the knowledge of three or more languages, researchers have recently started to study multilingualism and the process of third language acquisition systematically. For this reason, Cenoz and Jessner stated that "specific characteristics of third language acquisition are still in its infancy" (2000, p. 257). How learners use all linguistic knowledge available to them in different languages is a question that remains unanswered even though scholars have proposed some explanations. By the same token, De Angelis (2007) maintained that a general theory explaining how the mind operates when three or more languages are acquired as well as one or two languages is needed.

Although there seems to be no general agreement on most definitions of Third Language Acquisition (TLA) and its area of study, the need of a much more accurate term is required due to the increasing attention on TLA. TLA has for a long time been defined as the acquisition of additional languages by bilingual individuals or as a special phenomenon of bilingualism and/or second language acquisition (Cenoz, 2003). De Angelis (2007, p.11) proposed the term "third or additional language acquisition which refers to all languages beyond the L2 without giving preference to any particular language." Hammarberg (2010) suggested that the terms L1, L2, L3, Ln are often taken as a chronological, noninterrupted acquisition, which does not essentially embody most realities, since multilingual acquisition may be simultaneous and intermittent, involving various language skills and proficiency levels. In this study, the term third language (L3) will be used for a nonnative language which is currently being used or acquired in a situation where the person already has knowledge of L1 and L2 as bilinguals. Yet, it is worth mentioning that these individuals might have better domain in one language over the other, as they might not have acquired both languages at the same time but acquired them successively, developing a late bilingualism.

Most researchers (Mitchell& Myles 1998; Singh & Carroll 1979, among others) have defended that there is no difference in the acquisition of an L2 or L3 or Ln and that all the languages that come after the native language are second languages. The assumption of "no difference" relies on the fact that most of TLA research was primarily based on SLA studies, therefore, SLA theories and approaches were applied

to TLA as a starting point. However, the researchers investigating multilingualism and TLA tried to raise awareness among scholars about the fact that multilingual learners/speakers have their own distinctive characteristics compared to L2 learners/speakers. In this regard, Jessner (2006, p.13) claimed that linguists have treated third language learning as a byproduct of research on second language learning and acquisition for a long time, however, it has become clear that learning a third language differs in many respects from learning a second language. Cenoz (2000, p.71), who studied the process of TLA, argued that the acquisition of a third language bears some similarities to the process of second language acquisition; however, it is considerably different in the sense that "third language learners have more language experience at their disposal than second language learners, and are influenced by the general effects of bilingualism on cognition, and have two linguistic systems when acquiring a third language." De Angelis (2007) rightly argued that scholars that take the L3 or Ln as extensions of SLA will clearly miss some potential knowledge related to language acquisition and the multilingual individual, since it is not the same to have access to two, three or more language systems. What is more, SLA scholars, who insist in the "no difference" assumption, rarely mention the many ways how third or additional languages can be influenced and be influential in the previous acquired languages.

Among the areas of study emerging from the area of multilingualism are cross-linguistic influence (which falls in the scope of the present study), multilingual speech production, the multilingual lexicon, and the impact of multilingualism on cognitive development of multilinguals, more particularly on third language acquisition process. Some acquisition paradigms have been proposed recently on transfer in L3 acquisition (Cenoz, 2001; Ringbom, 2007), metalinguistic awareness in L3 acquisition (Cenoz & Valencia, 1994), and parameter setting within the Universal Grammar (UG) paradigm (Klein, 1995; Zobl, 1992). It seems that findings from the work on the linguistic transfer, typology, and linguistic distance seem to be forming a growing body of literature (Cenoz, Huifesen, & Jessner, 2001).

One dominating area of research in this growing body of literature is cross-

linguistic influence in acquisition of a third language. Many authors view CLI (Andersen, 1983; Gass & Selinker, 1992; Odlin, 2003; Selinker, 1972, among others) as one of the central processes in SLA. CLI is, however, one of the main areas of inquiry in a relatively new field of study, that of TLA as well. While for second language (L2) learners CLI is basically restricted to transfer between two languages, for third language (L3) leaners, three linguistic systems interact. Historically, CLI research, as it has already been mentioned, has focused mainly on second language acquisition and how the native language influences the L2, so the equation is L1=>L2. Yet, when studying the acquisition of an L3 the equations can be multiplied, since it could not only be L1=>L3, but also the variant L2=>L3. The acquisition of an L3 can take as a source language the L1 or L2, by source language or language supplier it is understood that a learner activates one of the previously acquired language systems he/she has access to and passes this knowledge to the language he/she is currently acquiring. This is why TLA is such an appealing topic of research for linguists and for CLI which sees TLA as a potential source of data in order to advance in the study of language acquisition. Accordingly, CLI has recently directed closer attention to a new perspective, which is exploring how three linguistic systems interact and how CLI may affect the trilingual learners' language production and comprehension.[10]

Ringbom and Jarvis (2011) noted that the research under the umbrella of CLI also includes some aspects of phonetic, morphological, lexical, syntactic, and pragmatic transfer as well as interference and attrition related to L3 acquisition. Earlier studies focused on transfer in L3 with regard to error as a negative effect of prior linguistic knowledge. In the same way, Gut (2009) contended that several studies have shown that the negative influence of previously learned languages on the L3 ranges from direct or indirect transfer of rules and structures and borrowing of lexical items to the production of mixed structures. Studying with Swedish L1 speakers with Finnish as L2 and English as L3, Ringbom (2001) found examples of loan translations,

[10]Some scholars (e.g. Van Hell & Dijkstra, 2002) have also discussed the possibilities of mutual influence between the L1<=>L3 and L2<=>L3 while some others (e.g. Tsang, 2016) discuss direction of influence from L2<=L3 or L1<=L3. However, this paper will not go further on the line of mutual and reverse influence, but only on the influence of previous acquired languages on the L3.

borrowings and the usage of English words with a non-native semantic extension caused by negative transfer from the L1. Likewise, Hammarberg and Williams (1993) reported that morphological mixing occur by pointing to the application of Italian articles and infinitive affixes to Swedish L3 words in an L1 English and L2 German speaker with some knowledge of Italian. By considering the studies cited above, it could be argued that negative CLI is especially frequent in the early stages of L3 acquisition when L1 and L2 structures, rules and lexical items are used to fill the gaps in the knowledge of the L3 (Odlin, 1989). In addition, cross-linguistic influence from L1 or L2 has been shown to occur more often at a low proficiency level and the impact of transfer weakens in higher levels of proficiency (De Angelis, 2005; Odlin & Jarvis, 2004; Williams & Hammarberg, 1998).

More recently, typological distance, transfer, and recency of use and acquisition are considered to be dominating factors in studies emerging in TLA. Kellerman (1983) emphasized the significant role of typological distance in transfer well before these studies. Ringbom (2007) argued that prior linguistic knowledge has a key role for the language learner and language proximity determines the extent to which it may affect learning of a new language. In addition to typology-based studies, studies emphasizing positive cross-linguistic influence in L3 language production, especially from the L2 to the L3 represent a promising aspect of CLI. Kellerman (1978) and Odlin (1989) supported the assumption that similarities have greater and more direct influence on language learning and performance than actual differs. Kellerman (1978) claimed that the result of a study conducted with Spanish-Basque bilinguals showed that learners rely on certain types of actual similarities and not on the others. Though actual similarities do not change over time, perceived assumptions undergo change as the learners' proficiency and their exposure to target language increase. Some studies particularly focused on learners' general language-learning strategies or language-learning awareness, of specific linguistic knowledge and skills and of general metalinguistic knowledge or language awareness acquired in L2 learning (Fouser, 2001; O´Laoire, 2005) and it is reported that L3 language learners are assumed to make use of these strategies to find common points between/among languages they learn. In an empirical study, Ecke (2001) showed that the L2 can function as a lexical supplier

language while Williams and Hammarberg (1998) pointed to L2 as a supplier language for 'involuntary' code-switches. O´Laoire (2005) similarly noted that the transfer of specific language learning strategies like the use of a dictionary. Furthermore, Clyne, Hunt, and Isaakidis (2004) reported that L3 learners can benefit from their metalinguistic awareness as bilinguals and prove to be more persistent language learners than monolinguals.

It is apparent that the evidence for cross-linguistic influence takes many forms as researchers from different fields have engaged in studies with a wide range of topics in various social settings with different kinds of data collection tools. Odlin (2000) reported that the studies run a gamut from recordings of speech in naturalistic settings to highly controlled experimental procedures. Speech samples appear to provide a good account of transfer. Yet, it does not give a detailed explanation for different forms and mechanisms of transfer on its own. Hence, research from multiple sources like spoken and written performances as well as responses to measures of perception and comprehension form the key to a more comprehensive understanding of transfer.

2.1.2. Phases of Cross-Linguistic Research

Research on cross-linguistic influence or transfer started decades ago and has gone through different stages with various approaches to CLI evolving since then. The research on CLI started with the term 'transfer' and 'influence' and then evolved into a neutral term 'cross-linguistic influence'. Jarvis and Pavlenko (2008) described four phases of transfer research, which focus on different stages and progress taking place in these stages. First phase includes recognition of transfer as a phenomenon, which includes identifying cases of transfer and defining the scope of transfer. This recognition has the form of 'explanans' (explanation, affecting factor, or independent variable) for what is considered to be a more important 'explanandum' (thing to be explained, or dependent variable). Second phase stresses the exploration of transfer phenomenon as explanandum (investigation of phenomenon as a factor) with its own set of explanantia (factors that affects its behavior). Third phase reaches a more sophisticated investigation of the phenomenon with theoretical models and hypotheses concerning the social, situational, and mental constraints, constructs, and so on. In this

phase, development of theoretical models that explain how, why, when, ad what types of CLI occur is explored. Fourth phase is characterized by a complex understanding of the phenomenon in terms of how languages are stored, processed in the brain of people who know and use more than one language. Direct evidence of how languages are activated in the brain and of how a person's knowledge of one language can be activated and interfere with his or her use of another language is explored in the final phase.

Jarvis and Pavlenko (2008) stated that findings from the pre-1990s research on transfer indicated that errors are not the only outcomes of CLI. Moreover, these findings showed that CLI could affect not only the rate and ultimate success of learner's second language acquisition but also the route of their acquisition, i.e. the stages the learners go through as they acquire L2. Findings also revealed that language transfer could occur not only from L1 to an L2 but also from L2 to an L3 and from L2 to an L1 or L3. These types of transfers have received closer attention recently. It was found out that CLI interacts with other factors that together determine the likelihood of transfer such as age, psychotypology, and individual differences Odlin (1989) including aptitude and anxiety.

As summarized above transfer research in pre-1990s paved the way for recent developments in CLI, which led to development of more types of transfer and various ways in which languages that a person knows can interact with one another. New theoretical accounts of CLI have emerged from recent research. The first theoretical account growing in the field of CLI is the recognition of the relevance of linguistic relativity, or Sapir-Whorf Hypothesis in transfer research. Jarvis and Pavlenko (2008) argued that Sapir and Whorf's original idea of 'language can influence thought' is misinterpreted by a group of scholars inasmuch as Sapir's and Whorf's idea that language strictly determines thought (i.e. linguistic determinism) is based on monolingual bias, in which only monolingual speakers' thought and their modes of thinking in their languages are taken into consideration. However, scholars, who are called neo relativists, including Lakoff (1987) have argued that the language of a speaker may not affect some cognitive processes and modes of thought. The issue of

linguistic relativity has attracted much attention and viewed differently by scholars from different areas. Another theoretical framework that is widely accepted in bilingualism and multilingualism research is the concept of 'multicompetence' proposed by Cook (1991). It is argued that people who know more than one language have distinct compound state of mind, which is different from two monolingual states. Jarvis and Pavlenko (2008) suggested that the multicompetence approach allows theorizing the interaction between multiple languages in the speaker's mind as a natural and ongoing process. It furthermore contributes to understanding why multilinguals perform differently from monolinguals in all of their languages, including their L1. Multicompetence framework has revealed that languages are interconnected and they may not be separable. A similar argument developed by Grosjean (1998) suggested that a bilingual is not a sum of two monolinguals since the bilingual is an integrated whole that cannot easily be decomposed into two separate parts. A bilingual has a unique and specific linguistic configuration and both language networks are activated in a bilingual speech mode. The third development that is instrumental in CLI is research on language attrition by Schmid and Köpke (2002). The research on language attrition by a number of scholars have given rise to differentiation between CLI (i.e. the influence of one language on another) and more universal attrition processes (e.g. simplification), and between CLI and incomplete acquisition of L1 as a heritage language in various contexts. Findings of research on language attrition have helped researchers to distinguish between L1 or some other type of influence effects and attrition. All in all, the stages in which transfer research has undergone change have paved the way for new methodologies in CLI framework and contributed to its development enormously.

2.1.3. Variables That Interact with Cross-linguistic Influence in TLA

The influence of the first language (L1) on the acquisition of a second language (L2) is a widely discussed topic; however, once a third or more additional languages are at work, a clear picture of the influence and its direction is difficult to draw. The studies that have been conducted so far have served mainly to identify the factors, which may play a role in the learning of an L3. In the following sections, most cited

factors that have been found to have an effect on cross-linguistic influence in both second and third language acquisition are presented in two main categories: language-based and learner-based variables.

2.1.3.1. Language-based Variables

Language-based variables have to do with the linguistic relatedness of languages known or learned by a speaker/learner and the perception the relationship between languages known by the speaker/learner. It can be noted that linguistic similarity, linguistic typology, seems to be a recurrent variable that often interacts with learning process or overrides other factors that have been cited in CLI research. In addition to actual linguistic distance, the perceived distance between/among languages, psychotypology, is of great importance in CLI. Among the other factors frequency, recency and salience; markedness and prototypicality; linguistic context; area of language acquisition and use stand out.

2.1.3.1.1. Typological Distance and Psychotypological Distance

One of the key issues in understanding of why some learners fail to acknowledge the difference between mother tongue and the language learned is suggested to be the typological distance between L1 and L2 (Kellerman, 1983). Research has consistently identified two factors which affect how previously learned languages may influence the learning of a third: typological closeness and second language (L2) status (e.g. Odlin & Jarvis, 2004; Ringbom, 2001). Much of the research body concerning the effects of cross-linguistic similarity on transfer has been conducted in the context of L3 acquisition or multilingualism because it is easier to see the effects of cross-linguistic similarity when participants have at least two potential source languages, one of which is similar to the recipient language (in our case Kurdish), one of which is not (in our study Turkish) while learning a target language (in this study English). Jarvis and Pavlenko (2008) warned that it is not possible to examine cross-linguistic similarity when there is a single recipient language being learned or used by two groups of participants who speak different source languages, one of which is similar to the recipient language and one of which is not. Transfer does not occur in the areas

of language use where the source and recipient languages are objectively different and it is the similarities learners perceive or assume to exist between the languages that serve as the source for CLI (Ringbom, 2007).

i) Typology

Typology is one of the most investigated and referred to variables that contribute to CLI literature in the TLA research. It might be encountered in the literature with a range of different terms such as psychotypology or typological proximity (Kellerman, 1977), relatedness distance (Jarvis, 2000), similarity distance (Odlin, 1989), or language distance (Ringbom, 1987). Even though a number of terms have been used to refer to typology, it is hard to find a concise definition of typology. It is quite sensible to take into consideration language distance or typological distance as a potential phenomenon in the acquisition of foreign languages, since it is reasonable to think that multilingual speakers will be prone to transfer knowledge from their previous language(s) and mainly from that or those background language/s which is/are typological closer to the target language.

Language distance can take more than one interpretation. Falk and Bardel (2010) suggested that language distance has three different connotations: (a) language proximity/distance based on genetic relatedness, e.g. Romance or Germanic languages, (b) typology similarity of particular structures without a genetic relationship between languages under investigation, e.g. Finnish and Swaili's sharing similar structures, and (c) psychotypology, as coined and defined by Kellerman (1983), e.g. the learner's perception of similarity of languages. De Angelis (2007, p.22) stated that language distance refers to the "distance that a linguist can objectively and formally define and identify between languages and language families." For instance, the Cenoz's study (2001) on bilinguals of Basque and Spanish targeting English equates in formal similarity, since the linguists identify Spanish and English as closer languages because they belong to the Indo European family and Basque is classified as more distance in relation to Spanish and English, since its origin is Vasconic, which is classified as language isolate. However, typological distance/ proximity between languages does not always explain CLI. De Angelis (2007, p.22) maintained that

“sometimes the term formal similarity refers to a relationship of similarity between the features or components of two or more languages without necessarily implying a genetic relationship between them”. That is to say, learners can find similar linguistic features in languages that do not belong to the same genetic group, for example, Ringbom (2003, p.26) stated “if you know Finish as L2, there will be no major problem learning Swahili.” Despite the fact that these languages do not belong to the same genetic family, Finnish is a Finno Ugric language and Swahili a Bantu language, they share many formal similarities. For instance, they are both agglutinative languages, so they present vast morphophonemic variation.

To Rossi (2006), most studies present a superficial view of typology, by which the relationship between the languages involved is not described, instead, it is just assumed on the basis of linguistic families. Rossi (2006) argued that this can be faulty, for two languages from the same family can be similar in some respects and different in others, and belonging to the same linguistic family is not necessarily a guarantee of typological similarity. According to Rossi, typology can be understood in a global or in a more restricted way, for there are three kinds of relations implied in the term: i) a genetic relationship, ii) a geographical relationship, and iii) a formal relationship. Two languages are considered to have a genetic relationship when they belong to the same linguistic family. For instance, classifying French, Italian, Portuguese, and Spanish as Romance languages is to establish a genetic relationship between them. Understanding typology as a genetic relationship is looking at the issue in a global way, which seems to be the kind of relationship privileged in most studies in the field. A less common approach would be to think of typology in terms of geographical association. However, typological similarity can also be a function of geographical proximity. Albanian, Romanian, and Bulgarian constitute an example of a group of languages that share certain linguistic features due to their geographical relationship but belong to different families. Rossi (2006) proposed to look at typology from a formal standpoint, a more restricted understanding of the term. In this regard, she follows Whaley's definition (Whaley, 1997, p.7), who defined typology as 'the classification of languages or component of languages based on shared formal characteristics'. For the purposes of this study, typology is to be understood as the formal similarity or distance between

the linguistic components of interest (i.e., adpositions) across the target languages (i.e., Kurdish, Turkish and English).

In TLA, typological closeness has proven to be a significant factor in many instances of influence of the known language on the one that is being learnt. Several researchers reported that when language learners perceive a similarity between their L2 and L3, this has a facilitative effect on the learning process of L3 (Cenoz, 2005; De Angelis, 2005; Ecke, 2001; Fouser, 2001; Möhle, 1989; Ringbom, 1987, 2001, 2005, among others). Möhle (1989), for instance, claimed that typology is in fact the crucial factor in CLI since the findings of in her study indicated that her informants' knowledge of French exerted more influence in their learning of Spanish as a fourth language than any of the other languages they spoke, regardless of proficiency, amount of exposure or recency of use. The study explored the role of typology through data obtained from 22 speakers of Spanish whose L1 is German and L2 is English. Some of the participants had studied either French or Latin as their L3 and were all talking Spanish as L4 or L5. The author reached the conclusion that the most important factor with regard to CLI was the formal relationship between the languages studied.

Ringbom (1986) also reported typology as being a determinant factor in CLI research. The author (1986) did research on the overall proficiency level attained by Swedish and Finnish speaking EFL students in Finland, where both languages coexist in some parts of the country. These two languages belong to different language families, i.e., Germanic and Finno-Ugric. It was revealed the Swedish L1 speakers outperformed Finnish L1 speakers because of similar psycholinguistic routines available in English and Swedish. The author claimed that if the L2 is closely related to the L1, the language learner will benefit from similarities between two languages and will build their L2 on these similarities. In another study Cenoz (2001) found a strong typological effect in the transfer pattern of her participants. She discovered a higher amount of transfer from Spanish in the L3 (English) of her participants, despite the fact that Spanish was the L2 for some of the learners (who spoke Basque as their L1) and the L1 for others (who spoke Basque as their L2). Similar results were also reported by Rossi (2006) where Anglophones with French as their L2 and

Francophones with English as their L2 resorted more to French than to English as a source language for lexical transfer in their oral production in Spanish.

Williams and Hammarberg (1998) reported a few instances of German (L2) influence in the morphology of Swedish (L3) and claimed that the L2, just like the L3, looked foreign to their participant, helped explain the greater influence of the informant's L2 on her L3 lexical production. This seminal case study is one of the most cited works in the TLA field, and one of the key studies backing the predominant role of the L2 as a source of CLI at the early stages of L3 acquisition, both for lexical and phonological production. Their data, collected over the period of two years, came from a native English speaker who had attained a native-like command of her L2 (German) after living in the L2 context for a few years. At the time of the data collection, she was learning Swedish as an L3 in Sweden. Their results seemed to point to a division of roles for the two previously known languages: The L1 having an instrumental role (being used as a tool to facilitate communication in the form of metalinguistic comments, asides, requests for help, etc.), and the L2 being the default supplier for lexical construction attempts. Preliminary evidence of the effect of the L2 on L3 pronunciation was also reported. According to some native speaker judges, the informant sounded like a German speaker learning Swedish at the initial stages. Over time, the L3 took over the role of supplier for lexical production, and her pronunciation started to show more of an L1 influence. Two observations should be made with regards to Williams and Hammarberg's results. In the first place, it is possible for typology to have played a role in promoting L2 influence, given that German could be closer, and also could have been perceived as closer (psychotypology) to Swedish than English. There have been some few other studies regarding morphology (ÓLaoire &Sigleton, 2005), but they do not have reached any conclusive evidence so as to prove the L2 status as a dominant factor in the learners' activation as a language supplier.

Considering typology as a crucial factor, Rothman (2010) proposed the Typological Primacy Model (TPM) which was then developed by Rothman and Cabrelli Amaro (2010). The L3 initial state is the main interest of the model as it seeks to predict which set of language properties a multilingual language learner is likely to

transfer when learning a new language (Ln). Based on the theory of psychotypologically motivated transfer (Kellerman, 1979, 1983), the TPM suggests that the learner may choose the typologically more similar system for multilingual transfer to facilitate the acquisition of Ln. Berkes and Flynn (2012) reported that the TPM does not reject the validity of the L2 status factor a priori, but rather posits the existence of an internal parser to the learner who assesses the typological similarities and/or differences between the languages known to him/her and the new one to be learned with the help of the L2 status factor. Rothman (2010) examined L3 acquisition of Brazilian Portuguese, contrasting two sets of L3 learners. The first set of learners consisted of L1 speakers of English who are highly successful learners of L2 Spanish and the second set had L1 speakers of Spanish who are highly successful learners of L2 English. The author investigated word order restrictions and relative clause attachment preference. The pairing of languages was significant in that Spanish and Brazilian Portuguese are typologically similar and Brazilian Portuguese patterns are much more like English than Spanish in these related domains. The data demonstrated that Spanish was transferred irrespective of its order of acquisition and despite the fact that English would have been a more facilitative choice. Findings showed that these data provide evidence in favor of the TPM and against the predictions of the L2 status factor and the CEM. García Mayo and Rothman (2012) noted TPM anticipates the possibility of non-facilitative transfer stemming from a psychotypologically motivated transfer. The authors (2012, p.28) added "What seems to be agreed upon by all existing models of the L3 initial state for morphosyntax is that the L1 is not the sole source of transfer and this fact means that experience with an additional language is clearly deterministic in L3/Ln acquisition and renders L3 learners unique from L2 learners."

A recent study supporting TPM is conducted by Garcia-Mayo and Slabakova (2015). Garcia-Mayo and Slabakova (2015) examined the L3 interlanguage of Basque-Spanish bilinguals regarding the acceptability and interpretation of null objects. The three languages they analyzed display different semantic requirements for the target structure, with Basque allowing for a null object option across-the-board, Spanish only under certain semantic conditions, and English disallowing it in the standard variety. Two trilingual, one bilingual and a control group rated experimental items embedded

in context, presented in a written and aural format on a computer screen. The participants in the study included a control group of English NS and three experimental groups: L1B–L2S–L3E, L1S–L2B–L3E, who were specifically chosen in order to compare the effect of the native and the second language on the acquisition of the L3, and an L1S–L2E group. The authors chose the two trilingual groups to determine whether Basque or Spanish would influence the L3 English null objects. The results of the aimed to find out whether as an L1 in the L1S–L2B–L3E group or as an L2 in the L1B–L2S–L3E group, influences the trilingual groups' ratings of null object constructions. The results showed that neither the absolute L1 transfer model nor the L2 status factor model appear to be supported since the results revealed a decisive influence of the native as well as the second language. Findings demonstrated the successful acquisition of the target structure, as well as a clear influence of Spanish in the three experimental groups due to structural and lexical similarities between Spanish and English, which point to Typological Primacy Model.

ii) Psychotypology

While it seems reasonable to believe that it is the actual typological relationship between a given set of languages that matters the most, it is highly possible that the perception the learner has of that distance may ultimately affect CLI (Ringbom & Jarvis, 2011). Kellerman coined the term "psychotypology" in 1983 to refer to this perceived linguistic distance. Since then several authors have reported psychotypology as a decisive factor in their studies (Ecke, 2001; Kellerman, 1983; Singleton, 1987; Singleton & Little, 1991, among many others).

Studies concerning psychotypology do not generally include a measure of psychotypology. Instead, the effect of psychotypology is reported on the grounds of certain comments made by participants during the data collection process, which suggests that it is understood as a subcomponent of typology. However, it is also reported that actual (typology) and perceived (psychotypology) distance may not always coincide. Therefore, it is not plausible to assume that the learners perceive the existence of typological relations between/among languages they know. By the same token, it is not possible to assume that the lack of typological proximity will prevent

the learners from perceiving it. If learners perceives an L2 or L3 to be distant from their L1, they may fail to recognize the similarities between these languages (Otwinowska-Kasztelanic, 2011). Moreover, the perception of relatedness by some learners with regards to certain features or components of two languages (e.g., lexical similarities between English and German) does not imply that the same learners would perceive other features of those languages as being similar as well (e.g., article system in English and German).

2.1.3.1.2. L2 Status and Language Exposure

There are studies that point to L2 status as the variable that predicts CLI in TLA (Dewaele, 1998; De Angelis & Selinker, 2001; Ecke, 2001; Williams & Hammarberg, 1998, among others). L2 status is the term used to refer to "languages other than the L1" (Cenoz, 2001, p.9). The term was first perceived by Meisel (1983) who called it 'foreign language effect'. Yet, the L2 status term was coined by Hammarberg (Hammarberg & Williams 1998) so as to talk about the L3 learners' tendency to use the L2 as a source language over the L1. Hammarberg and Williams (1998) studied Sarah Williams' case (the second author). She has English as L1, German as L2 (high proficient) and Swedish as an L3. They analyzed William's vocabulary oral production of Swedish and discovered that she relied on the L2 as a source language, mostly. Still, Hammarberg's findings show that Sarah Williams reliance on the L2 was more notorious at the initial state of the L3. Later on, she also relied on her L1. Later, Hammarberg (2001) defined the L2 status factor as "a desire to suppress the L1 as being 'nonforeign' and to rely rather on an orientation towards a prior L2 as a strategy to approach the L3". This suggested that learners activate either consciously or unconsciously the L2 as language supplier due to its foreignness, which has the same status as the L3. By the same token, De Angelis (2005) claimed the non-native languages will fall under the category "foreign languages" in the mind of the learner, which creates a cognitive association between them. The native language is excluded from this association, and it becomes easier for the speaker to block it. In one of her studies on lexical transfer, De Angelis (2005, p.11) labeled this cognitive process as

"association of foreignness" and argued that it would favor non-native lexical transfer, giving the L2 a privileged status.

In this line, other researchers (Bardel & Falk 2007, 2012; De Angelis 2005; Leung 2007) have tried to provide more evidence for the L2 status as a main factor influencing the acquisition of an L3. De Angelis (2005) investigated the use of nonnative function words in the production of learners of Italian as L3 or L4 with English, Spanish, or French as native or nonnative languages. The results revealed that English and Spanish L1 speakers with the knowledge of French used subject insertion more significantly than speakers without knowledge of French. The author argued that the findings showed that learners with the same L1 but different nonnative languages develop some significant differences in their target language knowledge, which in turn points to the L2 status as an important factor. Moreover, Flynn et al. (2004) maintained that L1 is indeed not the only source for L3 transfer, crucially at the level of formal syntactic features and functional categories. The authors analyzed the production of restrictive relative clauses in L1 Kazakh/L2 Russian/L3 English speakers. Flynn et al. (2004) proposed that if L1 is the default for all subsequent language acquisition, and if typological differences are the sole determiner of development patterns, then given that Kazakh and Japanese have similar head direction, L3 acquisition of English by L1 speakers of Kazakh should resemble L2 acquisition of English by L1 speakers of Japanese. However, if L1 Kazakh learners acquire an L2 grammar with a CP structure similar to the L3 English, Russian for example, then such an L3 learner should demonstrate acquisition patterns that are similar to that of an L1 Spanish speaker acquiring English as an L2 (i.e. free relatives will not precede a lexically headed relative clause). Their results demonstrated that L2 can influence development of CP structures in L3 acquisition, and that experience in any previously acquired language can be taken advantage of in the acquisition of any subsequent language.

L2 status is also linked to the concept of language mode, proposed by Grosjean (1995). His claim is that the languages we know can be placed in a language mode continuum where they fluctuate from dormant to active. The more activated one of the languages is, the more CLI it can cause. The key question to be asked is whether it is

the association of foreignness or rather typological closeness that does in fact help to keep a language activated. According to Murphy (2003), Grosjean's model can be adapted to trilingual speech. This model could help explain why the L2 may be the preferred source of influence if we believe that activating or deactivating a language can be linked to the control a speaker has over it. More control over the L1 would make it easier for the speaker to deactivate it, being left in a "foreign language mode" (Hammarberg, 2001; Williams & Hammarberg, 1998) that is the languages perceived as foreign remain activated.

In addition to L2 status and foreign language effect, when we consider the amount of language exposure as a variable, we need to take into consideration both the amount of exposure to the L3 (the target language) and to the L2 (a potential source language). According to previous findings, the following two claims can be made: i) as L3 exposure increases, CLI decreases (Dewaele, 2001), and ii) the higher the amount of L2 exposure, the higher the L2 influence is on the L3 (Stedje, 1977, cited in Ringbom, 1987; Tremblay, 2006). However, it is worth highlighting a couple of observations with regards to amount of exposure and how it interacts with or how it is affected by other factors, namely proficiency and context of exposure. In fact, amount of exposure and proficiency could be regarded as going hand in hand, since it could be expected that an increased amount of exposure would pave the way for a higher level of proficiency.

As for the context in which the exposure takes place, there are two main possibilities. In the first one, the learner can be in a setting in which the target language is used by the community (L2 context). In the second setting, the target language is not the community's language of use (foreign language learning context). Research has indeed revealed that exposure to the L2 in an L2 context does influence the amount of influence (by increasing it) on the L3 or additional languages (Ringbom, 1987; Stedje, 1977, cited in Ringbom, 1987; Vildomec, 1963; Williams & Hammarberg, 1998). If we take those results a step further, we could hypothesize that exposure to the L3 in an L3 setting would result in a decrease of CLI from previously learnt languages, and even raise the question of whether in such a case the L3 could become a source of

influence for the L2. Fouser's (2001) study seems to offer evidence in favor of this assumption, given that his participants, who were learning Korean as an L3 in Korea, started to show influence of that language on their Japanese, a non-native language they had learnt before moving to Korea. In the study carried out with monolingual (L1 Castilian) and bilingual (L1 Catalan, L2 Castilian) learners of English, Safont-Jordà (2005) examined the use of request acts peripheral modification devices. Discourse completion task and role play task results showed differences between bilinguals' and monolinguals' use of peripheral modification devices. L3 learners of English employed request modifiers more frequently and appropriately than L2 English learners. A combination of amount of exposure and the context in which that exposure takes place seem to be a decisive factor with regards to CLI (Pavlenko & Jarvis, 2002).

As well as context of exposure, sociolinguistic status of L2 or L3 plays a key role in CLI. A multilingual society provides the learners with a context in which they may make full or restricted use of their linguistic repertoires. Hoffman and Ytsma (2004) stated that different linguistic varieties can come together in a multilingual/trilingual society, and they may comprise of:

i) standard or non-standard dialects of the same language, or of different languages,
ii) languages involved may range from local and regional ones to those used for wider or international communication.

Safont-Jordà (2005, p.20) stated that in a multilingual society, languages have different privileges, that is, they are not used in the same way. In order to describe the different ways of language use in the society, Safont-Jordà (2005) distinguished between dominant and non-dominant languages in multilingual societies. The author maintains that dominant languages are those that have a high or a relatively high social status and political power, while non-dominant languages lack political power and their social status is low. For the use of all linguistic repertoires available to the learners, the status of a language is therefore a key factor in second and third language acquisition in that impacts acquisition and/or learning process.

2.1.3.1.3. Domains that are prone to CLI

Domains of language acquisition and use has to do with areas that are investigated in CLI such as phonology, lexis, morphology, semantics, syntax, discourse, pragmatics and so on. Some are reported to be more prone to transfer than others. While Odlin (1989, p.23) noted, "Transfer can occur in all linguistic subsystems.", Jarvis and Pavlenko (2008) argued that CLI is not equally visible in all domains of language use. For instance, phonological transfer is usually much more apparent than pragmatic transfer

Jarvis (2000) and Odlin (1989) contended that transfer occur in all subsystems although its occurrence is complicated by the effects of other factors such as the degree of cross-linguistic similarity between languages. Lexis is mainly studied in relation to transfer in the lateral direction. When L2 and L3 are similar, transfer of lexis is at work. Many researchers(Cenoz, 2001; Dewaele, 1998; Ringbom, 2001; Williams & Hammarberg, 1998) reported transfer in the lateral direction in lexis even though not much is available in other subsystems for this type of transfer. Phonological transfer has been investigated in terms of perception and production of phonemic segments, segmental properties, phonemic contrasts, syllable structure, and suprasegmental qualities like stress, intonation and rhythm. The research on lexical and semantic transfer is abundant. Main areas of research include transfer related to morphophonological and semantic errors, CLI effects related to lexical representation, accessibility and activation. Central to these areas is morphophonological and semantic transfer, though.

A less widely or neglected subsystem investigated in relation to CLI is morphological and syntactic transfer. Jarvis and Pavlenko (2008) maintained that researchers have approached these domains more skeptically. Free morphology is reported to be prone to transfer in contrast to bound morphology. Although early research on syntax, which is assumed to be immune to transfer, is limited, recent studies, CLI effects have been documented in the data from multilinguals in many areas like adverbial placement and underproduction of relative clauses. The areas beyond the sentential level in relation to CLI effects are discursive, pragmatic and

sociolinguistic transfers. Research in these areas is limited compared to other linguistic subsystems. Discursive transfer, which has to do with textual organization, contextualization, conversation management and the like, is reported to be mainly positive. Pragmatic transfer, a more widespread area of research in adult language learners, is documented in the form of pragmalinguistic transfer (Fouser, 2001). Last but not least, sociolinguistic transfer is reported two classic studies, i.e., Schmidt (1977) and Beebe (1980). While Schmidt (1977) examined the use of interdental fricatives by speakers of Egyptian Arabic, which was affected by a social constraint transferred from their L1, Beebe (1980) investigated the of /r/ in both initial and final position by Thai-speaking learners of English and found the use of prestigious form of /r/ from Thai language.

*2.1.3.*2. Cognitive and Developmental Variables

2.1.3.2.1. Level of Cognitive Maturity

Level of cognitive maturity has a close connection with age. A study by Cenoz (2002) revealed that Basque and Spanish speaking beginning learners of English experience more difficulty telling story than older learners of English who were exposed to the same amount of English instruction. These differences were not only attributed to age but also cognitive maturity and instructional style. The effect of cognitive maturity can said to be in relation to the constraints that conceptualization has on production. It is noted that these constraints result in certain similarities in a person's expressiveness in both L1 and L2 and in different patterns of transfer in individuals who are at different cognitive level of development.

2.1.3.2.2. Developmental and Universal Processes of Language Acquisition

Transfer interacts with developmental processes by affecting the rate at which learners progress. The rate at which learners progress can be influenced in different ways, one of which is accelerating a stage of development when the source and target languages are similar enough. Master (1997) and Ellis (1994) acknowledged this type of interaction by noting that L1 and developmental factors work together in

determining the course of interlanguage. Ellis (1994, p.332) noted that transfer is selective along the developmental axis as this selectivity is reported to be evident in a number of ways: i) the effects of L1 become evident when the learner has reached a stage of development that makes transfer possible, ii) development may be retarded when a universal transitional structure arising naturally in early interlanguage corresponds to an L1 structure, and iii) development may be accelerated when an early transitional structure is not reinforced by the corresponding L2 structure. A number of studies show that the influence of L1 occurs only when the learner has reached a stage of development that provides a 'crucial similarity measure'. Wode (1976, cited in Ellis) demonstrated that children initially manifested the universal pattern of development with regard to negation. However, when they learned that the negative particle could follow the verb 'be' or an auxiliary/modal verb in English like German, they assumed that it could also follow a main verb. Yet, this is possible in German not in English. The assumption was L2 negation functioned in the same pattern as L1 negation.

In addition to similarity measure, the effects of acquisitional universals on transfer were investigated in relation to types of errors that L2 learners from different L1 backgrounds make. Findings of several studies suggest that learners with diverse L1 backgrounds have the tendency to omit structures that are obligatory in the target language, such as inflectional affixes, articles, and prepositions. This phenomenon is referred to as simplification. The findings also suggest that universal principals involve overuse, which is a common feature of second language acquisition process. To illustrate, Master (1997) reported the use of the definite article with almost all noun phrases by second language learners of English. The overuse of structures in L2 acquisition process is a general phenomenon, which is referred to as overgeneralization. Jarvis and Pavlenko (2008) maintained that both simplification and overgeneralization are evident in the language production of learners with diverse backgrounds.

A good number of studies have documented their relation with transfer. Schumann (1986) worked on prepositions and showed that learners from Chinese,

Japanese and Spanish backgrounds omit English prepositions. However, the Spanish speakers, whose L1 has prepositions that are similar to English prepositions, were reported to omit prepositions less than other speakers of languages in the study. Similarly, Odlin (2000) investigated the use of prepositions by the speakers of Swedish and Finnish and reached the same conclusion. The author added that Finnish and Swedish speakers differ considerably in the way they overgeneralize prepositions. Overall, the findings concerning different perspectives revealed that there is an interaction between transfer and universal and developmental processes learners go through.

In their study of the placement of sentence negation in third language acquisition (L3), Bardel and Falk (2007) argued that there is a qualitative difference between the acquisition of a true second language (L2) and the subsequent acquisition of an L3. Focusing on the placement of negation, they tried to test the hypothesis that the L2 serves as the strongest source of transfer by examining two different groups. The first group consisted of five learners of Swedish as an L3 the second group was made up of four learners of either Dutch or Swedish as L3. The authors argued that the design of their study tested the following four hypotheses: 1) the Non-Transfer Hypothesis, 2) the L1 Transfer Hypothesis, 3) the L2 Transfer Hypothesis, and 4) the Cumulative-Enhancement Model. Findings suggested that syntactic structures are more easily transferred from L2than from L1 in the initial state of L3 acquisition since the L2 Dutch/German group outperformed the L2 English group in producing post-verbal negation. Based on this, they claimed that only hypothesis (3) is corroborated by the data. The two groups behaved significantly differently as to the placement of negation, a difference that Bardel and Falk (2007) attributed to the L2 knowledge of the learners in interaction with the typological relationship between L2 and L3 but concluded that the L2 status factor is the stronger predictor of initial transfer in L3. Falk and Bardel (2011) re-examined the LSFH by focusing on possible L2 transfer present at the intermediate level of proficiency in the target L3. They provided data from 44 learners of L3 German, testing the placement of object pronouns in both main and subordinate clauses via a grammaticality judgment/correction task. The first group was made up of participants who have English as L1 and French as L2 and the other group consisted

of participants having French as L1 and English as L2. The authors claimed that particular combination of background languages allows them to pinpoint the source of transfer, since object placement is pre-verbal in French and post-verbal in English whereas in target language German the object placement varies between pre-verbal in the sub clause and post-verbal in the main clause. The findings revealed that the two groups behaved differently as to both acceptance and rejection of the test items (60 grammatical and ungrammatical main and sub clauses with object pronouns). The authors therefore concluded that the difference is significant and can be ascribed to participants' L2s. Relying on these findings; they claimed a strong role for the L2 Status Factor Hypothesis. With their findings in different studies, Falk and Bardel supported evidence for morphosyntactic transfer in L3 and propose, furthermore, that the L2 Status Factor Hypothesis guides syntactic transfer as well, which suggests that syntactic development in subsequent acquisition is also affected by the specific syntactic features of the last learned language. The L2 Status Factor Hypothesis (LSFH) proposed by Bardel and Falk (2007) posits that the L2 takes on a significantly stronger role than the L1 in the initial state of L3 morphosyntax. Essentially, L2 acts as a filter of sorts to the L1 grammar. The study examining properties related to the Null Subject Parameter in an L3 by Rothman and Cabrelli Amaro (2010) is reported to support evidence for theL SFH. Yet, the authors were ultimately unable to differentiate between an L2 status factor effect and possible psychotypological influences since the choice of L2 and L3 in their methodology conflated both variables (i.e. English was always the L1, Spanish was always the L2 and the L3 was either French or Italian).

2.1.3.3. Learner-based Variables

Learner-based variables seem to have a considerable role in CLI as well as oft-cited language-based variables. These variables act directly in relation to the learners and their use of linguistic repertoire they have at hand.

2.1.3.3.1. Metalinguistic awareness

Attention to and awareness of language is in close relation to conscious control of language use, metacognitive and metalinguistic analysis of language. The question posed for these factors was whether the explicit knowledge of, attention to, awareness of, and conscious control over language have an effect on the patterns of transfer that may emerge in the language users' or learners' language use of language (Jarvis & Pavlenko, 2008). Language awareness is analyzed in two ways: explicit and implicit knowledge of language. The research concerning language awareness is not concerned with the type of knowledge but with the way and frequency the learners use this knowledge and its effect on transfer. What and for which purpose is transferred is the main concern of research. Some studies reported positive influence of language awareness in the occurrence of negative transfer when differences between L1 and L2 are highlighted in the language learning and acquisition process (e.g. Dulay, Burt & Krashen, 1982; Jarvis, 2002). Language awareness has evolved into the term metalinguistic awareness, which has become an influential factor in third language acquisition research.

In the studies of third language acquisition and in the investigation of the differences between L2 and L3, metalinguistic awareness has been found as a very significant factor. The term metalinguistic awareness was first used by Cazden (1974) to describe and explain the transfer of linguistic knowledge and skills across languages. Researchers have proposed somewhat different definitions of metalinguistic awareness from different aspects. Metalinguistic awareness was originally equated to 'language awareness' by Odlin (1989) and defined it as 'knowing about' a language. According to Gass (1983, p.277), metalinguistic awareness of a language learner is "to think and talk about language". Bialystok (1991, p.147) noted that metalinguistic awareness may be defined as "awareness of underlying linguistic nature of language use". Jessner (2006, p.117) defined it as "the way multilinguals use and learn their languages" and emphasizes that it is considered as an influential cognitive component in multilingual studies. De Bot, Lowi and Verspoor (2007, as cited in Jessner 2008, p.277) pointed out that metalinguistic awareness is a very

important factor as it can help to shed light on the differences between second and third language acquisition. Heightened metalinguistic skill/knowledge of bilinguals is likely advantageous to L3 learning what Cenoz (2003) calls the additive effect of bilingualism on L3 acquisition. The work of Jessner (2008, p.277) indicates that metalinguistic awareness may develop in a third language learner with regard to divergent and creative thinking (e.g. wider variety of associations, original ideas), interactional and/or pragmatic competence (cultural theorems of greeting, thanking, etc.), communicative sensitivity and flexibility (language mode), and translation skills that are considered a natural trait in the majority of multilinguals.

Research studies involving metalinguistic tasks have concentrated on the analytic abilities of language learners to focus on language and make judgments on linguistic form. In an early study of third language acquisition, Thomas (1988) tested the metalinguistic abilities of monolinguals acquiring a second language and bilinguals acquiring a third language. The results of the study have indicated the advantages of the bilinguals over the monolinguals. On the basis of these results, Thomas (1988, p.240) also claimed "if metalinguistic awareness is not being heightened as a second language is naturally acquired, educators may have to instruct bilinguals in both their languages in order to maximize the potential advantage of knowing two languages when learning a third".

2.1.3.3.2. Proficiency

There are two main assumptions regarding proficiency and CLI in TLA. On the one hand, a certain level of proficiency in the L2 needs to be achieved for this language to become a source of influence. While most studies resort to their participants' L2 proficiency level as a factor that could help explain their results, to my knowledge only one experiment was designed to target it as a variable (Tremblay, 2006). Results from this study seem to be in agreement with the general consensus that learners must have reached a threshold in their L2 in order for the language to provide material for transfer (Hammarberg, 2001). However, some studies have pointed to the typologically closest language (Möhle, 1989), or to the most recently acquired (Shanon, 1991), as the source language for transfer, despite the fact that their participants were not particularly

proficient in those languages. These claims suggest that the threshold level to be attained for the L2 to become a source language could be relatively low. Further research, in which the L2 proficiency level is targeted, is needed in order to assess its impact on CLI in relation to linguistic distance and recency of acquisition, and very likely to other factors as well.

On the other hand, it is believed that the lower the proficiency in the L3 (the target language), the greater the influence from the L1 and the L2 (Dewaele, 2001; Sikogukira, 1993; Williams & Hammarberg, 1998). Some studies have provided evidence in favor of this belief (Naves, Miralpeix & Celaya, 2005; Williams and Hammarberg, 1998). It has been claimed that, as proficiency in the L3 rises, the learner is able to resort to the L3 itself (also referred to as intralingual influence) rather than relying on other languages (interlingual influence). For Odlin (1989), however, this assumption is to be considered with caution as he believes that some types of transfer are more common at the early stages of acquisition, namely negative transfer (e.g., production errors), while others tend to occur at more advanced stages, namely positive transfer (e.g., resorting to cognate vocabulary).

2.1.3.3.3. Age

Transfer research has multiple lines of research as manifested in the myriad perspectives from which native language influence has been studied. Age factor is cited in transfer research very often in connection with second or third language acquisition and it is widely cited in research on phonology. Age as a factor may have various interpretations in different areas of research in CLI. Odlin (2003) warned that age can refer to the effects of aging and therefore it should be handled with care. Jarvis and Pavlenko (2008) reported that it also refers to age of arrival in studies carried out with immigrants learning a second or third language.

The studies investigating the relationship between age and phonology have documented that young learners are able to acquire the sounds of L1 and L2 without any linguistic convergence (e.g. Singleton & Ryan, 2004). It is revealed that acquisition of L2 or L3 at an early age eases the acquisition of different sound systems.

2.1.3.3.4. Recency of Acquisition and Use

Several studies point to recency of use as one of the factors likely to determine whether a language will become a source of influence during the production process in another one or not (Vildomec, 1963; Williams & Hammarberg, 1998). Dewaele (1998) and Hammarberg (2001, p.23) suggest that recency factor relates to the extent to which the language has been used lately and "an L2 is activated more easily if the speaker has used it recently and thus maintained easy access to it." A possible explanation underlying this claim is that a language that has been recently used is more accessible than other languages that have not been actively used for some time. Shanon (1991) reported the presence of a 'last language effect' in the production of her participants, who seemed to be relying on the last language they had learnt or been in contact with, regardless of their level of proficiency in it. With regards to order of acquisition and how the mind may establish a special kind of association between the language being acquired and the immediate previously learnt language, Dewaele (1998) offered additional evidence in support of Shanon's claim. In his study, he compared learners of French as an L2 and as an L3 and found that those with French as an L2 relied more on their L1 (Dutch), while those with French as an L3 relied more on their L2 (English) for the production of lexical inventions. All participants spoke Dutch as an L1, and all of them had knowledge of English, as an L2 or an L3. Therefore, the main difference between the two groups of learners was the order in which they had acquired their non-native languages. However, Dewaele's results do not rule out the possibility that proficiency influenced the language chosen as the source of CLI while the order of acquisition appears to have played a role and overridden a potential typological effect (English and French are lexically closer than Dutch and French). As discussed earlier, it is believed that a threshold level needs to be attained in order for a language to influence another, and it might have been the case the proficiency of Dewaele's participants in English as an L3 was not sufficient to cause influence.

Some studies have shown that languages that were not learnt last and had not even been used for long periods of time did become the source influence in some

instances (Herwig, 2001; Möhle, 1989; Rivers, 1979). Möhle's (1989) study, for instance, looked at data from 22 learners of Spanish. For all of them, German was the L1, and English was the L2. Some of them had studied either French or Latin as an L3, and they were all taking Spanish (L4 or L5) courses. Contact with other languages, mainly Italian, was also reported by some participants. Based on the results, Möhle (1989) concluded that the most important factor concerning CLI was the formal relationship between the languages. This seems particularly true if we consider that French did interact with Spanish, even when participants reported having neglected it for many years. And so did Italian, although it was a language with which participants had only had superficial contact. Moreover, English played a very minimal role despite being the strongest and the most used L2 for all participants.

2.1.3.3.5. Order of Acquired Languages

The number and order of acquired languages has started be studied with the emphasis on multilingualism and third language acquisition process. Findings of few studies taking number and order of acquired languages into account suggest that performance-related effects are seen in the degree to which the most recently learned language interferes with the processing and production of target language (Dawaele, 1998; Williams & Hammerberg, 1998). The source language of the target language may be multiple languages or interaction between multiple languages may be the source of transfer. Language learner may even rely on multiple languages simultaneously (Odlin & Jarvis, 2004; Williams & Hammerberg, 1998). Williams and Hammerberg (1998) conducted a study with a subject learning Swedish as L5 in addition to L1 English, L2 French, L3 Italian, L4 German. The results revealed that influence is mainly from L4 German since cross-linguistic similarity between Swedish and German is greater compared to other languages in the linguistic repertoire of the subject. Yet, the study does not clearly proved the effect of order of acquisition although German was the fourth language learned by the subject. Instead, the findings indirectly or obliquely suggest that the language learned prior to recipient language was used as the source language. Likewise, Dawaele (1998) carried out research with two groups of Dutch-speaking learners of French. The subjects in the first group were

learning English as L3 and French as L2 while the subjects in the second group were learning French as L3 and English as L2. The findings showed that occurrence of more transfer from L1 Dutch than L3 English was observed in French-L2 group whereas the French-L3 group had more transfer from L2-English than from L1 Dutch.

To sum up, the review of the literature presented concerning variables operative in CLI so far has shown how some dominating variables have been reported by different authors as being the most determinant when it comes to the selection of a previously learnt language as a source of CLI in TLA. The studies presented in this section provide evidence that L3 learners rely on close languages as sources of information and that typology tends to override other factors. However, to date, there is no conclusive evidence whether the language distance has greater impact than the L2 status factor on the process of L3 acquisition. Yet, it seems to be the case that both factors can be involved in the same multilingual cases. Accordingly, the present study aims to explore possible determinant factors in cross-linguistic influence in the context of TLA, L3-English with a focus on adpositions. The following section accordingly surveys the syntactic, semantic, and discourse-functional properties of adpositions in general and then presents analysis of adpositions in the three languages under investigation in detail.

2.2. Conceptualization of Adpositions

The word class of adpositions have always attracted the interest of the field of SLA (Feigenbaum & Kurzon, 2002). Researchers from different fields have focused on this class of words mostly from syntactic and semantic perspectives; however, more recently, pragmatic and sociolinguistic perspectives have also been explored (Feigenbaum & Kurzon, 2002; Hagège, 2010; Hoffman, 2005; Saint-Dizier, 2006; Tyler and Evans, 2003).

The term adposition covers structures like prepositions (e.g. English, French), postpositions (e.g. Turkic and Indian languages), and a less common type: circumpositions (e.g. Kurdish, Amharic). It is reported in 'World Atlas' (Haspelmath, 2003) that there is a rare type of adpositions, called *inpositions*, which occur inside the

noun phrase they accompany (e.g. in Anindilyakwa in the Northern Territory, Australia). With this variety at hand, there is still debate about the definition and categorization of adpositions, their relation to the left-side or the right-side context, and their semantic properties. Hagège (2010, p.8) gives a general definition of adpositions by stating that "[a]n adposition is an unanalyzable or analyzable grammatical word constituting an adpositional phrase with a term that it puts in relationship, like case affixes, with another linguistic unit, by marking the grammatical and semantic links between them." Similarly, Kurzon and Adler (2008, p.11) propose the following definition: "Adpositions are usually defined as invariable elements, preceding or following a complement of a nominal nature and relating it to another element of the sentence." Analyzing the definitions given by the researchers, it becomes clear that a comprehensive definition of adposition should also include spatial and temporal or some other sophisticated roles of adpositions. Overall, the term adposition is basically used to cover lexical or morphosyntactic structures that have spatial and temporal or some other sophisticated roles as well as marking relationship between two parts of a sentence. Some common features of adpositions summarized by Huddleston and Pullum (2002) are as follows:

a) Adpositions are among the most frequently occurring words in languages that have them. To illustrate, prepositions are reported to be part of the core of the English language and about every eighth word in contemporary English texts (Hoffman, 2005; Mindt & Weber, 1989). In the frequency ranking of English words cited by (Saint-Dizier, 2006), prepositions are found to be among the top frequent words (prepositions in bold): *the, **of**, and, **to**, a, **in**, that, it, is, was, I, **for**, **on**, you,…*).

b) The most common adpositions are single, i.e., monomorphemic words (simple adpositions). According to the ranking cited above, for example, the most common simple English prepositions are '*of*, *in*, *to*, *for*, *on'*, all of which are single-syllable words and cannot be broken down into smaller units of meaning (Saint-Dizier, 2006). Complex adpositions, on the other hand, contain a group of words that act as a unit (e.g., *in spite of*, *with*

respect to, *except for*, *next to,* and so forth) and they are among the mostly occurring structures across languages as well.

c) Adpositions form a closed class of lexical items and cannot be productively derived from words of other categories. Addition to this closed category of words is very rare in contrast to open class words, like nouns or verbs, which commonly welcome addition of new words. However, within the word class, there can be some diachronic changes. For instance, preposition *along* is derived from Old English *andlang* 'entire, continuous, all day long, alongside of' and derives from *and-* 'opposite, against' (from Proto-Germanic, *andi- *anda-, from PIE *anti 'against' + *lang*)

d) Adpositions establish a syntactic relationship that links their complement to another word or phrase in the context. The syntactic unit built with an adposition and its complement is called adpositional phrase. Since the adposition is regarded as the head of its phrase, prepositional phrases are head-initial (or right-branching), while postpositional phrases are head-final (or left-branching).

e) Adpositions also generally establish a semantic relationship, which may be spatial (*in, on, at, in front of, behind,* etc.) temporal (*in, before, during*, etc.), or of some other more sophisticated or intricate type (*of*, *for*, *via*, etc.). Zelinsky-Wibbelt (1993) and Tyler and Evans (2003) maintained that the primary or literary meaning of adpositions is spatial and this spatial meaning is extended to non-spatial uses such as temporal, objective, and so on.

f) Adpositions are usually non-inflecting or invariant which means they are not inflected for different tenses, cases, genders, etc. in contrast to verbs, adjectives, and nouns across different languages. There are exceptions, though, such as prepositions that have fused with a pronominal object to form inflected prepositions.

There have been different approaches to the adpositions in literature. Three main approaches (syntactic, semantic, and pragmatic) with which adpositions were

examined are the following:

g) Adpositions do not have independent lexical meaning since they function as grammatical units; therefore, they should be analyzed syntactically.

h) Adpositions occur with case forms of a certain name, person, or object and the context they occur in determines their meanings.

i) Adpositions possess their own lexical meaning in that different adpositions may be used with the same noun, adjective, or verb and have a different meaning.

2.2.1. Syntactic Features/Functions of Adpositions

Adpositions exist in the vast majority of world languages (Hagège, 2010; Kurzon & Adler, 2008). However, Kurzon and Adler (2008, p.12) note that "the uses of adpositions are very different from one language to another, even within closely related languages in a linguistic family". Adpositions are often used in a large number of idiosyncratic constructions and they are referred to by various terms, depending on their position relative to the complement such as *preposition, postposition, circumposition, inposition,* and so on. It is therefore difficult to identify cross-linguistic regularities as some languages do not use prepositions or make a limited use of them and use other linguistic forms, such as case markers, instead.

Dryer (2013, p.1) reported that "a word is treated as an adposition if it combines with a noun phrase and indicates the grammatical or semantic relationship of that noun phrase to the verb in the clause". Subcategories of adpositions, prepositions, postpositions, and circumpositions are treated as a lexical category in that they determine spatial and temporal relationships between word classes. Adpositions (Adp) typically combine with a complement, which Hagège (2010) refers to as *governed term of the adposition*. They generally combine with a noun phrase or a determiner phrase. A *preposition* precedes its complement (i.e., *preposition + complement,* such as ***in*** *the kitchen*, ***on*** *Tuesday morning*). A postposition, unlike a preposition, follows its complement (e.g. in Turkish *dosya-n-ın* ***iç-i(n)-de*** [file-GEN inside-POSS-LOC] '*in the file*'). A less common type of adposition, a circumposition, consists of two parts

that appear on each side of the complement. The function is performed by both of the parts.

Prepositions are syntactically analyzed as prepositional phrases. Prepositional phrases have the head on the left, the complement on the right and the whole PP acts as a complement/adjunct. Prepositional phrases (PPs) have a variety of functions. They can modify a noun, as in "the girl *in the red dress*", verbs, as in "He came *from New York*.", or pronoun, as in "Would you like to come *with me*?". Three basic context-free rules of prepositional phrases are cited as the following (Suppes, 2005):

a) PP => Prep + NP "Joel ran to the kitchen"

where *'to the kitchen'* is the prepositional phrase and *'the kitchen'* is the noun phrase (NP). The noun phrase acts as the complement of preposition. The second rule contains an adjective phrase as a complement. As noted by the author, the use of preposition with an AdjP is rare compared to a noun phrase as a complement.

b) PP => Prep + AdjP "She asked for little, but could not get it."

c) PP => Prep + (that) + Clause "I walked before he warned me"

In third rule, the clause *'he warned me'* is the complement of the preposition *'before'*. These three rules include basic compositions of a PP.[11]

Postpositions are found in the languages like Urdu, Tukish, Hindi, Korean, Japanese. Postpositions have the head on the right and the complement on the left. The whole postpositional phrase acts as complement/adjunct like prepositions. For instance, in Turkish in the postpositional phrase, *kapı-nın önü-(n)de* 'door.POSS front.LOC', *önünde* 'in front of' is a postposition which has its complement on the left.

In some languages, some or all of the functions of adpositions are carried by case affixes on nouns. Case suffixes are treated as instances of adpositions since they combine syntactically with noun phrases, even though they are not separate phonological words (Dryer, 2013). For example, in Finnish, *talo**ssa*** 'house.inessive'[12] means 'in the house'. Case marker '*ssa/ssä*' is added to the noun and gives the location

[11] For a detailed analysis of prepositions in see the new Cambridge Grammar of the English Language (2000) by Huddleston and Pullum.

[12] 'Inessive' is a locative grammatical case in Finnish, which gives the basic meaning of *in*.

of the noun. In some languages, some postpositions take case marked complements as in Tamil case system.

Another form of adpositions is circumpositions, which consist of two or more parts, positioned on both sides of the complement. Circumpositions are very common in Pashto and Kurdish. To illustrate, in the noun phrase *pirtûka **di** destê we **de*** [book-DEF ***in*** hand-IZF her ***LOC***] 'the book in her hand' contains a circumposition *di…de*, with the meaning of the English preposition *in*. Another example including the use of a circumposition with a pronoun*, **ji** te **re*** 'for you POSTP' means 'for you' with two particles on both sides of pronoun 'you'. Circumpositions have head in the middle of two particles and complement on the noun phrase. Some other typical examples of circumpositions include ***naar** het einde **toe*** 'towards the end' in Dutch, ***för** tre timmar **sedan*** 'three hours ago' in Swedish, ***aus** dem Zimmer **heraus*** 'out from the room' in German.

A rare type of adpositions is inpositions, which occur inside the noun phrase they accompany. An example cited in Dryer (2013) is from Tümpsia Shoshone (Uto-Aztecan, California). The inpositions appear immediately after the noun and before any postnominal modifiers (if there are any), as in the following example: *[ohipim ma natii'iwantü-nna] tiyaitaiha satü* 'cold.**obj** from mean.**obj** died that' which means 'He died from a mean cold.' (Dayley, 1989, p.257). In the example, the inposition *ma* 'from' appears between the head noun *ohipim* 'cold' and its postnominal modifier *natti'iwantünna* 'mean'.

Whether a language has primarily prepositions or postpositions plays a role in its typological classification. In this study, the languages under scrutiny (i.e., English, Turkish, and Kurdish) are typologically different, i.e. have different forms of adpositions, therefore offer an opportunity to advance the understanding of factors that play a role in the acquisition of adpositions in L3.

2.2.2. Semantic Properties of Adpositions

We have already defined prepositions as a class of words that most commonly express relationships of space or time, which mark syntactic functions. The semantic relation established between the complement of an adposition and the rest of the

context may be spatial (*in*, *on*, *under*, etc.), temporal (*after*, *during*, etc.), or of some other type (*of*, *for*, *via*, etc.), which expresses comparison, content, agent, instrument, means, manner, cause, purpose, reference, and so forth. Researchers argue that the core meaning of adpositions is spatial and other relations are derived from this basic spatial meaning in that the perception of space is fundamental to human perception. Lebas (2002) claimed that the perception of space is far from being in any sense a primitive since it is the generic foundation of human experience. He stated that (2002:45) "space can be vectorized through human perception and action, thus becoming discontinuous, it can be indexical and biased by the human body or by attraction, it may be deictical or object-internal." Basically, adpositions describe a relation between a trajectory[13] and a landmark[14]. This typical relation involves a particular entity which stands out as a relational profile, which is referred to as trajector (TR). Any other entity in the relational profile constitutes a landmark (LM) which provides a salient point of reference for the TR.

Saint-Dizier (2006) notes that spatial meanings of adpositions may be either *directional* or *static*. A directional meaning usually involves motion in a particular direction (e.g. *Lilly went **to** the cinema*), or the extent of something (***from** literature **to** geography*). A static meaning indicates only a location (e.g. ***at** the library, **behind** the door, **on** the floor*). Some prepositions can have both uses such as *he sat **in** the water*, which has static meaning and *he jumped **in** the water*, which is probably directional. In some languages, the case of the complement varies depending on the meaning, as with several prepositions in German, such as *in*. In the expression, *in seinem Zimmer* (***in** his room)* with static meaning, the complement takes the dative while in the expression, *in sein Zimmer* (***into** his room)* with directional meaning, the complement takes the accusative form. Bennett (1975) states that in English and many other languages, prepositional phrases with static meaning are commonly used as predicative expressions after a copula (e.g. *Joe is at the clinic*) and this may happen

[13]Trajector (TR) is the entity construed by being located, described or evaluated (Zelinsky-Wibbelt, 1993).
[14] Landmark (LM) is the background element that defines location for the trajector (Zelinsky-Wibbelt, 1993).

with some directional prepositions as well (e.g. *Jane is from Ireland*), but this is not very common. Directional prepositional phrases generally combine with verbs that indicate movement (e.g. *He crashed into a parked car*). Zwarts (2005) says that directional meanings can be further divided into ***telic*** and *atelic*. Telic prepositional phrases imply movement all the way to the endpoint (e.g. *She ran to the kitchen when she smelled delicious meals*) whereas atelic ones do not (e.g. *She ran towards the door*). The latter can be interpreted as an action directed towards the door but not completed.

Static meanings can be divided into *projective* and *non-projective*. Understanding of projective meanings requires the knowledge of the perspective or point of view. For instance, the meaning of *in front of the car* is likely to depend on the position of the speaker (projective). The meaning of *'on the desk* is non-projective in that the perception of the location of the object is not dependent on the speaker. Nevertheless, the interpretation is ambiguous sometimes, as in *behind the house*, which may mean either at the natural back of the house, or on the opposite side of the house relative to the speaker.

Pottier (1997) says that in some contexts (as in the case of some phrasal verbs), the choice of adpositions may be determined by another element in the construction or be fixed by the construction as a whole. In such contexts, the adposition may have little independent semantic content of its own since its meaning is actualized within the context of use (for example, *good **at**, listen **to**)*.

Radden (2003, p.3) contended "Dimensions of space cannot straightforwardly be transferred onto the domain of time and that cross-linguistic variability seems to be the rule rather than the exception." For the temporal function of adpositions, we are biologically determined to detect motions and objects for locations and time is built on space (Radden, 2003). Radden (2003) accordingly maintained that in English, some of the dimensional prepositions used to characterize the shape of the landmark are also used to express notions of time. In other words, English employs the place prepositions to express the notion of time (e.g. *in*, *on*, *at*). Table 2.1 below illustrates dimensional prepositions of time in English.

Table 2.1*:*Temporal Prepositions in English (Radden, 2003)

Time notions	Dimension preposition	
point	0	*at* (this moment)
duration	-	*for (*a week)
period: days	2	*on* (this day)
other units	3	*in* (a week)

Saint-Dizier (2006) proposed that each preposition sense is retrieved from its basic or prototypical usage. He adds that the senses are described at two levels. The first description level is done by means of a thematic grid characterizing the 'standard' function of each argument and the second description level is carried out by means of knowledge representation formalism proposed by Jackendoff (1983, 1990). The categorization of prepositions and their sub-senses are given in Table 2.2 below:

Table 2.2*:* Categorization of Prepositions and Their Sub-senses (Saint-Dizier, 2006)

Category	**Senses**
Localization	source, destination, via/passage, fixed position
Quantity	numerical or referential quantity, frequency and iterativity, proportion/ratio
Manner	manners and attitudes, means (instrumental or abstract), imitation or analogy
Accompaniment	adjunction, simultaneity of events (co-events), inclusion, exclusion
Choice	choice or alternative, substitution
Causality	cause, goal or consequence, intention

Opposition	priority, subordination, hierarchy, ranking, degree of importance
Ordering	ranking, degree in a group

Most adpositions are highly polysemous, which means that they contain a variety of meanings in the contexts they are employed. Conceptualization of spatial meaning varies across languages and the polysemy of adpositions in turn results in different equivalents of an adposition in another language. Even between dialects of the same language, like American and British English, usage of adpositions, more specifically prepositions, may vary (e.g. ***at*** *the front/back* [American English], ***in*** *the front/back* [British English]). Lindstromberg (1998) stated that cross-linguistic differences in the conceptualizations of prepositions may cause difficulties in foreign language learning. Different representation of adpositions in previously acquired language(s) and target language(s) may pose difficulty for language learners.

2.2.3. Adpositions in English: Prepositions

In terms of position, most English adpositions are prepositions with few exceptions like circumposition ***from*** *now* ***on***. Huddleston and Pullum (2005) maintain that compared to open categories of verb, noun, adjective, and adverb, prepositions are smaller in number (about a hundred). Although they are small in number, they appear as the most frequent words in English. Saint-Dizier (2006) reports that English has about fifty prepositions and nine of them are among the thirty most frequently used words in English. Basic properties shared by prepositions are reported to be the following by Huddleston and Pullum (2005).[15]

i) They take an NPs as complement

ii) No inflection

iii) Meaning: relations in space and time

[15] However, it should be noted that these functions are not strictly applicable to all prepositions.

iv) Function: head of wide range of dependents in syntactic relations

The definition of prepositions given by the authors argues against traditional grammar that sets strict rules for prepositions. Huddleston and Pullum (2005, p.137) define preposition as "the term that applies to a relatively small category of words, with basic meanings predominantly having to do with relations in space and time, containing among its prototypical members grammaticalized words that serve to mark various grammatical functions". The authors argue that in traditional grammar prepositions govern a noun or a pronoun which expresses the latter's relation to another word. They, however, examine prepositions as heads of phrases in comparison to phrases headed by verbs, nouns, adjectives and containing dependents of many different sorts. Their conception results in a considerable increase in the set of words that are assigned to the category of prepositions.

Kurzon and Adler (2008) argued that the fact that case endings or other morphemes or affixes are used in some languages instead of prepositions indicates that prepositions have specific relations with other types of linguistic mechanisms. Prepositions are indicators of local, temporal, causal, modal, and a number of other relations (Mindt & Weber, 1989, p.229) and these semantic roles or features are assigned to them in the context of use. However, Feigenbaum and Kurzon (2002) noted that the basic meaning of prepositions as a word-class is that they orient an object in space, be it temporal or spatial.

The way prepositions were viewed by linguists has changed dramatically. In contrast to an earlier view of empty words (Kurzon, 2002), case markers (Fillmore 1968), or a small class of functors like conjunctions, prepositions have started to be seen as fully fledged structures once Jackendoff (1983) claimed that prepositions form phrases with the same structure – in terms of X-bar syntax – as the other major phrase classes (VPs, NPs and APs).

A well-established classification of prepositions is simple and complex prepositions. The term *simple prepositions* refers to one-word prepositions like *in, on, at, by, of*, and so on, while complex prepositions contain a group of words that acts as one unit such as *in terms of, in favor of, in front of, on top of, by means of*, etc. Complex

prepositions are formed with a combination of simple prepositions by adding a lexical item, typically a noun (e.g. *on top of*, which can be analyzed as *on +[top]+ of*).[16] The problem with this classification is that it is not easy to differentiate between simple and complex prepositions in that some simple prepositions are derived from complex prepositions (e.g. *within*, which can be analyzed as *with + in*).

Leech et al. (1999) suggested that prepositions can broadly be analyzed in two categories: a) free prepositions, b) bound prepositions. Bound prepositions rely on the words in the context, often the preceding verb or adjective (e.g. *deal with, take up*), whereas free prepositions are free from the words they follow (e.g. *in the auditorium, at hospital*). Lindstromberg (1996), studying prepositions in language teaching context, analyzed prepositions basically under three major groups as: i) prepositions of place (e.g. *The books are on the table*), ii) preposition of direction (motion or movement) (e.g. *The house is to the north*), and iii) preposition of time (e.g. *The meeting is at nine o'clock*). In a later publication (1998), he examined prepositions under two main categories: prototypical (primary or most representative) and secondary (extended) meanings. Prototypical meaning of prepositions is reported to include the basic use of prepositions, which he later calls basic meaning. This basic meaning is the one used for pedagogical purposes in that it can be physically demonstrated. Secondary literal usages/meanings generally include discussion of noteworthy figurative and/or abstract usages. The secondary literal meaning is less psychologically fundamental than the primary literal meaning.

Saint-Dizier (2006) comes up with a slightly different approach in which he proposes three different ways to view prepositions: a) a functional category in syntax, in which prepositions are the head of prepositional phrases, b) a semantic relation between a structure that precedes it (e.g. a verb) and another one that follows it (e.g. an noun phrase) c) a lexical category that imposes both structural and semantic relation. As seen above, classification of preposition appears to be variant or fuzzy even though the underling structure of prepositions remains the same in syntax.

[16] For a comprehensive analysis of complex prepositions see Hoffmann (2005).

Accordingly, the following section aims at providing basic approaches to the syntax of prepositions.

2.2.3.1. Syntactic Features of Prepositions

Cuyckens and Radden (2002) noted that prepositions share many syntactic properties with other word classes in that they license an argument structure potentially comprising external, internal, and referential arguments. Like verbs, they constitute a case-assigning category and they may be transitive or intransitive. Prepositions head phrases that function as dependents of verbs, nouns, and adjectives, where the dependents of the verb can be either noun phrases (NPs) or prepositional phrases (PPs) or clauses (TPs/CPs). Huddleston (1998) states that NPs usually function as objects or subjects while PPs have the role of adjunct in a clause. In the *Brie had a grandiose breakfast in the morning*, for example, the NPs *Brie* and *a grandiose breakfast* function as the subject and object of the clause, while the PP *in the morning* acts like an adjunct. PPs may have various other functions, as seen below:

	Function	***Construction***
i) She baked it *in the morning*.	Modifier	VP
ii) I put it *on the shelf*.	Complement	VP
iii) *In my opinion* we made the wrong decision.	Peripheral-Dep	Clause
iv) *In the attic* was a small bed.	Subject	Clause
v) his trust *in the power of justice*	Complement	NP
vi) a little boy *in the front row*	Modifier	NP
vii) happy *with his performance*	Complement	AdjP

viii) small *for a two-year-old*	Modifier	AdjP
ix) independently *of consumers*	Complement	AdvP
x) too carefully *for a reckless driver*	Modifier	AdvP
xi) from *behind a cloud*	Complement	PP

The most usual function of PPs is goal, source and location, which are found in clauses expressing motion. These are expressed by verbs of motion in contrast to PPs indicating location.

a) We drove *from* Seattle *to* Buffalo. [source + goal]
b) He jumped *into* the sea. [goal]
c) The glass is *on* the counter. [location]

Moreover, there are a good number of verbs that take a PP complement and they are called prepositional verbs (a). In this group there is a fossilized group in which the verb + preposition combination does not permit any variation (b).

a) He talked *about* leaving his job.
b) He asked *for* some help.

Particles can freely occur after the verb or its direct object.

a) He took the luggage *down*.
b) He took *down* the luggage.

Verbal idioms are the structures in which verb + preposition combinations do not have predictable meaning in the context in which it is used.

a) Do you believe our new gadget will *catch on*?

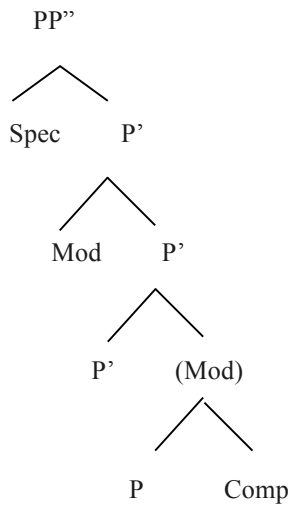
However, not all prepositions appear in the forms shown above. Arguing against the view that all prepositions are the heads of prepositional phrases, Rauh (2002) distinguishes between three different types of prepositional forms. She proposed three different types prepositions in relation to their structural projections. These are;

i) lexical positions [Mike saw the dog *on the corner*]

ii) governed or case prepositions [Jeremy checked *out Alan's website*]

iii) grammatical prepositions [Amy bought the dress *at a good price*]

Rauh (2002) argues against prototypical view adopted by Radford (1988), in which internal projections of PPs are depicted as follows:



Spec(ifier) = measure phrases (e.g . *two meters, right*)

Mod(ifier) = AP (e.g. *far, deep*), PP

Comp(lement) = NP, CP, PP, Ø

Rauh (1993, 2002) claimed that the word, to which a PP expresses a relation or function as an adjunct, varies from a noun to a predicative expression, as shown in the examples given below.

a. an adjunct to a noun:

fire ***in*** *the forest*

pizza ***from*** *Italy* ***with*** *mozzarella*

b. a predicative expression (complement of a copula)

The slipper is ***under*** *the sofa*.

c. an adjunct to a verb:

walked ***throughout*** *the tunnel*

perched ***atop*** *the roof o**f** the church*

d. an adjunct to an adjective:

satisfied ***with*** his performance

lost ***until*** *recently*

Another approach to prepositions and their syntactic relations was proposed by Huddleston (1998), in which the author included words introducing tense declarative complements that are typically classified as conjunctions by linguists. He claims that prepositions do not always take NPs but also a tense declarative complement (TDC) as in "*You don't know what you can achieve **until** you try*". TDC approach examines conjunctions among the category of prepositions; however, many linguists analyze conjunctions as a different class of words. The list of prepositions that follow an NP complement or TDC complement is shown in Table 2.3 below:

Table 2.3: Prepositions Taking NP or TCD Complements (Huddleston, 1998, p.124)

NP	TDC	
+	-	*about, above, across, against, around, at, behind, below, beneath, beside(s), between, beyond, but, by, despite, down, during, from, inside, minus, of, off, on, opposite, out, outside, over, past, plus, round, through, throughout, to, toward(s), under, underneath, up, upon, via, with, within, without*
+	+	*after, as, before, except for, in, since, than, till, until*
-	+	*although, because, given, if, provided, so, supposing, though, unless, whereas, while*

In addition to syntactic roles assigned to prepositions, Zwarts (2005) maintained that prepositions sometimes mark roles that may be considered largely grammatical as

shown below:

i) possession: '*the pen **of** my aunt*', which is sometimes marked by genitive or possessive forms

ii) the agent in passive constructions: '*killed **by** a lone gunman',* which marks doer of an action

iii) the recipient of a transfer: '*give it **to** him*', which is sometimes marked by a dative or an indirect object.

2.2.4. Adpositions in Turkish: Postpositions and Case Markers

Some grammatical case markings have a similar function to adpositions and a case affix in one language may be equivalent in meaning to a preposition or postposition in another (Radford, 2009). Lewis (2002) notes that adpositions are often used in conjunction with case affixes and in languages that have case markers an adposition usually takes a complement in a particular case, and sometimes the choice of case helps to specify the meaning of the adposition. Turkish case suffixes and postpositions perform the functions of prepositions in English. The basic distinction between adpositions and case markings is that the former combine syntactically with their complement, whereas the latter combine with a noun morphologically. Libert (2008, p.229) suggests that adpositional objects in Turkic languages can bear a variety of different cases, and the same adposition can often assign more than one case. Turkish has both extensive case marking and postpositions, but both forms can be distinguished straightforwardly. To illustrate, the prepositional phrase *to the cinema* is indicated with a case-marker *sinema**ya*** 'cinema.DAT' and the prepositional phrase *for the cinema* appears in the postpositional form *sinema **için*** 'cinema for' in Turkish. In the following section postpositional phrases and case markers are explicated for a better understanding of the category of adpositions in Turkish.

2.2.4.1. Postpositions

Many linguists have worked on Turkish postpositions and came up with various analyses (Göksel & Kerslake, 2005; Kornfilt, 2000; Lewis, 2002; Swift, 1997). Postpositions differ from prepositions in the way that prepositions precede their complements and they follow verbs, adjectives, or nouns. Turkish postpositions, on the other hand, follow their complements, which can be in the nominative (or absolute), genitive, dative, or ablative case. Kornfilt (2000) defined a postpositional phrase as a constituent whose head is the postposition. Most postpositions are independent morphemes that assign case to their nominal complement. Lewis (2000) stated that a few of postpositions appear as affixes but the majority of them are independent words. According to Lewis (2000), postpositions can be classified into primary and secondary postpositions, depending on the case that they assign. The author Primary postpositions take absolute, genitive, dative, and ablative cases. Secondary postpositions are constructed with nouns in dative, locative or ablative case. Among the primary postpositions are *gibi* 'like'*, için* 'for'*, ile* 'with'*, karşı* 'across'*, doğru* 'towards'*, önce* 'before', *sonra* 'after', *ön* 'in front of', *arka* 'behind', *alt* 'under', etc.". In the list of secondary postpositions are *boyunca* 'along', *yerine* 'instead of', *uğruna* 'for the sake of', *sayesinde* 'with the help of', and so on.

In their oft-cited Turkish grammar, Göksel and Kerslake (2005, p.214) classify postpositions according to the way in which they relate syntactically to their complements and analyze them under two main categories: ***(i)*** *bare postpositions* and ***(ii)*** *possessive-marked postpositions*. Bare postpositions are the ones that carry no suffixes. Possessive-marked postpositions, on the other hand, are analyzed according to what case marking they require on their complements when overtly expressed (i.e., locative, ablative, dative, accusative).

The structure of Turkish postpositional phrase consists of a noun phrase followed by a postposition. The postposition is the head and the noun phrase is the complement of the phrase as seen in Example 11:

11) orman-nın iç-in-de

woods-GEN inside- POSS- LOC

'in the woods'

English prepositions such as *to*, *in*, *at*, *from*, etc. are expressed as postpositions in Turkish. Some postpositions can also be attached to (the last word of) their complements.

Classification of postpositions is somewhat difficult since there are many subcategories. The figure below displays a general guideline for classification of postpositions in Turkish.

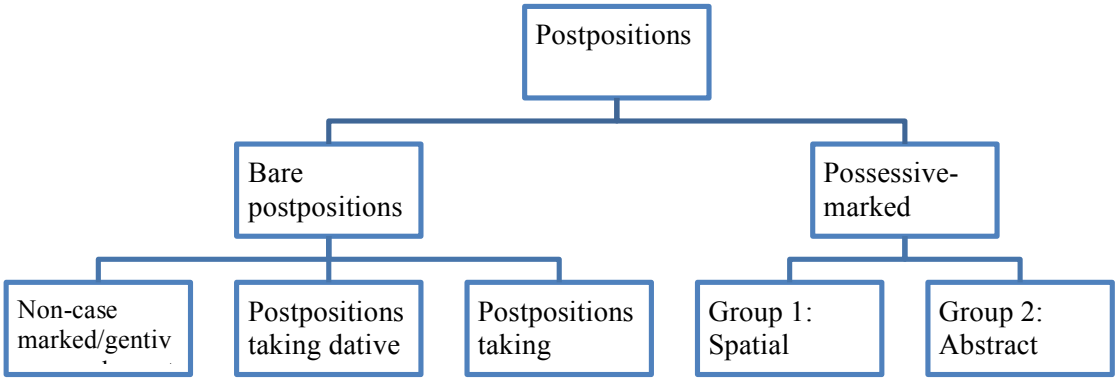


Figure 2.1: Classification of Postpositions in Turkish (based on Göksel & Kerslake, 2005 and Kornfilt, 2000)

The classification provided by Kornfilt (2000) groups postpositions into two classes: a) postpositions that do not bear agreement morphology with their objects, b) postpositions that exhibit possessive agreement with their objects. This classification is similar to the one suggested by Lewis (2000). The first group consists of postpositions that assign a variety of cases to their objects. These are; a) postpositions that assign no overt case, b) postpositions that assign genitive case to all personal pronouns, to singular demonstrative pronouns, and to the singular interrogative pronoun *kim* 'who', c) postpositions that assign dative case. Kornfilt (2000) note that postpositions in the second group contain generally postpositionally used inflected nouns like *hakkında* 'about', *tarafından* 'by', *yüzünden* 'because of', etc.

Following with the classification established by Göksel and Kerslake (2005), bare postpositions and possessive-marked postpositions are briefly clarified below.

i) Bare postpositions

Bare postpositions are reported to be invariable in form. Göksel and Kerslake (2005) report that they fall into distinct groups according to what case marking they require on their complements. The first group analyzed under this category is postpositions taking non-case-marked or genitive complement which contain *gibi* 'like', *için* 'for', *-(y)lA/ ile* 'with, by', and *kadar* 'as…as'. The authors note that the complements of these postpositions are generally left in the non-case-marked form as in the following examples:

12) *sizler* ***gibi***

'like you'

13) *farklı bir yöntem***le**

'with a different method'

14) *Karun* ***kadar*** *zengin*

'as rich as Karun'

Göksel and Kerslake (2005) point out an exception to this rule. When the complement is one of the personal pronouns *ben* 'I', *sen* 'you.sg', *biz* 'we', *siz* 'you.pl' or demonstrative pronouns *bu* 'this', *şu* 'that', *o* 'that', and the question word *kim* 'who', it normally takes genitive case marking:

15) sen**in** için

you-GEN for

'for you'

This does not, however, apply to the plural-marked forms of these pronouns, *bizler* 'we.pl', *sizler* 'you.pl', *bunlar* 'these.pl', *şunlar* 'those.pl', *onlar* 'they.pl', *kimler* 'who.pl', which remain in the non-case-marked form (e.g. *sizler gibi* 'like you.pl').

The second group in bare postpositions is postpositions taking dative complements. In this group are *doğru* 'towards', *göre* 'according to', *kadar* 'until, as far as', *karşı* 'against, towards', and *rağmen/karşın* 'in spite of', listed with their

temporal and/or spatial meaning. The third group includes postpositions taking ablative complements, which are *başka/ gayrı* 'apart from, other than', *beri* 'since, for', *bu yana* 'since', *itibaren* 'from, with effect from', *önce/ evvel* 'before', *sonra* 'after', and *yana* 'as regards, in favour of'.

ii) Possessive-marked postpositions

Possessive-marked prepositions, which are marked by a possessive suffix (agreeing with the complement) and an oblique (i.e., dative, locative or ablative) case marker, are shown in the form of *noun* + *POSS* + *OBL* (Göksel & Kerslake, 2005). They are derived from nouns. Possessive-marked postpositions differ from bare postpositions in the way that the complement of a possessive-marked postposition is often not overtly expressed as the possessive suffix is sufficient to identify the complement.

16) (O-nun) arka-sın-da bir kişi vardı .

(S/he-GEN) behind-3SG.POSS-LOC one person exist-PST

'There was one person behind him/her.'

The authors divide possessive-marked postpositions into two groups, which differ with respect to (i) whether, or under what circumstances, their complements take genitive case marking, and (ii) whether their own case marking is variable or fixed. The first group indicate spatial relations (e.g. *ön* 'front' used for 'in front of', *arka* 'back' used for behind, *iç* 'interior' used for 'inside, in' while the second denote abstract relations (e.g., *neden* 'reason' used as *neden-i-yle* 'because of', *saye* (obs.-shadow) used as *saye-sin-de* 'thanks to', *yer* 'place' used as *yer-in-e* 'instead of'. Differences between the first and second groups summarized by (Göksel &Kerslake, 2005, p.225) are as follows:

- ➢ Whereas the group 1 postpositions, at least in their literal senses, denote relations of physical space, the items in group 2 are mostly concerned with abstract relations.
- ➢ The case marking of these postpositions is fixed, not variable as in group 1. In

some instances the adverbial suffix -CA or the instrumental marker -(y)lA/ile replaces the case marker.

➢ With the exception of the genitive-attracting pronouns, the complements of postpositions in group 2 are almost always left in the non-case-marked form.

2.2.4.1.1. Syntactic Features of Postpositions in Turkish

The range of syntactic functions that can be performed by a postpositional phrase depends upon the postposition that heads it. Three possible functions of postpositions proposed by Göksel and Kerslake (2005) are the following:

(i) ***Adverbial:*** It is most characteristic function of a Turkish postpositional phrase, either at the level of the sentence or within the verb phrase. All postpositions can head a postpositional phrase with adverbial function without any exception.

(ii) ***Adjectival:*** Among the bare postpositions, *gibi* 'like', kadar 'with non-case-marked or genitive complement', *göre* 'according to' and *başka* 'other' can head postpositional phrases that function adjectivally within a noun phrase:

17) Parmak kadar bir kız

finger size a girl

'A girl of the same size as a finger'

18) Tam bana göre bir elbise

Just me-DAT right a dress

'A dress just right for me'

Postpositional phrases headed by *önce* 'before' and *sonra* 'after', similar to other temporal adverbial phrases, can be converted from adverbial to adjectival function by the addition of ***–ki***.

19) Ev-in badana-dan önce-ki hal-i

house-GEN painting-ABL before-ADJ state-3SG.POSS

'The state of the house before painting'

Postpositional phrases headed by possessive-marked postpositions can be used adjectivally only if the postposition has locative case marking, and again the addition of *-ki* is necessary to effect the conversion from adverbial to adjectival function.

20) Ceren-le ara-mız-da-ki kırgınlık

Ceren-CONJ between-1PL.POSS-LOC-ADJ resentment

'The resentment between Ceren and me/us'

(iii) ***Predicative:*** Some types of postpositional phrase can be the subject complement in a linking sentence. All the bare postpositions whose phrases are used adjectivally can also occur in predicates and *için* 'because of', *karşı* 'across' and the locative-marked forms of the possessive-marked postpositions can function as the subject complement in a linking sentence. Only locative marked possessive-marked postpositions can function predicatively as illustrated in Example 21.

21) Bu kutu senin içinmiş.

this box you-POSS for-PST

'Apparently this box was for you.'

2.2.4.2. Case Markers

Counterparts of English prepositions may be case suffixes and some frequently used English prepositions like *in, on, at* are realized as case markers in Turkish (e.g. ***at*** school => *okul**da***). Case markers form a word with their hosts (e.g. vowel harmony) while the postpositions are independent words. Most common features of case markers compared to adpositions are the following:

i) Case markers combine with a noun morphologically, while adpositions combine syntactically with their complement,

ii) Case markers combine primarily with nouns, whereas adpositions can combine with (nominalized) phrases of different categories,

iii) Case marking usually appears directly on the noun, but an adposition can be separated from the noun by other words,

iv) Within the noun phrase, determiners and adjectives may carry the same case marker as the noun, but an adposition only appears once.

Turkish case markers are attached to the final element of nominals and they act like English prepositions. Table 2.4 below shows Turkish case markers and their equivalent prepositions in English:

Table 2.4*:* Turkish Cases and Their Equivalent English Prepositions

Turkish		**English**
Cases	***Suffixes***	***Prepositions***
Nominative	Ø (none)	-
Accusative	*-ı, -i, -u, -ü*	-
Dative	*-(y)e , -(y)a*	*to, into, at, on, onto*
Locative	*-de (-te), -da (-ta)*	*in, on, at*
Genitive	*-(n)ın, -(n)in, -(n)un, -(n)ün,*	*of, to*
Ablative	*-den (-ten), -dan (-tan)*	*from, of, out of*
Instrumental	*-le, -la*	*with, by*

i) ***Nominative case:*** e.g. *kalem* 'pencil', *masal* 'story', *gün* 'day', which is the bare form of the word.

ii) ***Accusative case:*** Used only for definite objects and obtained by adding *-ı, -i, -u*, or *-ü* to the end of the nominative case, e.g. *kalemi, masalı, günü, uyumu* (note that the last letter changes in line with the vowel harmony).

iii) ***Dative case:*** Obtained by adding *-a, -e* to the end of the nominative case; reflects the preposition 'to' in English, e.g. *kaleme, masala, güne*.

iv) ***Locative case:*** Obtained by adding *-de, -da* to the end of the nominative case; reflects the prepositions 'in/at' in English, e.g. *kalemde, masalda, günde*.

v) ***Ablative case:*** Obtained by adding *-den, -dan* to the end of the nominative case; reflects the preposition 'from' in English, e.g. *kalemden, masaldan, günden*.

2.2.5. Adpositions in Kurdish: Prepositions, Postpositions and Circumpositions

Kurdish employs three different forms of adpositions: basic prepositions, postpositions, and circumpositions. Citing Kurdoev, Matras (2002) reported that the expression of local relations in Kurdish is shown primarily by prepositions in addition to a closed class of postpositions that have more abstract semantics. These two sets then combine to form circumpositions. Kurdish dialects have a rich class of prepositions and prepositional collocations with a complex syntactic behavior (Edmonds, 1955; Mackenzie 1961). The initial set of prepositions in Kurdish has been enriched with elements borrowed from other classes, such as substantives or location indicating lexis. The elements borrowed from other classes, mostly nouns or substantives, generally combine with primary prepositions as in example 22 to form compound prepositions as seen in example 23. Some of these elements, however, have undergone a grammaticalization process and can function as prepositions by themselves as seen in example 24. These "new" prepositions have nevertheless preserved a part of their nominal properties and differ with respect to their morpho-syntactic properties from primary prepositions.

22) *Li* Pârîs dost-ek dît

in Paris friend-IND meet-PST-2SG

'She/he met a friend in Paris'

23) Kitêb-ek *li ser* masê

book-INDEF at LOC-n table

'A book on the table'

24) Ez *ber* wê *de* çum.

I-ABS LOC-n her POSTP walk-PST-1SG

'I walked towards her'

In example 22 above, primary or basic preposition *li* precedes *Paris*, and by giving the meaning of 'in Paris', it functions like English preposition *in*. In example 23, primary postposition *li* combines with locative noun *ser* and forms a compound preposition. Example 24 displays locative noun *ber,* which has the meaning of 'front', indicates location itself.

2.2.5.1. Prepositions in Kurdish

Kurdish has three *basic prepositions,* each of which covers a broad and fairly abstract semantic space, with a spatial core. These are *ji* 'from/for', *bi* 'with, through, by', and *li* 'at, in'. Basic prepositions have three main features:

a) Basic prepositions may generally occur alone. For example, in the phrase ***bi*** *meqesejeké* 'cut with scissors', *bi* 'with' has the meaning of an instrument and precedes *meqes* 'scissors'.

b) However, more commonly prepositions occur in combination with a postpositional particle. To illustrate, in the clause *wa penusa* ***ji*** *te* ***ra*** 'this pencil is ***for*** you', *ji* occurs with the postpositional particle *re/ra* to strengthen its semantic meaning.

c) Basic prepositions also occur with some location-indicating lexis such as *ser* 'on', *ber* 'front', *nav* 'within'. Nouns indicating location are attached to basic prepositions and add a new meaning to the compound structure (e.g. *li ser* bajer '*over* the city').

Bedir Khan and Lescot (1989) analyzed Kurdish prepositions in two classes: i) simple, and ii) compound prepositions. The authors noted that Kurdish has four basic prepositions: *di* and *li* with the meaning of *in, on, at* depending on the context of use, *bi* 'with, by', and *ji* 'from/for'. Each of these fundamental prepositions has a broad range of meanings. These prepositions may occur alone or as first elements of a compound preposition such as *di nav* 'inside', *li ser* 'on'. They may also combine with a postpositional particle (de, ve, ra) to form a circumposition.

25) *Di* hani-(y)ek-i kewn

in house-IND-IZF old

'in an old house'

26) Di nav ave de fetîsi

in LOC-n water POSTP drown-PST.3SG

'S/he was drown in the water'

27) Li dikan-é

in store-DEF

'in the store'

28) Li ser doşeke de runîştiyi

on LOC-n bed-DEF POSTP sit-PROG-3SG

'S/He is sitting on the bed'

29) Dar-ek bi pél

tree-INDEF with leaves

'the tree with leaves'

30) Av *li ser* wê*de* rijand

Water on LOC-n her POSTP spill-PST.3SG

'S/he spilt water on her'

31) Ji mal-a ap-e min

from house-IZF uncle-IZF my

'from my uncle's house'

32) Ji ber mala wan meşya

from LOC-n house-IZF their walk-PRS

'S/he walked in front of their house.'

In Kurdish, *in* and *on* are represented as both a preposition and circumposition depending on the type of the verb. When *in* and *on* are used with a copula they are represented as a preposition *li*. On the other hand, when it is used with a lexical verb, it appears as a circumposition, which is *li….de/ di…de*. The circumposition has two forms, *li….de* and *di…de* as there is variation across dialects of Kurdish in the use of

the circumposition.

33) Li bexçe

in garden-OBL

'in the garden'

34) *Li* bexçe *de* runiştini.

in garden-OBL POSTP sit-PROG.3PL

'They are sitting in the garden'

35) *Li ser* xeni

on LOC-n house-OBL

'on the house'

36) Keçik *li ser* xeni *de* runiştiyi

girl-OBL on LOC-n house-DEF POSTP sit-PROG.3SG

'The girl is sitting on the house'

Two other prepositions are found throughout the Kurmanji region, and these are the preposition *bê* 'without', the preposition *bo* 'for'. Haig and Öpengin (to appear) state that the preposition *bo* 'for' can be combined with *ji* 'for/from' to express benefactive meanings *ji bo* in most dialects of Turkey. McCarus (2007) suggested that southeast dialects use only *bo* 'for' which is extended to cover recipient and goal meanings, where it generally replaces the combination *ji ... re/ra* in Standard Kurdish. For example, the phrase *ji* wê *re* 'for her' can be expressed as *bo* wê or *ji bo* wê in southeast dialects. It is additionally noted that there is a fixed circumposition consisting of *di ... de* 'in, inside' (e.g. *di* pirtûke *de* 'in the book'), in addition to basic prepositions.

Thackston (2006) states that prepositions in Kurdish are followed by nouns and pronouns in the oblique case. This means that whenever a pronoun is a possessor in an Ezafe[17], it takes the oblique form (e.g. bavê *min* 'my father', *bavê wê* 'her father' etc.).

[17] Recall that Izafe/Ezafe is a particle linking the head noun to a modifier, which follows that noun and it inflects for gender and number.

Oblique case is also used with nouns by the use of different endings that depend on gender and number. In Kurdish oblique pronouns, *min, te, wî/wê, me, wê, wan* 'my, your, his/her, our, your, their' are used when they follow a preposition or used in a circumposition as possessors in a sentential possessive construction.

37) *Li* malâ bave min

in house-OBL father-IZF my

'in my father's house'

However, this rule has some exceptions. The preposition *bi* is an exception when it is used to create an adverb (*bi xweşkî* 'in the right/a polite way') or compound adjective (*bi akil* 'wise'). The complement is in the nominative case in the compound adjective. In example 38 below, adjective *bi akil* 'wise'appears as a compound adjective and its complement *akil* is in the form of the nominative case. In the same way, in example 39, in the adverb ***bi*** *xweşkî*, the complement *xweşkî* appears in the nominative case.

38) Mirovêki *bi* akil hebû.

Man-IND with mind COP-PST

'There was a wise man.'

39) *Bi*xweşkî jer gotin

with beauty her.3SG say-PST.3PL

'They told her politely'

Some prepositions appear in contracted forms, which is explained in the section below.

2.2.5.1.1. Contracted Prepositions

Some primary prepositions allow for a clitic (affixal) realization of their complement, while others do not. In other words, some prepositions have syntactic characteristics of a word but depend phonologically on another word or phrase, which suggests that they are syntactically independent but phonologically dependent. examples 40 and 41 are given by Samvelian to exemplify this.

40) min *ba* Narmîn / tû da-lê-m

I to Narmin / you AM-say-PRS.1SG

'I am telling to Narmin / you.'

41) *pê*-t (to) da-lê-m

to.2SG (you) AM-say-PRS.1SG

'I am telling to you.'

In example 40, preposition *ba* does not depend phonologically on another word or phrase, whereas in example 41 *ba* undergoes phonological change when attached to second person singular clitic: the alternation of the form of the complement gives rise to an allomorphic variation of the preposition itself. Primary prepositions are thus divided into two subclasses, simple vs. absolute prepositions as seen in Table 2.5.

Table 2.5:Simple and Absolute Prepositions

Simple form	Absolute form	Meaning
ba	pê	to, with
bê	-	without
bo	(bo)	for
- a	-ê	to, towards
la	lê	of, to
lagal	(lagal)	with
tâ / hatâ	-	until
-	Tê	to

Depending upon the preposition, the clitic complement is not necessarily attached to the preposition and can be realized at distance, preceding or following the preposition. However, the non-local realization is subject to strict constraints and is limited to two cases: the clitic is either attached to the verb (Example 42) or to the right edge of the constituent immediately preceding the preposition (Example 43).

42) Êwa awa-tân *pê* zor wut-*im*

you this.2PL to often say-PST.1SG

'You have often told me this'

43) Har wuşa-yak-*î pê* a-lê-m

only word-INDEF.3SG to AM-say-PRS.1SG

'I am telling only one word to him'

In Example 42 above, the clitic is attached to the verb in the form of first person singular (*wut-**im***), while in Example 43, the clitic is attached to word preceding preposition *pê*, that is 'wuşa-yak-***î***' in the form of third person singular.

Recall that when the three basic prepositions mentioned above (*bi, ji,* and *li*) are used with the third person pronoun *'ew'*, this pronoun must go into the Oblique case, either *'wê'* (feminine), or *'wî'* (masculine). In such combinations, the preposition blends together with the pronoun and appears as one word. Haig and Öpengin (to appear) state that four prepositions have contracted forms with third-person singular complements (*bi, ji, li*, and *di*) (*bi* 'with'*, ji* 'from/for' and *li* 'in', *di* 'in'). In such combinations, what usually happens is that the preposition blends together with the pronoun, yielding the following forms:

44) bi +wê/wî >pê 'with/ through him/her/it'

45) ji+wê/wî >jê 'from him/her/it'

46) li+wê/wî >lê 'at/in him/her/it'

Table 2.6 below displays these prepositions and their blending with third person pronoun.

Table 2.6: Contracted Prepositions

Preposition + third person pronouns > contracted form	***Meaning***
bi +wê/wî >pê	'through/with' him/her/it'
ji+wê/wî >jê	'from him/her/it'
li+wê/wî >lê	'at/in him/her/it'
di + wî/wê > tê	'in it/her/him'

47) ***Bi*** *wî* çu bâjer >***Pê*** çu bâjer.

with him go-PST city

'S/he went to the city with him'

48) Nan ***ji*** wê xwest >J***ê*** nan xwest.

Bread from her want-PST.3SG

'S/he wanted bread from her.'

Preposition *di* undergoes the same change. As explained above, this particle does not occur by itself as a preposition, but only together with a final particle (postposition) as a circumposition. In the circumposition, the particle *de* keeps its form, but the preposition *di* blends together with the pronoun.

49) di + wî/wê >***tê***

50) di + wî/wê > tê li + wî/wê >***lê***

51) Av *di* bîrê *de* heyi. > Av **tê** de heyi.

Water in well POSTP exist-PRS.3SG > Water in POSTP exist-PRS.3SG

'There is water in the well.' > *'There is water in it.'*

2.2.5.1.2. Compound Prepositions

Apart from basic prepositions, there are some prepositions that are derived from nouns such as *ber* 'front'*, ser* 'front'*, nav* 'inside'*, paş* 'behind'*, bin* 'under'*, pişt* 'back'. They can be named locative nouns as proposed by Haig and Öpengin in that they are originally nouns denoting location. These prepositions can be used in their own right as simple prepositions, but they can more generally function as the second part in a compound preposition such as *li nav* 'inside'*, di paş* 'behind back', but not like basic prepositions. They are generally used in combination with the basic prepositions by forming a compound preposition. Furthermore, these prepositions can morphologically and etymologically be traced back to nouns (or other words), such as *ser* 'head' or *ber* 'front', *paş* 'back'. Scholars reported that a number of prepositions are the result of the grammaticalization of nouns (Samvelian (n.d); Thackston, 2006). The common locative nouns that form compound prepositions are listed in Table 2.7 below (Haig & Öpengin, to appear):

Table 2.7: Locative Nouns (Haig & Öpengin, to appear)

Kurdish	***English***
nav di / nav ... de	*inside*
ber / li ber	in front of
ber / ji ber	because of
ser / li ser	on, upon, over
bin / li bin / di bin ... de/re	under, beneath, underneath,
dû / li dû	after
pişt / li pişt	behind
rex / li rex	next to, on the side
tenişt / li tenişt	by side

Some examples of locative nouns and their use with basic prepositions are given below.

52) li *ser*xeni

on house-OBL

'on the house'

53) *ji ser* kursiy-ê ket

from LOC-n chair-DEF fall-PST.3SG

'S/He fell from the chair'

54) *ber* deri

front door-OBL

'in front of the door'

55) *li ber* nane xwe bi pener duxwe

in LOC-n bread-IZF her with cheese-OBL eat-PROG.PRS

'S/he is eating cheese with bread.'

56) *nav* dara

among tree-PL

'among trees'

57) Kûrgak *ji nav*dara derket

Rabbit-IND from LOC-n tree-PL appear-PST

'The rabbit appeared among the trees.'

58) *paş* nivina

behind bed-PL

'behind beds'

59) Lawûk *ji paş* der*î* derket

child from LOC-n door-OBL appear-PST

'The child appeared behind the door.'

60) *Li ber* wî direqisî.

in LOC-n him TAM-dance-PROG.3SG

'She is dancing in front of him.'

61) Mişk *di bin* derî *re* ketiyî hûndir.

Mouse in LOC-n door POSTP enter-PST.3SG house

'The mouse entered the house under the door'

Similar to English, Kurdish also has complex prepositions such as *bi xêra* 'thanks to'. This category of preposition is a combination of basic prepositions and a noun. A longer list of prepositions including complex prepositions can be found in Table 2.8 below.

Table 2.8: Categorization of Prepositions in Kurdish

Preposition	**Absolute Form**	**Meaning**
li/le	lê	at, in, of, from
ji	jê	from (partitive)
bo/jibo		for
-e	-ê	to, towards
di/de	tê da/de	in
be/bi	pê	to, by
be/bi	pê we	with
li bêr/li pêş		in front of
ber		toward
li ser		on, above, about
bêî (bêyî, bêy)		without
berî		before
derveyî		outside of
ji nava/ ji nav		from amongst

Table 2.8 Cont'

ji bo	for, for the sake of
ji xêynî/ xêndi	other than, aside from
ta	until, up to
heta	until, as far as
wêk(e)	like
bi tenê	except for
bi xêra	due to, thanks to
pişti	after
li dijî	against
li gora	according to
li dora	around
li cem	together with
ji bilî / ji dervi	other than, aside from

2.2.5.1.3. Syntactic Features of Prepositions in Kurdish

Kurdish dialects have a rich class of prepositions and prepositional collocations with a complex syntactic behavior (Edmonds, 1955; Mackenzie, 1961). As Kurdish employs three different forms of adpositions, the syntactic properties of these structures vary accordingly. Prepositions act as the head of PPs in Kurdish as is the case with English. In the clause below the preposition *'li'* precedes the noun it modifies. Like English, prepositions head phrases function as dependents of verbs, nouns, and adjectives, where the dependents of the verb can be either noun phrases or prepositional phrases. Usually, PPs have the role of an adjunct in a clause.

62) Bire te ***li*** bexçeyi.

Brother-IZF your ***in*** garden-COP.3SG

‘Your brother is in the garden.’

To my knowledge, there is not much research conducted to investigate semantics of adpositions in Kurdish except for few papers on Sorani prepositions and postpositions (Edmonds, 1955; Mackenzie 1961; Samvelian, n.d). Some common prepositions and their main semantic properties are:

i) bi [accompaniment, instrument]

[Accompaniment]: *Ez **bi** bire xwe çu male.* ‘I went home with my brother’
[Instrument]: *We şiva xwe **bi** kevçi xwar.* ‘She ate her meal with a spoon’

ii) bé [without, lacking]

[Without]:***Bé** wan kes nehat* ‘Nobody came without them’
*[Lacking]: Şiva **bé** xwe nexheşi.* ‘The meal lacking salt does not taste good’

iii) di [containment, capacity, behavior]

[Containment]: *Ez zanim **di** bérîka te de çi heye.* ‘I know what is in your pocket’
[Capacity]: ***Di** bajaré me de, súkeke mezin heye.* ‘In our city, there is a big bazaar’

iv) ji [estrangement, divergence/departing]

[Estrangement]: *Kéçik **ji** male revya.* ‘The girl ran away from home’
[Divergence, departing]: *Kevirek **ji** ser xeni ket.* ‘A stone fell from top of the house’

v) li [location, landing, ascription]

[Location]: *Ez **li** hawşeme.* ‘I am in the yard’
[Ascription]: ***Li ber** şex disekini* ‘They are standing in front of seyh’

vi) ber [face, front, side, -/+ movement]

[front]: ***Ber** deri runiştiye.* ‘She is sitting in front of the door’
[-/+ movement]: ***Ber** mid hat.* ‘She walked towards me’

vii) bé [without, lacking]

[without]: Şiva xwe **bé** nan xwar. ‘S/he ate his/her meal without bread’

2.2.5.2. Postpositional Particles and Circumpositions

Postpositions are the second forms of adpositions listed in Bedir Khan and Lescot (1989) and Thackston (2006). Postpositions follow the words that are modified by a preposition. It is acknowledged that postpositions intensify the meaning of prepositions; however, they do not have a substantial meaning on their own (Samvelian, n.d.). They appear in the same construction of prepositional phrase and cliticize to the right edge of the prepositional phrase. This new form is termed as circumposition. The three postpositions are *de, re*, and *ve* and can take the form of *da, ra,* and *va* in some varieties. Three postpositions and their common denotations are the following:

i) *de/da* [containment, place, stationary position]
ii) *re/ra* [giving, loading, transition, accompaniment]
iii)*we/wa* [movement, belonging, motion away from]

In Kurdish, postpositions act like particles that are attached to a primary preposition and thus can be named postpositional particles. They are mostly combined with a preposition and cliticize to the right-edge of the entire prepositional phrase, thereby providing additional meaning components to the phrase (Samvelian, n.d.). However, the resultant meanings are not always transparent. Some frequently used postpositional particles and their meanings are given in Table 2.9 below.

Table 2.9: Categorization of Postpositions in Kurdish

Postposition	**Meaning**	**Example**
da/de	in, on, at	*hûndir* hawşame ***de*** [in our garden]
ra/re	from (partitive)	*ji* wû ***re*** [from there]
(e)we/ve	with, to	*bi* makese ***ve*** [with scissors]

A preposition and a postpositional particle are combined to form circumpositions in Kurdish. A circumposition consists of two or more parts, positioned on both sides of the complement. Circumpositions are reported to be very common in Pashto and Kurdish. There may be some circumpositional constructions in English as well (e.g. ***from*** *now* ***on)***. The following are some common circumpositions followed by postpositional particles *de, re, ve*:

De is the postposition denoting containment, place, and attitude; it follows prepositions *li* 'at\in' *bi* 'with' or *di* 'in'.

63) *Di* hewşe *de* rudini.

In garden-OBL POSTP sit-PRS.2SG

'S/he sits in the garden.'

64) *Li* hûndir *de* runiştîyî.

at inside POSTP sit-PROG-3SG

'S/he is sitting at home' (inside the home)

65) *Li ser* rê*de* marek dimeşya.

On road-OBL POSTP snake-INDEF TAM-walk-PST.3SG

'A snake was walking on the road'

Re is the postposition that has the meaning of giving, transition, addition and generally follows *ji* (ji… re 'for sb/sth') or *bi* (e.g. *bi*… *re* 'with sb/sth')

66) Ew gula sor *ji* te *re* anîyi.

that rose-DEF red for you POST bring-PST.3SG

'S/he brought that red rose for you.'

67) Em *di* nawelê *re* derbasbûn.

We in valley POSTP pass-PST.2PL

'We passed through valley'

68) Bi kere ri meşya

with donkey-DEF POSTP walk-PST.2SG

'S/he walked with the donkey.'

Ve denotes accompaniment, movement, possession and is used with *bi* 'with' or *ji* 'from/for'.

69) Hespa reş *ji bin* piré *ve* derbasbû.

Horse-DEF black from LOC-n bridge POSTP pass-PST-COP.2SG

'Black horse passed under the bridge.'

70) Min bizmar *di* diwêr *ve* kir.

I nail on wall-OBL POSTP do-PST

'I hit the nail on the wall'

71) *Ji* dara *wura* seva bereki.

From tree-OBL there apple-PL SUBJ-collect.3SG

'Collect apples from the tree there'

The table 2.10 below shows some common form of circumpositions and their meanings.

Table 2.10: Categorization of Circumpositions in Kurdish

Circumposition	**Meaning**
di … de	in
li (… de)	in, at, to
di … re	by, via, with
ji … re	to, for
bi … re	with
ji … ve/ wura/ wêdere	from, as of, since
di … ve	through
di nav … de	among, amidst, inside of
bi … re	with, along with
di navbera … de	between

McCarus (2007) noted that *ba* 'with/for' and *la* 'in, on' form circumpositions with *dâ* and *awa*. He notes that they lose their final vowel before the initial vowel of the demonstratives pronouns, i.e. 'aw-lam', and some adverbs like *awe* 'there', *era* 'here'. For example, '*l-era'* (in this place, here) shows this pattern of change. Similarly, *-da*changes into *–a* after consonants.

a) *ba…. awa* 'with' (instrument) (e.g. *Bi qalam awa binusa* –Write it with a pen)
b) *la…da* 'in' (e.g. *la Karkuk da* – in Kirkuk)
c) la… awa 'from' (e.g.*la Karkuk awa bi Baya* – from Kirkuk to Baghdad)[18]

2.2.5.2.1. Syntactic Features of Circumpositions in Kurdish

Circumpositions have two parts that appear on each side of the complement. To illustrate, the prepositional particle *di/de* (in) is usually followed by the postpositional particle *dE*.

72) *Ber bi* male *de* çu.

Towards house-DEF POSTP go-PST

'S/he went towards the house.'

73) Gûla *di* destê wê *de* sori.

rose-DEF in hand-IZF her POSTP red-COP

[18] Moreover, spatial meanings are also conveyed through directional adverbs, such as: *jêr* 'down', *jor* 'up', *xwar* 'down (on the ground)'.

i) Jinik revya jor.

woman-DEF run-PST.2SG up

'The woman ran up (upstairs)'

Another important element is the particle *de/da* following noun phrases expressing directionals when they occur after the predicate.

ii) Hinek avê bixiyê *da* ji boku neşewite.

a little water-OBL SUBJ-drop-PRS.3SG-OBL POSTP so.that NEG-burn-PRS.3SG

'Put a little more water in it so that it does not burn.'

'The rose in her hand is red.'

In the noun phrase "gûla *di* destê wê *de*" (the rose in her hand) *di…de* functions as a circumposition, which is a frequent element in Kurdish. One part of circumposition precedes the noun and the other postpositional particle comes after the noun.

A detailed analysis of the adpositions investigated in the present study is given in the following section.

2.2.6. Prepositions Investigated in the Present Study and Their Counterparts

This dissertation takes as its focus the acquisition of prepositions in English as a second/third language. Six English prepositions are investigated via online and offline tasks: *in, on, at, behind, over,* and *to*.

a) in

In is among the most frequent prepositions in English (Mindt and Weber, 1989). Within the scope of this study, only the spatial denotation of *in* is examined. In English, *in* refers to the enclosure of the trajector in the landmark and views the landmark as two or three dimensional space (Bree and Pratt-Hartman, 2002). Senses of *in* are illustrated below:

Enclosure: The toys are *in* the box.

Defined space: The old man walked in the park.

The indications of the relationship in space between two structures are provided by X and Y (e.g., X surface Y) (Cooper, 1968: 23-26). A basic semantic analysis of locative/ spatial *in* is as follows:

***i)* X in Y**

[*X* is smaller than *Y*] ⟹ X is located internal to Y

a) SR: [smaller (X, Y)]

b) [(X,1 (Y)]

The counterpart of *in* in Turkish is either the postposition *'içinde'* or the locative case marker -*DA*. Examples are given below:

Enclosure: Oyuncaklar kutunun ***içi(n)-de.*** (Postposition)

toy-PL box-POSS inside-LOC

Oyuncaklar kutu-**da**. (Case Marker)

toy-PL box-LOC

'Toys are in the box.'

Defined space: Yaşlı adam park-**ta** yürüdü. (Case Marker)

old man park-LOC walk-PST-3SG

Yaşlı adam park*ın* **içi(n)-de** yürüdü. (Postposition)

old man park-POSS inside-LOC walk-PST.3SG

'The old man walked in the park.'

In Kurdish, *in* is represented as both a preposition and circumposition depending on the type of the verb. When *in* is used with a copula it is represented as a preposition *li*. On the other hand, when it is used with a lexical verb, it appears as a circumposition, which is *'li….de/ di…de'*. The circumposition has two forms, *'li….de'* and *'di…de'* as there is variation across dialects of Kurdish in the use of the circumposition.

74) a) Keçik li bexçeyi.

girl-OBL in garden-COP-PRS.3SG

'The girl is in the garden.'

b) Keçik li bexçe de runiştiyi.

girl-OBL in garden-OBL POSTP sit-PST-PROG.3SG

'The girl is sitting in the garden.'

As seen in example 74a, when the verb phrase is formed with a copula, the location is indicated with a preposition. On the other hand, when a lexical verb or a verb that is not an auxiliary verb is used in the sentence, location is indicated by a circumposition (74b).

b) On

On is another spatial preposition investigated in this study, which is reported to be the basic and most general place preposition besides *'in'* and *'at'*. It denotes physical contact between trajector and landmark (Dirven, 1994). Therefore, it

necessitates the viewing of landmark as one-dimensional space (line) or two-dimensional space (surface). *On* has the following common sense:

Contact with line/surface: 'The picture is on the wall.'
'The ball is on the floor.'

Semantic representation of *on* is as follows:

***ii)* X on Y**

SR: [Y supports X] ⟹ a surface of X is contiguous with a surface of Y

a) SR [supports (X, Y)]

b) C [Sur (x), Sur (Y)]

The counterpart of *on* in Turkish is either the postposition *üstünde* or the locative case marker *-DA*.

75) Resim duvar-da

Picture wall-LOC

'Picture is on the wall'

76) Kitap masanın üst-ün-de / Kitap masa-da

Book table-POSS on-POSS-LOC / Book table-LOC

'Book is on the table'

In Kurdish, *on* is represented as both a preposition and circumposition depending on the type of the verb. When *in* is used with a copula it is represented as a preposition *li ser*. On the other hand, when it is used with a lexical verb, it appears as a circumposition, which is *'li….de/ di…de'*. The circumposition has two forms, *'li….de'* and *'di…de'* as there is variation across dialects of Kurdish in the use of the circumposition.

77) a) Keçik li ser dîware.

girl-OBL on tree-COP-PRS.3SG

'The girl is on the wall.'

b) Keçik li ser dîwar de runiştiyi.

girl-OBL on wall-OBL POSTP sit-PST-PROG.3SG

'The girl is sitting on the wall.'

c) At

Compared with *in* and *on*, *at* is a spatial preposition that is noted to be the most 'neutral' space preposition indicating an orientation point in space without focusing on the shape of object (Dirven, 1994). For instance, *'at the station'* shows the location of a trajector in relation to a point of orientation in the station, yet the physical location of the trajector is not defined. In other words, it indicates presence or occurrencein, on, or near the station. Besides the function of orientation, *at* denotes state, area, manner, and circumstance or event. The examples for senses of *at* are given below:

Point as the place: The man is at the station.

State: The man is at work.

Event: The girls were at the party last night.

Semantic formulation of a trajector (X) in relation to an orientation point (Y) is the following:

***iii)* X at Y**

a) [X is portable relative to Y]

b) [X is located according to Y is a geopolitical area]

c) [X (static) is in a definite point of Y (limited space)]

In Turkish, the meaning of *at* is rendered by the case marker –DA, as illustrated below.

78) Adam tren istasyonun-***da***.

Man train station-DEF-LOC

'The man is at the train station.'

79) Kızlar dün akşam parti-***de-***ydi.

girl-PL last night party-LOC-PST

'The girls were at the party last night.'

As for Kurdish, the denotation of *at* is expressed by a circumposition *li…de*. In contrast to *in* and *on*, there is no variation in the use of *at* with a copula or a lexical verb.

80) Merik ***li*** îstgehe***de***yi.

Man-OBL at station-POSTP-COP.3SG

'The man is at the train station.'

81) Giş ***li*** îstgehe ***de*** sekinîyî

all at bus stop POSTP wait-PRS-PROG

'They are all waiting at the bus stop.'

d) behind

Preposition *behind* is a projective preposition that means *at* or *towards the back of somebody or something*. *'The small chair behind the curtain'* is interpreted as the chair being hidden by the curtain. However, it should be noted that *behind* is a preposition in which further information about the direction of an object is essential. For instance, in the sentence *'The cat is behind the tree'*, determining the shape and location of cat and tree is not sufficient. The backside of the tree should also be determined. This, however, can change with the position of the speaker. Basic spatial function of *behind* is related to position of an object in relation to another one, which is at the back of or to the rear of someone or something. The basic spatial unction of *behind* is the following:

Point as the place: 'The car is behind the house.'

The equivalent of the preposition *behind* in Turkish is the postposition *arkasında*.

82) Adam kapının arkasında durdu

Man door-POSS behind-POSS-LOC stand-PST.3SG

'The man stood behind the door.'

83) Çocuk ağacın arkasında

kid tree-POSS behind-POSS-LOC

'The kid is behind the tree.'

Kurdish employs the compound preposition *li paş* to express the meaning of *behind*. As mentioned above, *li paş* is a combination of a preposition and a locative noun rather than a single word indicating location with the posterior component.

84) Merik li paş dêri sekini.

Man-OBL behind door stand-PST

'The man stood behind the door.'

85) Lavûk li paş darêyi.

kid-OBL behind tree-COP.3SG

'The kid is behind the tree.'

d) over

Over can denote static and dynamic situations. Unlike *above*, it is prototypically a preposition of path rather than place. In the sentence *'The plane flew over the town'*, the speaker may not have any particular physical path in mind but rather a potential one. Functions of *over* are as follows:

Place: 'The lamp is over the table.'

Path: 'The plane flew over the town.'

Postposition *'üzerinde'* is the counterpart of *over* in Turkish.

86) Kuşlar gölün üzerinde uçuyor

bird-PL lake-POSS over-POSS-LOC fly-PRS-PROG.

'Birds are flying over the lake.'

87) Helikopter başımızın üzerinde

helicopter head-1PL-POSS over-POSS-LOC

'The helicopter is over our head.'

The preposition *li ser* is the counterpart of *over* in Kurdish. Like *li paş* it includes basic preposition *li* and location indicating noun *ser*.

88) Çuk li ser gole difirin.

Bird over lake-OBL fly-PRP-PROG.3PL

'Birds are flying over the lake.'

89) Firoke li ser seremeyi.

helicopter-OBL over head-COP-PRS

'The helicopter is over our head.'

e) to

Preposition *to* is used to designate the place, person or thing that someone or something moves towards or the direction to/of something. It is used either as a preposition of movement or direction.

90) Michael walked to the market.

91) Sue went to school in the morning.

In Turkish, the counterpart of *to* is either (-*E*) + postposition (*–E doğru*) or the dative case marker *–(y)A* (okul-a 'school-DAT'). Preposition *to* is represented as a circumpoisition in Kurdish, which has a pre- part preceding the noun and a locative suffix -E in Kurdish. The point that needs to be highlighted here is that Kurdish has locative suffix -*E*, which has the same function of Turkish case marker *–(y)A*.

92) Ali markete yürüdü.

Ali market-DAT walk-PST-3SG

'Ali walked to the market'

93) Ali meşya market***e***.

Ali walk-PST-3SG market-LOC

'Ali walked to the market'

94) Sude kapıya yürüdü.

Sude door-DAT walk-PST.3SG

'Sude walked to the door.'

95) Sude ber bi deri ***de*** meşya.

Sude to door-LOC POSTP walk-PST.3SG

'Sude walked to the door.'

To conclude, adpositions are instantiated as prepositions in English (e.g. ***at home***). Prepositions head phrases – prepositional phrases (PPs) – that function as dependents of verbs, nouns, and adjectives. As counterparts of English prepositions, Turkish employs postpositions which follow the noun phrases (e.g. *kapının* ***önünde*** 'door.GEN 'in-front-of.LOC') and case suffixes (e.g. *ev**de*** 'home.LOC), which is suffixed to the noun. The basic distinction between postpositions and case markings is that the former combine with their complement syntactically, whereas the latter combine with it morphologically. Finally, Kurdish has three different forms of adpositions: prepositions (e.g. ***li*** Ankara 'in Ankara'), postpositions (e.g. nav nivenimi ***dâ*** 'in bed.1SG-GEN POSTP'), and circumpositions (e.g. ***li*** istgehe ***de*** 'at the bus stop'). Given that prepositions of interest in the present study (*in, on, at, over, behind, to)* are represented differently across the three languages investigated, both morphologically (adpositions vs. case markers) and syntactically (prepositions vs. postpositions), the present study aims to investigate adpositions by providing a comparison of the knowledge of prepositions in L2 speakers of English (with Turkish as L1) and L3 speakers of English (with Kurdish as L1 and Turkish as L2) paying special attention to possible cross-linguistic influence of L1 (Kurdish) and/or L2 (Turkish) in the acquisition of L3 (English).

CHAPTER 3

METHOD

This chapter, first, summarizes overview of the study and then presents participants and portraits the setting where the study was conducted. Next, research questions to be answered in this study are given. Lastly, background questionnaire is presented with its results.

3.1. Overview of the Study

In psycholinguistic experiments two means of data collection are available, both of which have their own strengths. On-line techniques measure variables that tap into language processing as it takes place. Off-line techniques, on the other hand, measure variables related to subsequent outcomes (Garrod, 2006). On-line and off-line techniques complement each other as both offer insights into the grammar of the language that participants are engaged with. In the present study, both on-line and off-line data collection techniques were employed to provide a more comprehensive picture of the acquisition of the target structure investigated, i.e. prepositions. To collect data regarding the recognition, comprehension, and production of L3 prepositions (i.e. *in, on, at, behind, over, to*), two off-line tasks were conducted: a) picture description task with multiple choices and b) teddy bear picture description task. As well as off-line tasks, on-line self-paced reading task was employed to examine comprehension and processing of prepositions.

All three tasks were designed so as to determine whether there is CLI in the acquisition/use/processing of L3 English prepositions in L1 Kurdish, L2 Turkish speakers and if so, which of the two previously known languages (L1 Kurdish or L2 Turkish) is the primary source of influence. The picture description task with multiple choices was designed to test this question at the level of comprehension/recognition of prepositions, while the picture description task (the teddy bear task) was designed to test it at the level of production. Finally, the online self-paced-reading task was meant to detect the effects of CLI in the processing of L2 prepositions.

3.2. Participants

Sixty-seven high school students, divided into two main groups, participated in all three experiments. The experimental group, henceforth Group A, includes 33 L1-Kurdish/L2-Turkish bilingual students ranging in age from 15 to 17 (mean age: 15.5, 14 females) learning English (L3) as a foreign language. The control group, henceforth Group B, whose age range is between 15 and 16, is made up of 34 native speakers of Turkish learning English (L2) as a foreign language (mean age: 15.2, 12 females).

All the participants learn English as a foreign language and have six hours of English in their 40 hour-weekly programs at 9th grade in high school. The English taught at high school is general English, which is taught through general course books. These course books cover four main skills, i.e. listening, reading, speaking, and writing. English classes include teaching of grammar and vocabulary through reading and listening texts. Practice of writing and speaking is limited compared to listening and reading. Therefore, participants rated themselves better at reading and listening skills compared to writing and speaking skills. Their attitude towards learning English is positive although they state that they do not spend much time for learning English except for doing assignments for English classes. Both bilingual Kurdish participants and monolingual Turkish participants start to learn English at 4th grade in primary school. They have English classes at secondary and high schools. Therefore, they have been exposed to English for about 6 years (2 years in primary school, 3 years in secondary school, 1 year in high school) by the time of experiments.

All participants were at the pre-intermediate level of in English during the time of data collection. Their level was determined with the placement test given by METU School of Foreign Languages. Their exposure to English is limited to classroom instruction.

Kurdish speakers are exposed Kurdish as parental language when they are born and start to learn Turkish at the age of six when they start primary school. However, their exposure to Turkish starts earlier with TV at home. They are exposed to cartoons or TV programs in Turkish before they start school. As the language of schooling is Turkish, they all become bilinguals in Turkish and Kurdish during their primary school

education. They become bilinguals with the exposure to Turkish in school environment. All courses are taught in Turkish except for English. Therefore, Kurdish speaking children become Turkish-Kurdish bilinguals through schooling system. There is no measure for their proficiency level in Turkish since they take all courses including science in Turkish. Moreover, they use Turkish in all governmental offices such hospitals, post offices, banks in the city. Thus, they can be classified in sequential bilingualism in which a person becomes bilingual by first learning one language and then another. Grosjean's (1992) definition of bilingualism can be cited here to define their level of bilingualism: "Bilingualism is the regular use of two or more languages, and bilinguals are those people who need and use two or more languages in their everyday lives." The author first proposed a holistic view of bilingualism in which monolinguals are no longer seen as the norm. Instead, the separation of two language systems is not considered to be the ideal state of affairs for bilinguals because knowledge of the L1 and the L2 in the bilingual's mind coexist in bilinguals' minds, which has the psychological and linguistic consequences, which Cook (2008) later named multicompetence.

As for the socio-economic background of the participants, monolingual Turkish participants' families are officers in general. Some occupations of the parents are police officer, teacher, accountant, banker. On the other hand, Turkish-Kurdish participants' families are workers and officers in various positions. Among the occupations listed by the participants are construction worker, farmer, teacher, officer, and banker. As revealed by background questionnaire, level of education of parents differ across the participants. Parents' average level of education is high school for monolingual group while it is elementary school for monolingual group. Background data showed that parents' level of education for monolingual group is higher than the bilingual group.

3.3. Setting

The study was conducted in Mardin, which is a province in southeastern Turkey with a population of 796.591 in 2015. The reason why Mardin is chosen for collecting data is that it has a multilingual community, which serves for convenient sampling in data collection process. Located near the traditional boundary of Anatolia and

Mesopotamia, Mardin has a diverse population of Kurdish, Arab, and Assyrian people, with Arabs and Kurds forming the majority of the province's population. As a melting pot of Kurdish, Syrian, Yezidi, Arabic, and Syrian cultures, Kurdish, Arabic, Aramaic are languages spoken by the majority of population as their first languages and Turkish is used as the second language, which is a means of communication among the speakers from different background in addition its national language status. The participants of the study living in the area use their L1 in their communities, yet they interact in Turkish in daily interactions. Children attending schools learn English as their third language and start to learn English in the fourth grade (10 years old).

3.4. Research Questions and Hypotheses

The overarching research question that this study attempts to answer is which of the two known languages (L1 or L2) is the major source of CLI in the acquisition of English (L3) adpositions. This question is explored at the level of comprehension/recognition (the picture description task with multiple choices), at the level of production (the picture description task – the teddy bear task), and at the level of processing (the self-paced reading task). The thesis seeks to answer the following research questions:

1. Which of the two known languages is the major source of CLI in comprehension and production of English (L3) prepositions?
    a. Is it L1 (Kurdish) which is typologically similar to L3 that becomes the source of CLI in comprehension and production of English prepositions?
    b. Is it L2 (Turkish) which is typologically different from L3 but is the L2 of participants that becomes the source of CLI in comprehension and production of English prepositions?
2. Which of the two known languages (L1 or L2) is the major source of CLI in the processing of prepositions in English (L3)?
    a. Is it L1 (Kurdish) which is typologically similar to L3 that becomes the source of CLI in processing of English prepositions?

b. Is it L2 (Turkish) which is typologically different from L3 is the L2 of participants that becomes the source of CLI in processing of English prepositions?

The predictions are as follows: If the source of the CLI is the participants' L1, Kurdish, rather than their L2 Turkish, the prediction is that the participants' acquisition of L3 prepositions should be facilitated, rather than inhibited. This is because, unlike Turkish, the adpositional system of Kurdish includes structural overlaps with the adpositional system of English, since it has prepositions, just like English. The way in which the adpositional system of Kurdish relates to that of English allows us to make two, even more precise predictions. First, since in Kurdish, the counterparts of *in* and *on* take the form of a preposition with the copula (in the predicative use of the PP), but a circumposition with a lexical verb, we expect participants to be more successful on the items that contain a copula than on the items that contain a lexical verb, if syntactic identity of the structure facilitates acquisition. If no difference is obtained between the participants' performance on items with a lexical verb and those with a copula, but there is an overall facilitating effect of L1 Kurdish on the use of L3 English prepositions, we can conclude that acquisition of prepositional system is facilitated not only by the existence of prepositions in a known language, but also by the existence of circumpositions. Second, when English prepositions *in* and *on* are used with a copula, they correspond to prepositions (*li* in, *li ser* on) in Kurdish. However, English preposition *at* maps onto a circumposition '*li ...de'* in Kurdish regardless of the kind of the verb used. If the existence of syntactic similarities between English and Kurdish facilitates the acquisition of L3 English prepositions, we might expect participants to make more mistakes in the use of *at* than in the use of *in* and *on* in the predicative use of the PP.

If CLI in third language acquisition comes from L2 or foreign language, no difference will emerge between the two groups on any prepositions. As Turkish is the language that is acquired later than Kurdish and it is the L2 for third language learners of English, L2 might become the source of CLI in the acquisition of further languages (L3 English).

Moreover, given that bi/multilingualism has been associated with improved metalinguistic awareness (Cenoz, 2003; Dominique et al, 2011; Jessner, 2008; Ringbom, 2001) and third language learners have two linguistic systems when acquiring a third language and therefore more language experience at their disposal, bi/multilinguals are expected to have better performance in third language acquisition process than monolinguals.

3.5. Method and Procedure

The three tasks were administered to the participants in three different sittings. Before all tasks, the participants were given consent forms. Parental consent forms were also received by contacting to the participants' parents. Before any of the experimental tasks, a background questionnaire was given to all participants to collect their biographical data and their use of linguistic repertoires within and outside school environment. It also revealed data about socio-demographic background of the participants.

After the background questionnaire, two groups of informants were given the Placement test[19] to identify their level of English in different sessions on the same day. A week after the test, Picture Description with Multiple Choices Task and Teddy Bear Picture Description Task were given to the informants in two different sessions. four weeks after these two tasks, Self-paced Reading Task was administered in a computer laboratory. All the tasks were conducted by the informants' teachers, who were given guidance by the researcher. All the tasks were administered in the informant's classes. Their teachers gave the participants Turkish instructions when they thought the participants did not understand the instructions very well.

[19] In order to evaluate the participants' level, the placement test employed by Middle East Technical University (similar to Oxford Placement test) was given to them. The placement test is composed of grammar, reading, and vocabulary sections. On the test, all the participants scored between 45 and 55 in the exam and were identified to be pre-intermediate. The mean score of Group A is 50.4 (range 49-52) while mean score for Group B is 52.2 (range 50-55).

3.5.1. Background questionnaire

The background questionnaire consisted of three parts. The questions in the first part were related to the age, gender, and birthplaces of participants, together with the occupations of their father and mother, to portray their socio-demographic background. By collecting socio-demographic data, it was aimed to discover which the language(s) were spoken by the parents.

The second set of questions has to do with the participants' learning of English, including the onset of learning, the duration of learning, materials used in English classes, extra activities participants involved in order to improve their English.

The third set of questions required the participants to self-evaluate themselves in each of the language(s) they speak. The participants were asked about the language(s) they use with different members of the social community that they reside in. More specifically, they were asked to indicate in which language(s) they communicate with their parents, friends, and people in the community (e.g. people working in different stores in the neighborhood). The other set of questions are related to the language(s) the participants prefer when watching TV, and the language(s) of the books read, the language of counting numbers and dreams (See Appendix A for Background Questionnaire).

3.5.1.1. Results of the Background Questionnaire

Results of Background Questionnaire, which provided information about the use of linguistic repertoire of the participants, are given below.

Table 3.1: Results of Background Questionnaire for Bilingual Group (n=33)

Context of Use	**L1 (Kurdish)**	**L2 (Turkish)**	**L1(T) + L2(K)**
	%	**%**	**%**
Communicating with parents	98	-	2
Communicating with peers	71	19	10

Communicating at school	-	98	2
Communication in social community	83	9	8
TV language	32	60	8
Language of books read	-	100	-
Language of counting numbers	55	45	-
Language of inner voice	49	51	-
Language of dreams	48	45	7

The results of the background questionnaire revealed that the bilinguals use their L1 and in many contexts in daily life. The reason for the choice of L1 in daily life is that they live in a community where L1 is actively used in daily communication especially as a community language. Their L2, Turkish, on the other hand, is reported to be used in official settings such as in schools, hospitals and governmental offices. Bilinguals use their two languages to different extents in given contexts of use. While communicating with their parents, bilinguals almost always prefer to use their L1. They, however, prefer to use Turkish or their L1 and L2 in communication with their peers although they mostly use their L1. As for the communication at school, L2 is used all the time except for little use of L1 and L2 with a small percentage (2%). For communicating with people in the neighborhood, their L1 is the dominant language used compared the use of L2 or the use of both languages. TV language shows that L2 is preferred more than L1. When language of books read is taken into account, it is seen that learners read only in Turkish not in Kurdish or English. This is because bilinguals do not know how to read and write in their L1. They reported that they do not have reading and writing skills in their L1 in the background questionnaire (See question 6 in Appendix A). As for the language of counting numbers, inner voice, and dreams, it is revealed that they use their L1 and L2 with more or less similar percentages.

Table 3.2: Results of Background Questionnaire for Monolingual Group (n=34)

Context of Use	**L1-Turkish**	**L2-English**
	%	**%**
Communicating with parents	100	-
Communicating with peers	100	-
Communicating at school	100	-
Communication in social community	100	-
TV language	100	-
Language of books read	100	-
Language of counting numbers	100	-
Language of inner voice	100	-
Language of dreams	100	-

The results for the monolingual control group showed that Turkish learners of English use their L1 actively in all forms for communication by reporting no use of English or any other language outside school context. Having no command of any other languages other than Turkish, monolingual Turkish participants are exposed to English only in their school context just like the Kurdish-Turkish bilingual participants, who have no exposure to English except for school environment.

CHAPTER 4

EXPERIMENT 1: PICTURE DESCRIPTION TASK WITH MULTIPLE CHOICES

4.1. Aim

The picture description task with multiple choices is designed to find out whether the participants can choose the correct preposition for the description of pictures they are presented with from the choices given to them. The results of this task will inform us as to whether there is a cross-linguistic effect of previously acquired languages on the use of prepositions investigated at the level of comprehension and/or recognition.

4.2. Materials and Method Stimuli

This task consisted of 36 experimental items, each containing a picture accompanied by a description. The description always described the position of an entity in the picture. Each description was missing a preposition, which the participants were asked to supply by choosing among the three choices given to them. Each of the investigated prepositions (*in, on, at, behind, over, to*) was the correct choice in 6 items. Three of the six items appeared with a copular verb and the remaining three with a lexical verb. Recall that in Kurdish, prepositions *in* and *on* correspond to prepositions when used with a copula, and to circumpositions when used with a lexical verb. If syntactic identity between Kurdish and English adpositional phrases is required for the acquisition of prepositions to be facilitated, Kurdish-Turkish speaking participants were expected to perform better on these two prepositions than the Turkish monolinguals when the verb was a copula than when it was lexical. Examples (Picture 4.1 and 4.2) below exemplify both an item with a copula and one with a lexical verb.

Picture 4.1 The dog is **a) on** the chair.

b) in

c) at

Picture 4.2 The kids are lying a) in their beds.

b) at

c) on

Both the correct answer (*in, on, at, behind, over, to*) and its position (a, b, c) were randomized across the items. The task contained no distractors.

Procedure

Participants were given instructions in Turkish as to how to complete the picture description task with multiple choices, together with an example before they started to complete the task. Any questions they had before completing the task were answered. Both groups were given the picture description task with multiple choices as a handout in two different classes. The pictures in the task were in color. The task was given to the participants in one session. There was no time limit, yet all participants completed the task in approximately 40 minutes.

Data Analysis

Data analysis was carried out separately for each preposition in the picture description task with multiple choices. Each correct choice was assigned one point, and each incorrect choice zero points. Independent samples t-test was run to see if there is a significant difference between bilingual experimental group (Group A) and monolingual control group (Group B).

Adpositional system of Kurdish has prepositions just like in English as well as circumpositions, which might also facilitate the acquisition of prepositions because of the "pre-" part in the structure of circumpositions (e.g. ***li****....de* 'at'). Given that English prepositions *in* and *on* appear in the form of prepositions in Kurdish when they follow a copula and but in the form of circumpositions when they follow a lexical verb, the comparison of the items including the use of *in* and *on* with a copula or a lexical verb were made within each group. Paired samples t-tests were run to see if participants performed better in the items including the copula compared to items including a lexical verb for prepositions *in* and *on*.

4.3. Results

4.3.1. Group comparisons

The results of the independent samples t-tests indicated that the bilingual experimental group (Group A) significantly outperformed the monolingual control group (Group B) on all prepositions except for *to*. Overall comparisons of correct and incorrect answers between two groups revealed a significant difference between the bilingual experimental group and the monolingual control group, $t(65)= 2.796$, $p=.007$. Participants in Group A outperformed participants in Group B in recognition/comprehension of target prepositions. Table 4.1 below displays mean and standard deviations of two groups.

Table 4.1: Mean Scores and Standard Deviations of Group A and Group B for the comparison of total answers in Picture Description Task with Multiple Choices

	M	SD
Group A	.87	.33
Group B	.58	.49

Analysis of each preposition with means and standard deviations are given in the sections below.

i) Preposition 'IN'

An independent samples t-test was conducted to compare the performance of the Kurdish-Turkish bilingual experimental group (Group A) and the Turkish monolingual control group (Group B) concerning the comprehension and/or recognition of prepositions in the picture description task with multiple choices.

Table 4.2: Mean Scores and Standard Deviations of Group A and Group B for the use of ***in*** in Picture Description Task with Multiple Choices

	M	SD
Group A	.82	.20
Group B	.49	.44

The results presented in Table 4.2 for *in* demonstrated that the bilingual group significantly outperformed the monolingual group in the recognition and comprehension of preposition *in,* $t(65)= 3.994$, $p<.001$.

ii) Preposition 'ON'

Table 4.3: Mean Scores and Standard Deviations of Group A and Group B for the use of ***on*** in Picture Description Task with Multiple Choices

	M	SD
Group A	.83	.18
Group B	.53	.42

The results for *on* also revealed a significant difference between bilingual experimental group and monolingual control group, t(65)= 3.703, p <.001 (Table 4.3). Like *in, on* takes either the form of a preposition when it appears with a copula or circumposition when it appears with a lexical verb. The findings suggest that Kurdish-Turkish bilingual participants performed better with the knowledge of prepositions in their native language Kurdish, which presumably facilitated their comprehension of prepositions in their L3 English.

iii) Preposition 'AT'

Table 4.4: Mean Scores and Standard Deviations of Group A and Group B for the use of ***at*** in Picture Description Task with Multiple Choices

	M	SD
Group A	.80	.22
Group B	.50	.43

As for the choice of *at* in the picture description task with multiple choices, Kurdish-Turkish bilingual participants outperformed Turkish monolinguals, t(65)= 3.669, p <.001 (Table 4.4). This finding is unexpected since both Kurdish (circumposition) and Turkish (case marker) have different representations of *at* and this difference is not presumed to facilitate the use of target preposition *at*.

iv) Preposition 'BEHIND'

Table 4.5: Mean Scores and Standard Deviations of Group A and Group B for the use of ***behind*** in Picture Description Task with Multiple Choices

	M	SD
Group A	.85	.27
Group B	.55	.44

The results presented in Table 4.5 showed that there is a significant difference between Group A and Group B, t(65)= 3.280, p=.002 for the choice of preposition '*behind*'. The mean scores show that the participants in Group A performed better than those in Group B.

v) Preposition 'OVER'

Table 4.6: Mean Scores and Standard Deviations of Group A and Group B for the use of ***over*** in Picture Description Task with Multiple Choices

	M	SD
Group A	.82	.32
Group B	.50	.49

Independent samples t-test performed on the results of picture description with multiple choices by subjects (Table 4.6) revealed significant difference between Group A and Group B for the use of *over* with a t value of t(65)= 3.058, p=.003. This finding points to the facilitative effect of the L1 on the part of Kurdish-Turkish bilingual group since *over* is represented as a preposition in Kurdish (*li ser*).

vi) Preposition 'TO'

Table 4.7: Mean Scores and Standard Deviations of Group A and Group B for the use of ***to*** in Picture Description Task with Multiple Choices

	M	SD
Group A	.96	.17
Group B	.85	.35

Unlike the other prepositions, the findings of independent samples for the preposition *to* revealed no significant difference between Group A and Group B, t(65)= 1.684, p=.097 (Table 4.7). As *to* is represented either as a circumposition in Kurdish or a locative suffix which is very similar to the Turkish locative case marker *–(y)A*, Turkish monolingual and Kurdish-Turkish bilingual participants performed similarly in the picture description task with multiple choices.

4.3.2. Within Group Results

Comparison of the use of 'IN' and 'ON' with a Copula or a Lexical Verb

In addition to the comparisons made between groups, comparison of the of *in* and *on* with a copula or a lexical verb was carried out within groups. The underlying reason for this comparison is that Kurdish employs a preposition in the use of *in* and *on* with a copula and a circumposition when they are used with a lexical verb. The monolingual participants were expected to perform significantly better on prepositions *in* and *on* if the use of prepositions in their mother tongue (i.e. Kurdish) facilitates the acquisition, but the use of circumpositions does not. On the other hand, no difference between items with the two kinds of verbs was expected for Turkish monolinguals since in Turkish, *in* and *on* correspond to the case marker *–DA* in all uses.

Table 4.8: Mean Scores and Standard Deviations of Group A and Group B for the use of ***in*** with a copula or a lexical verb in Picture Description Task with Multiple Choices

	Group A		**Group B**	
	M	SD	M	SD
Copula	.94	.14	.52	.45
Lexical Verb	.70	.33	.45	.47

The results of a paired-samples t-test presented in Table 4.8 showed a significant difference for the comparison of copular and lexical uses of preposition *in* for the experimental bilingual group, $t(32)= 4.423$, $p<.001$. Yet, paired-samples t-test results indicated no significant difference between copular and lexical items including *in* for Group B, $t(33)= 1.852$, $p =.073$.

Table 4.9: Mean Scores and Standard Deviations of Group A and Group B for the use of ***on*** with a copula or a lexical verb in Picture Description Task with Multiple Choices

	Group A		**Group B**	
	M	SD	M	SD
Copula	.95	.11	.53	.46
Lexical Verb	.70	.33	.46	.47

Results concerning *on* for Group A also revealed a significant difference between copular and lexical use of *on* for Group A, $t(32)= 4.490$, $p<.001$, not for Group B (Table 4.9). However, no significant difference emerged for the use of *on* with a copula (M=.58, SD=.44) and the use of *on* with a lexical verb (M=.48, SD=.45) for Group B with a t value of $t(33)= 2.340$, $p =.075$.

4.4. Discussion of Results

The findings indicated that bilingual Kurdish-Turkish group is better than the monolingual Turkish group on all prepositions except for preposition *to*. Recall that Kurdish has either circumpositions and/or prepositions whereas Turkish has postpositions and/or case markers as the counterpart of English prepositions. Preposition *at* is the counterpart of circumposition *'li…de'* while prepositions *behind* (*li paş*) and *over* (*li ser*) take the form prepositions in Kurdish. The results showed that Turkish-Kurdish bilinguals outperformed Turkish monolinguals in using target prepositions. The findings are suggestive of L1 influence, which has a facilitative effect in third language acquisition process due to the similarities between the adpositional systems of Kurdish and English. It is the L1 that exerts primary cross-linguistic effect as we observe a facilitating effect in the L1 speakers of Kurdish compared to L1 speakers of Turkish. Ringbom (2007) similarly maintained that it is the similarities learners perceive or assume to exist between the languages that serve as the source for CLI. Thus, it is the L1 that facilitates comprehension and recognition

of English for the bilingual Kurdish participants.

Prepositions *in* and *on* take either the form of preposition or circumposition depending on the verb (copular vs lexical) they take. They appear as a preposition when they are used with a copula and appear as a circumposition when they take a lexical verb. The findings of within-group comparisons confirmed that knowledge of prepositions in L1 facilitated recognition and comprehension of English prepositions, which indicate that although circumpositions have a pre- and a post- part/component, the form of circumpositions do not seem to facilitate the acquisition to the extent to which prepositions do. So, the higher the level of similarity, the more facilitating effect we see. Cenoz (2005) and Ringbom (2005) similarly argued that when bi/multilingual language learners perceive a similarity between their L1, L2 and L3, this has a facilitative effect on the learning process of L3. As Kurdish speakers perceive and observe a similarity between their L1 and target L3 English, this facilitates their learning process. However, this was not the case for Turkish monolingual group in that Turkish employs either case marker –DA or postposition for all prepositions, so Turkish speakers did not perform better than Kurdish-Turkish speakers who also have bilingual advantage.

For the insignificant result between the two groups for the use *to*, the findings might suggest that the similarity between L1 (Kurdish) and L2 (Turkish) may have resulted participants in the use of target preposition *to* in English. Due to the similarity between the representation of *to* in L1 and L2, the participants may have hinged on both their L1 and L2 or an interaction of both, which resulted in no facilitation in English prepositions. Odlin and Jarvis (2004) have accordingly argued that language learners may even rely on multiple languages simultaneously they identify similarities between languages at their disposal.

CHAPTER 5

EXPERIMENT 2: THE TEDDY BEAR PICTURE DESCRIPTION TASK

5.1. Aim

The second off-line task involved controlled production of target prepositions in a picture description task. The purpose of the task was to find out whether the participants in each of the group can use the correct preposition when describing the position of items in the picture. The results of this task will enable us to infer whether the pattern of CLI in the acquisition of L3 English prepositions differs between comprehension and production.

5.2. Material and Method

Stimuli

This task consists of a colored picture with eight teddy bears, each a different color and marked with a different number, are positioned in different places in a room (see Figure 3). The participants were asked to indicate the positions of teddy bears by completing the eight sentences below the picture. The beginning of each sentence was provided for the participants and contained a reference to a teddy bear of a particular color. Since the position of each teddy bear required the use of a particular preposition (of the six investigated in this study), we were able to tell whether the participant used the correct preposition in the description. The task allows for both the use of target prepositions with a copula or a lexical verb. For instance, participants can either write '*The green teddy bear is on the bed*' or '*The green teddy bear is sitting on the bed*' (See Appendix E for teddy bear picture description task).

The task included eight sentences. Four of the sentences elicited prepositions *in* and *on* (Numbers 1 to 4) and one sentence aiming to elicit *at, behind, over,* and *to* each (Numbers 5-8). The reason for testing *in* and *on* twice is that these prepositions are of special interest, since they appear in the form of a preposition with predicative verbs

and in the form of a circumposition with lexical verbs.

Figure 5.1: Teddy bear picture description task

Look at the picture above and complete the sentences below. Where are the teddy bears in the room?

1. The black teddy bear ……
2. The yellow teddy bear …….
3. The green teddy bear……

Procedure

The task was administered in one session with two groups seated in two different classes. The participants were given colored handouts and given both written and oral instruction about how to complete the task. Their questions related to the task were answered. The participants completed the task in about 20 minutes on average.

Data Analysis

The data was coded in four categories: i) correct use of the preposition, ii) incorrect use of the preposition, iii) avoidance of the preposition, and iv) omission (i.e. no response to the task with a missing answer). Incorrect use was coded when a participant used a wrong preposition to describe the position of the teddy bear (e.g. *The yellow teddy bear is on the closet*). Avoidance of the preposition was coded when a participant provided an answer, but did not use a preposition (e.g. *The brown teddy bear is jumping*). A missing answer was coded when a participant did not answer the question at all.

After labeling all items for each participant, both quantitative and descriptive analyses of data were done to see the pattern of production between two groups of participants. As the first two questions tested the use of *in*, the results of the first two items were combined together. The same procedure was followed for preposition *on* since the following two items (Item 3 and 4) tested the use of *on*. The reason for the testing *in* and *on* two times is that they appear in the form of either a preposition or a circumposition depending on the verb used in the sentence. (Recall that the teddy bear picture description task did not limit the use of preposition with a predicate or a lexical verb.)

For the between-group comparison, independent samples t-test was run on each of the categories. In addition, a within-group analysis was carried out to examine the effect of the presence of prepositions in Kurdish on the use of English prepositions. As mentioned above, Kurdish has structural overlaps with English in some of the prepositions investigated in the present study. Two of these prepositions are *in* and *on*, which appear in the form of preposition when they are followed by a copula and in the form of a circumposition when they are followed by a lexical verb. A paired-samples t-test was also run between *in, on, behind, over*, and *to, at* to examine if there is an effect of the knowledge of prepositions in Kurdish on the performance of bilingual Kurdish group. If the structural identity between Kurdish and English plays a role in the acquisition of English prepositions, we expected Kurdish speakers to perform better at prepositions *in, on, behind, over,* which appear in the form of a preposition

than at prepositions *at* and *to,* which appear in the form of a circumposition in Kurdish.

5.3. Results

5.3.1. Group Comparisons

The results of independent samples t-test revealed a significant difference between bilingual and monolingual group for all prepositions except for *at* and *to*. Two groups used *at* and *to* similarly. Detailed analysis of each preposition is shown below.

i) Preposition 'IN'

The mean scores and standard deviations of all categories for the use of *in* are displayed in Table 5.1 below.

Table 5.1: Mean Scores and Standard Deviations of Group A and Group B for the use of ***in*** in Teddy Bear Picture Description Task

	Groups	***M***	***SD***
Correct Use	Group A	.60	.49
	Group B	.29	.46
Misuse	Group A	.12	.33
	Group B	.11	.32
Avoidance	Group A	.11	.32
	Group B	.06	.16
Omission	Group A	.07	.26
	Group B	.11	.28

Results of two items including *in* showed that there is a significant difference with bilingual experimental group (Group A) outperforming monolingual control group (Group B), $t(65)= 2.663$, $p =.010$. In addition to correct use, two groups were compared on misuse, avoidance, and omission rates. The results of misuse revealed no significant difference between two groups, $t(65)= 0.44$, $p <.965$. Yet, a significant

difference emerged with Group B's higher avoidance rate than Group A, t(65)= -2.066, p =.043). No significant difference was found between Group A and Group B with regard to omission rate, t(65)= -866, p =.638). Findings suggest that bilingual group used *in* more accurately than monolingual group in the controlled production task.

ii) Preposition 'ON'

Table 5.2: Mean Scores and Standard Deviations of Group A and Group B for the use of ***on*** in Teddy Bear Picture Description Task

	Groups	***M***	***SD***
Correct Use	Group A	.75	.43
	Group B	.35	.48
Misuse	Group A	.09	.29
	Group B	.23	.43
Avoidance	Group A	.03	.19
	Group B	.05	.23
Omission	Group A	.07	.26
	Group B	.11	.28

Results of two items related to the use of *on* also pointed to a significant difference between Group A and Group B, t(65)= 3.590, p <.001. Two groups did not differ significantly from each other for the misuse of target preposition, t(65)= -1.1602, p =.114). No significant difference was found between Group A and Group B in terms of the avoidance of target preposition, t(65)= -1.415, p=.162. Similarly, there was no significant difference between Group A and B for the omission of target preposition, t(65)= 0.54, p =.865. The findings related to use of *on* demonstrated that Group A whose adpositional system of L1 has preposition like in English have better performance in using the target preposition compared to Group B.

iii) Preposition 'AT'

Table 5.3: Mean Scores and Standard Deviations of Group A and Group B for the use of ***at*** in Teddy Bear Picture Description Task

	Groups	***M***	***SD***
Correct Use	Group A	.63	.48
	Group B	.48	.50
Misuse	Group A	.12	.33
	Group B	.15	.36
Avoidance	Group A	.15	.36
	Group B	.20	.41
Omission	Group A	.09	.29
	Group B	.20	.41

As for the independent t-test results for the use of *at*, there was not a significant difference between Group A and Group B, t(65) =1.609, p=.112. Two groups did not differ significantly in relation to misuse of *at*, too (t(65) =-306, p=.761). There was no significance between two groups in relation to avoidance rate, (t(65) =-573, p=.569) and omission rate (t(65) =-1.318, p=.192). The findings are indicative of similar performance of bilingual and monolingual groups for the use of *at*.

iv) Preposition 'BEHIND'

Results of *behind* (Table 5.4 below) revealed that Group A used target preposition significantly more accurately than Group B, t(65) =2.952, p=.004. For the misuse category, no significance was revealed between two groups, t(65) = -.809, p=.421. There was no significant difference between two groups with regard to avoidance (t(65) = -1.757, p=.084) and omission (t(65) = -1.684, p=.097) as well. The findings suggest that preposition *behind* as the counterpart of '*li paş*' in Kurdish was

used better by Group A than Group B.

Table 5.4: Mean Scores and Standard Deviations of Group A and Group B for the use of ***behind*** in Teddy Bear Picture Description Task

	Groups	***M***	***SD***
Correct Use	Group A	.84	.36
	Group B	.52	.50
Misuse	Group A	.06	.24
	Group B	.11	.32
Avoidance	Group A	.06	.24
	Group B	.20	.41
Omission	Group A	.03	.17
	Group B	.14	.35

v) Preposition 'OVER

Table 5.5: Mean Scores and Standard Deviations of Group A and Group B for the use of ***over*** in Teddy Bear Picture Description Task

	Groups	***M***	***SD***
Correct Use	Group A	.72	.45
	Group B	.47	.50
Misuse	Group A	.06	.24
	Group B	.14	.35
Avoidance	Group A	.12	.33
	Group B	.26	.44
Omission	Group A	.09	.29
	Group B	.11	.32

A significant difference emerged between Group A and Group B for the correct use of preposition *over*, t(65)= 2.185, p=.032. As for misuse, there was no significant difference between two groups, t(65) = -1.151, p=.254. No significant difference was found for avoidance (t(65)= -1.487, p=.142) and omission (t(65)= -.353, p=.725) of target preposition as well. The findings showed that the bilingual group had better performance in using target preposition as seen in Table 5.5 below.

vi) Preposition 'TO'

Table 5.6: Mean Scores and Standard Deviations of Group A and Group B for the use of ***to*** in Teddy Bear Picture Description Task

	Groups	***M***	***SD***
Correct Use	Group A	.66	.47
	Group B	.50	.50
Misuse	Group A	.09	.29
	Group B	.20	.41
Avoidance	Group A	.15	.36
	Group B	.23	.43
Omission	Group A	.09	.29
	Group B	.05	.23

The results of an independent t-test for preposition *to* revealed no significant difference for the correct use of target preposition between Group A and Group B, t(65) =1.382, p=.172. No significant difference emerged for other categories as well (misuse, t(65) = -1.318, p=.192, avoidance, t(65) = -.859, p=.394 and omission, t(65) =.493, p=.624). The findings suggest that bilingual Kurdish group did not differ from monolingual Turkish group for the use of *to* in limited production task.

5.3.2. Results Within Groups

A paired-samples t-test was also run between *in, on, behind, over*, and *to, at* to examine if there is an effect of the knowledge of prepositions in Kurdish on the performance of bilingual Kurdish group. If the structural identity between Kurdish and English plays a role in the acquisition of English prepositions, we expected Kurdish speakers to perform better at prepositions *in, on, behind, over,* which appear in the form of a preposition, than at prepositions *at* and *to,* which appear in the form of a circumposition in Kurdish. I compared the participants' score on prepositions *in, on, behind,* and *over* which appear as prepositions in Kurdish, with their score on prepositions *at* and *to*, which do not appear in the form of prepositions, but rather as circumpositions or a suffix added to the noun. For the correct use category, the results of a paired-samples t-test run on the items including these sets of prepositions indicated a significant difference for bilingual Group A ($t(32) = 4.884$, $p < .001$), with participants performing better on prepositions that are represented as prepositions in Kurdish. On the other hand, no significant difference was found for monolingual Group B for the correct use of compared prepositions, $t(33) = 1.537$, $p = .134$. Besides, no significant difference revealed for both the bilingual experimental group, ($t(32) = 1.632$, $p = .156$) and the monolingual control group, $t(33) = 1.238$, $p = .116$for the misuse category. No significant difference was found for avoidance (Group A; ($t(32) = 2.432$, $p = .110$), Group B; $t(33) = 1.846$, $p = .202$) and omission (Group A; ($t(32) = 1.680$, $p = .132$), Group B; $t(33) = 1.564$, $p = .145$) categories for two groups as well.

5.3.3. Descriptive Results

A descriptive analysis of data was also done to see the percentages of each category and to see a clearer picture of incorrect and avoidance by the participants. A descriptive analysis of data revealed by the teddy bear picture description task showed that participants of Group A had better performance in using prepositions *in, on, behind,* and *over*. However, participants of Group A and Group B had similar performance in using prepositions *at* and *to*. The percentages of each item for identified categories were shown in the following table to compare group

performances.

Table 5.7: The use of prepositions in teddy bear picture description task by Group A and Group B

Items	***Correct Use***		***Misuse***		***Avoidance***		***Omission***	
Groups	***G. A %***	***G. B %***	***G. A %***	***G. B %***	***G. A %***	***G. B %***	***G. A %***	***G. B %***
Item 1 - IN	78.8	50	3	11.8	9.1	23.5	9.1	14.7
Item 2 - IN	78.8	55.9	9.1	17.6	6.1	17.6	6.1	8.8
Item 3 - ON	93.9	50	3	14.7	3	26.5	0	8.8
Item 4 - ON	81.8	52.9	6.1	11.8	6.1	17.6	6.1	17.6
Item 5 – AT	63.6	44.1	12.1	14.7	15.2	20.6	9.1	20.6
Item 6 - BEHIND	84.8	52.9	6.1	11.8	6.1	20.6	3	14.7
Item 7 - OVER	72.7	47.1	6.1	14.7	12.1	26.5	9.1	11.8
Item 8 - TO	66.7	50	9.1	20.6	15.2	23.5	9.1	5.9

As seen in the table 5.7 above, Group A used *in* more accurately (78.8% for item 1 and item 2) while Group B had poorer performance (50% for item 1 and 55.9% for item 2) in using target preposition *in*. Participants in Group B (11.8%) misused target preposition more in comparison to Group A (3%) for the first item. For the second item, Group A had 9.1% of misuse whereas Group B had 17.6% of misuse. Bilingual participants used *on* and *over* instead of *in*. For instance, '*The black teddy bear is in the toy box'* is replaced by the sentence *'The black teddy bear is on the box*'. They even use *over* in some cases by saying *'The black teddy bear is over the box*'. Monolingual participants used *at* or *on* instead of *in.* They came up either with *'The yellow teddy bear is on the clothes wardrobe*' or *'The yellow teddy bear is at the cupboard*'. For avoidance, Group A had 9.1% and 6.1% for item 1 and 2. Group B avoided using *in* with 23.5% and 17.6%. Bilingual participants avoided using target

preposition *in* and came up with the following sentences: *'The black teddy bear is smiling', 'The black teddy bear is sitting', 'The black teddy bear is looking'*. Monolingual participants similarly wrote the following sentences: *'The black teddy bear has a red tie', 'The black teddy bear is watching TV', 'The black teddy bear is happy'*. As for omission, Group A did not respond to the items requiring the use of *in* with a percentage of 9.1% for item 1 and 6.1% for item 2. Group B had higher percentage of omission (14.7% for item 1 and 8.8% for item 2). In short, two items testing the use of *in* were used more accurately by the bilingual participants in Group A and misused, avoided, and omitted more by the monolingual participants in Group B.

For the correct use of *on,* participants differed more greatly compared to the correct use of *in*. Group A had better performance (93.9%) compared to Group B (50%) for the third item related to the use of *on*. For the fourth item, Group A had 81.8% of correct use whereas Group B had 52.9% of accuracy rate for the use of target preposition. With regard to misuse percentages, two groups differ greatly as well. Group A misused *on* 3% for item 3 and 6.1% for item 4 whereas group B had 14.7% and 11.8% of misuse for the same items. Some examples of misuse for item 3 by bilingual group are as follows: *'The green teddy bear is sitting over the bed', 'The green teddy bear is in the bed', 'The green teddy bear is thinking in the bed',* The examples of misuse for item 4 include *'The purple teddy bear is next to the window', 'The purple teddy bear is over the table'*. Thus it can be said that Kurdish-Turkish bilingual group used *over*, *in* and *next to* instead of *on*. The monolingual control group used *in* and *at* instead of target preposition *on*. Turkish monolinguals wrote the following sentences for item 3: *'The green teddy bear is looking at the brown teddy bear', 'The green teddy bear sleeps in the bed', 'The green teddy bear is looking at us'*. They came up with the following sentences for item 4: *'The purple teddy bear is at the desk', 'The purple teddy bear is close window'*. Two groups had greater difference in avoidance percentages. Group A avoided using target preposition with a percentage of 3% for 6.1% for item 3 and 4 while Group B avoided using it with 26.5% and 17.6% for item 3 and 4. Some of the responses given by the bilingual participants are: *'The green teddy bear is ready for sleep', 'The green teddy bear is thinking', 'The*

green teddy bear is going to somewhere', 'The purple teddy bear love someone', 'The purple teddy bear is not happy'. The responses given by the monolingual participants do not differ from the ones given by the bilingual participants. Yet, they avoided using target preposition more than the bilingual participants by describing the given teddy bears. Some of the responses given by the monolingual control group for item 3 are: *'The green teddy bear is big', 'The green teddy bear has dreams', 'The green teddy bear think his father', 'The green teddy bear is relax'*. The answers given to item 4 include *'The purple teddy bear is small, 'The purple teddy bear has a heart'*. In terms of the omission of target preposition, the bilingual participants in Group A had no omission for item 3 and 6.1% of omission for item 4. Monolingual participants in Group B, on the other hand, did not give any response to item 3 with a percentage of 8.8% and had 17.6% of omission for item 4. Overall results revealed that the participants in Group A had better performance in using target preposition in comparison to the participants in Group B.

The results for *at* showed that two groups had similar performance in their use of this preposition in the task. The participants in Group A (63.6%) did not differ greatly from Group B (44.6%) in the correct use of target preposition. Group B (14.7%) misused target preposition more than Group A (12.1%). Some examples of incorrect uses of *at* by bilingual participants in Group A are: *'The red teddy bear is in the train', 'The red teddy bear is near train', 'The red teddy bear is in the station'*. The answers given by the monolingual participants in Group B are similar to the ones given by bilinguals (*'The red teddy bear is next to train', 'The red teddy bear is waiting in station' , 'The red teddy bear is near the train station')*. Avoidance rate did not differ much between Group A (15.2%) and Group B (20.6%). Bilinguals described teddy bear while avoiding target preposition by writing the following sentences: *'The red teddy bear is traveling', 'The red teddy bear is going to a trip', 'The red teddy bear is walking'* Monolingual participants similarly described the red teddy bear instead of describing its location (e.g. *'The red teddy bear is happy', 'The red teddy bear walks', 'The red teddy bear is going')*. As for the omission rate, the difference between two groups was much more compared to other categories (Group A, 9.1% and Group B, 20.6%). The results of *at* showed that this preposition is used less

accurately compared to other target prepositions.

The participants in Group A (84.8%) outperformed the participants in Group B (52.9%) for the correct use of *behind.* Group A also misused (6.1%), target preposition less than participants in Group B (11.8%). Bilinguals used target preposition inaccurately by using *near* and *front.* The misused forms are *'The blue teddy bear is near chair', 'The blue teddy bear is front of the bed', 'The blue teddy bear is near bed' A*s well as similar answers given by bilinguals, some examples of misuse by the monolingual participants are: *'The blue teddy bear is near yellow teddy bear', 'The blue teddy bear is walking near chair.'* There is a greater difference for avoidance rate between Group A (6.1%) and Group B (20.6%). Bilinguals avoided target preposition by responding to the task in the following ways: '*The blue teddy bear is standing up.', 'The blue teddy bear is big'* Monolinguals in Group A came up with the following responses: *'The blue teddy bear is fat,' 'The blue teddy bear is looking', 'The blue teddy bear is going'* Two groups differ greatly for the omission rate, too (Group A, A3% and Group B, 14.7%,). The participants in Group A had better performance than the participants in Group B for the use of *behind*.

Descriptive results of item 7 related to the use of preposition *over* indicated that the participants in Group A (72.7%) used target preposition more accurately than the participants in Group B (42.1%). Group B (14.7%) misused *over* more than Group A (6.1%) did. The examples of misuse by bilinguals in Group A included *on* (e.g. *'The brown teddy bear is jumping on the box' 'The brown teddy bear is on toy box')*. Monolinguals used *on* and *in* instead of *over* (e.g. *'The brown teddy bear is flying on the box', 'The brown teddy bear is jumping in box', 'The brown teddy bear is jumping in the room')*. Avoidance rate also differed greatly between two groups (Group A (12.1%) and Group B (26.5%). Some examples of avoidance by bilingual participants are: *'The brown teddy bear jumps', 'The brown teddy bear is running', 'The brown teddy bear always runs'.* Monolinguals avoided target preposition in the same way by responding to the item with *'The brown teddy bear is going', 'The brown teddy bear is running fast', 'The brown teddy bear jumps'.* As for the omission rate, it seems that Group B (11.8%) omitted target preposition more than Group A (9.1%). Overall,

Group A had better performance than Group B for the use of target preposition *over* while Group B misused, avoided and omitted target preposition more.

The results of the last item including *to* showed that Group A had better performance than Group B. The participants in Group A (66.7%) used *to* more accurately than Group B (50%). For the misuse rate, Group B (20.6%) had poorer performance in using target preposition accurately compared to Group A (9.1%). Among the examples of misuse by bilingual participants in Group A are *'The pink teddy bear stands in the door', 'The pink teddy bear is going out'*. Inaccurate responses given by monolingual participants include the following: *'The pink teddy bear is next to door,' ,'The pink teddy bear is near the door' , 'The pink teddy bear is walking in the room'*. Group A avoided using target preposition with a percentage of 15.2% while Group B had 23.5% of avoidance rate. Examples of avoidance by bilinguals include actions of the pink teddy bear (e.g. *'The pink teddy bear is going', The pink teddy bear is walking' , 'The pink teddy bear has tickets'* . Monolingual participants came up with similar responses by saying that *'The pink teddy bear is running', 'The pink teddy bear is excited', 'The pink teddy bear is happy'*. In contrast to other findings, participants in Group A (9.1%) omitted target preposition more than Group B (5.1%).

5.4. Discussion of Results

The findings indicated that the bilingual Kurdish-Turkish participants had better performance than the monolingual Turkish participants in using all prepositions except for *at* and *to* in teddy bear picture description task.

The reason why Turkish-Kurdish bilingual participants were better at using target prepositions *in, on, over* and *behind* is that these prepositions are represented as prepositions in Kurdish which has structural overlaps with the adpositional systems of English. This overlap is presumably the source of facilitation for the bilingual Kurdish-Turkish learners of English. The findings are suggestive of L1's facilitative effect on the production of target prepositions as well as comprehension and recognition of prepositions, which in turn suggests that bilingual participants have better competence and performance in relation to use of prepositions compared to monolingual

participants. The findings were corroborated by the within-group results, which suggest that even though *to* and *at* are circumpositions, their pre- part is not acting as a facilitating factor. This suggests that the transfer is caused by more than just linear order but more of a one-to-one correspondence in terms of structure, i.e, prepositions in Kurdish and English.

Descriptive results revealed a detailed picture of the use of target prepositions. In particular misuse and avoidance categories showed that L1-Turkish participants used *in* and *at* instead of each other as revealed by findings of previous studies (Çabuk, 2009; Evin, 1993). The reason for the picture emerged is that *in, on, at* all map onto locative suffix -DA in Turkish, which presumably resulted in their use instead of each other. Interestingly, Turkish-Kurdish bilingual participants used *on* and *over* instead of each other which points to similar representation of these preposition in Kurdish. On (*li ser* when used with a copula and *li ser….de* when used with a lexical verb) is similar to *over* (*li ser*) in Kurdish.

CHAPTER 6

EXPERIMENT 3: SELF-PACED READING TASK

6.1. Aim

The on-line task in this study was carried out in the form of a self-paced reading task, in which learners were asked to read sentences that included prepositions. The aim of the self-paced reading task (SPRT) was to examine the processing of target prepositions by bilingual learners of L3 English with the aim of determining whether the results of off-line tasks regarding the differences between the two groups would persist in a task that measures real-time processing.

6.2 Material and Method

Stimuli

Self-paced reading task is an on-line computerized method of recording reading time for each word in a sentence. In this task, experimental stimuli were sentences including target prepositions, presented in the moving window manner, in which a key press causes the first segment of a sentence to appear on the screen together with a series of dashes masking the remainder of the stimulus. When the participant is ready to continue, a second key press reveals the next segment and remasks the previous one, then the next, and so on until the entire sentence has been read. Each sentence was followed by an end-of-trial question in order to impose the comprehension of the sentence and to avoid mechanical pressing of the key. This technique has been widely used in on-line processing studies in SLA (e.g. Felser et al., 2003; Juffs and Harrington, 1995, 1996; Marinis et al., 2002; Papadopoulou & Clahsen, 2003, among others).

The time taken to press the space button to move onto the next segment gives an indication of the processing at each stage. Marinis (2003) noted that reading time gives measure of how fast subjects comprehend the sentence on-line as it unfolds. Reading

time data, as a specific class of reaction times (RTs) (i.e., response times or response latencies) at particular positions in a sentence are interpreted with the goal of drawing inferences about the cognitive processing of language (Marinis, 2010). Reading time gives an idea of which points in the sentence are difficult to process and at which points the reader encounters an unexpected word or phrase (Marinis, 2003). Thus, relatively longer reading times are taken as indications of processing difficulty which could be related to the ungrammaticality of the sentence, violation of an expectation, or a reanalysis process (Just, Carpenter & Wooley, 1982, cited in Marinis, 2010). Faster reading times are interpreted as a sign that facilitation occurred (Jegerski, 2014).

An example of the experimental stimuli is the following:

1. The ____ ____ ____ ____ ____ ____ ____ .
2. ____ man ____ ____ ____ ____ ____ ____ .
3. ____ ____ is ____ ____ ____ ____ ____ .
4. ____ ____ ____ in _____ _____ _____ ____.
5. ____ ____ ____ ____ the _____ ____ ____.
6. ____ ____ ____ ____ ____ garden ____ ____.
7. ____ ____ ____ ____ ____ ____ right ____.
8. ____ ____ ____ ____ ____ ____ ____ now.

In the task, each experimental sentence was divided into 8 segments and each segment contained only one word. The first region (Region 1) in all sentences starts with the definite article and the second region contains a noun following this definite article. The third region includes the verb (a copula or a lexical verb). The fourth region contains the target preposition, which is followed by the definite article in Region 5 and a noun in Region 6 to form the prepositional phrase. The last two regions (Regions 7 and 8) contain time adverbials (e.g. *right now* in the example above). After the final region was displayed, the next button press brought the end-of-trial question to the screen.

The critical region in the task was Region 6, which contained the noun following the definite article after the target preposition (these nouns were part of the prepositional phrase and were either compatible or incompatible with the preceding preposition). Across the experimental stimuli, these nouns were matched for frequency and length. Their word length ranged from 4 to 7 segments, and the mean length of all words in each experimental list was 5.5 segments. All the nouns used in Region 6 were chosen from SUBTLEX-US and were matched for frequency by relying on Zipf values of SUBTLEX-US (Zipf values of SUBTLEX-US, Brysbaert & New, 2009 and Van Heuven, Mandera, Keuleers, & Brysbaert, 2014).[20] The mean frequency of the nouns appearing in the prepositional phrases was 4.8 per million and ranged from 4.3 to 5.4.

Besides the nouns in the prepositional phrases, time adverbials in Regions 7 and 8 were also matched for frequency and length. This was done because of the possible spillover effect, in which the processing difficulty in a particular region shows up or persists into the region(s) following the critical region. The word length for Region 7 ranged between 4 and 5 (words used in this region are either *right* or *last*) and the mean length of this region for each list was 4.3. The mean frequency of both these words is 4.9 (frequency of *right* 5.3 is and frequency of *last* is 4.5). The mean length of all words that follow *last* and *right* was 4.3and the word length in Region 8 ranged between 3 and 5 (night, now, week, year). Frequencies of the words in Region 8 are the following: now (5.7), night (4.9), week (5.9), year (6.1).

The self-paced reading task consisted of a total of 72 stimuli, half of which constituted experimental items while the other half were fillers. The purpose of using fillers or distractors was to obscure the critical items and thus the specific research objectives from participants (Jegerski, 2014). Fillers used in this study included sentences with grammatical and ungrammatical use of indefinite article *a/an* and made 50% of the data set presented to the participants (e.g. The boy gave a great concert last night). Filler sentences were dispersed among experimental sentences. These

[20] All the words are taken from the list of high-frequency words with frequencies of 10 per million words and higher. These high-frequency words also rank among 2000 most frequent words in New Service List, which is a second language corpora, Nation, 2004; 2006).

distractors are included in the stimuli to minimize task effects, like repetition effects or unnatural processing strategies, in which the structure of sentences (prepositional phrase) becomes predictable.

Of the 36 experimental items, there were 6 items for each of the investigated prepositions (*in, on, at, behind, over, to*). Three of these 6 items were sentences with a copular verb, and the remaining 3 included sentences with a lexical verb. The reason for the variation between the copula and the lexical verb is that for certain prepositions (*in, on*) Kurdish consistently employs prepositions with copulas and circumposition with lexical verbs. Comparison of the participants' results on the two kinds of verbs with *in* and *on* would inform the question of whether circumpositions in L1 facilitate the acquisition of prepositions in L3 at all and if so, do they do so to the same extent as prepositions do.

Procedure

The SPR task was administered to monolingual and bilingual groups in different sessions on the same day. Before the experiment was conducted, a pilot study with ten participants who were not included in the experiment enabled us to revise the stimuli, make minor changes to the items and finalize the design of the SPR task. After piloting, the instructions for the task were reorganized and simplified so that the informants could move through instructions step by step. Minor mistakes related to items like spelling and punctuation were corrected. Moreover, more practice items were added to the SPR task to make sure that the informants become familiar with the task before they move onto the experimental items. The SPR experiment was conducted in the computer laboratory of the school. The participants were welcomed in the lab one by one by the teachers. The consent form for the participation of were taken from their parents with parental consent form (See Appendix B for parental consent form). The informants were also asked to read and sign the informed formed consent form, which was prepared to give information about the study (See Appendix B for informed consent form). All the participants were seated in front of a computer screen and oral instructions for the SPR task were given to them at the beginning of the experiment. If the participants had any questions about the instructions and procedure, the teachers

gave further clarifications in Turkish. The researcher was in contact with the teachers during the sessions in case any problem pops up.

Before the session started a "+" sign appeared in the center of the screen as a fixation mark. As soon as the participant pressed the space bar, the fixation sign disappeared and the button press caused the first word of a sentence to appear together with a series of dashes masking the remainder of the stimulus. After each item in the experiment, there was an end-of-trial question ("Is the sentence grammatically correct?") that immediately appeared after each sentence in order to ensure that the participants keep concentrating. These 'Yes/No' questions were not presented word-by-word, but appeared on the screen as a whole sentence. In order to answer these questions, the participant was required to press one of the "F" and "J" keys just above the space bar. The "F" key represented "YES" while "J" key represented "NO". The informants were asked to choose one of the keys after reading each sentence in the experiment. The stimulus texts were presented in 14-font Arial in black letters on a white background, and the recording of reaction times and responses were recorded by Ibex farm software.[21]

The SPR experiment started with 6 practice items to allow participants to familiarize themselves with the task. Participants were instructed to press a "Continue" button to move onto the experiment after reading the instructions. Then, the experimental items were presented to the subjects in a single uninterrupted session. The experimental items were distributed across three counterbalanced presentation lists using a Latin Square design, to ensure that each participant would see each experimental sentence only once. The experimental sentences were mixed with the fillers and pseudo-randomized to avoid sequences of prepositions. The stimulus sentences were presented word by word on a desktop screen through online Ibex farm software and participants were given the link to the experiment website.

Once participants finished the task, clicking on a 'Submit' button at the bottom of the last page would submit their answers to the database. There was no time limit

[21] Ibex farm (formerly 'webspr') is an online tool for running behavioral psycholinguistic experiments. Alex Drummond created the tool, which runs on a Python GGI script.

for this task. At the end of the study, any questions that the participants had were answered and they were given more detailed information about the study. The participants who were interested in receiving an e-mail with the results were invited to write down their contact information on a post-experiment information list. Overall, a complete session for one participant took about 30-40 minutes.

Data Analysis

Data analysis of the SPR task was carried out in three steps. First of all, the data collected via Ibex farm were transferred into Excel sheets. After the transfer of data into Excel sheets, data trimming was carried out as the next step of data analysis. More specifically, the outliers were excluded from the analysis of data in order to reduce the effects of outliers on the calculated average and to increase the power of parametric tests that will be run on the data. An absolute cut-off method was employed in the process of the identification of outliers (Keating & Jegerski, 2015; Marinis, 2010). The low-cut point was established as 200 ms for the reading times (RTs) since reading times of about 100-200 ms, which are quite rare, are assumed not to reflect natural reading time (Jegerski, 2014; Keating and Jegerski, 2015). Likewise, it is reported that outlying high values are designated in the range of 2000-6000 ms depending on the length of the stimulus region (Keating & Jegerski, 2015). It is unlikely that reading times are above 3000 msin this study if the informants do not have loss of concentration or there are some other interfering factors. Thus, the high-cut point was set at 3000 ms. All data trimming procedures resulted in the removal of 2.1% of the data of the bilingual experimental group and 2.4% of the data of the monolingual control group. After the outliers were identified, the missing values were replaced with the mean value of that particular region.

Marinis (2010) maintains that RT data are often not normally distributed because there is a limit as to how fast participants can press the button, so the data are positively skewed. A log transformation is what is used to transform the data prior to the analysis (e.g. Jegerski, et al., 2016; Roberts & Felser, 2011). Once data trimming was carried out, all raw reading times were logged to normalize the data. After the log transformations, aggregate means were calculated and the parametric tests were

performed on these means.

As the next step, descriptive statistical analysis of data was done so as to calculate the mean reading times and standard deviation values obtained from two groups of participants (bilingual experimental group and monolingual control group). Finally, independent-samples t-tests were run on the data for critical and post-critical regions to find out whether or not the two group's reading times differed significantly for the use of target prepositions. In order to determine whether each participant group's reading times differed significantly across the use of prepositions that appear with a copular verb or a lexical verb, paired samples t-test was run for each region of interest. Moreover, the analysis of the post-stimulus end-of-trial question also done to see whether the bilingual experimental group performed better than the monolingual control group in judging grammaticality of target prepositions.

For the self-paced reading task, all items were analyzed regardless of whether the post-stimulus end-of-trial question was answered correctly since in the present study, the incorrect answer to these questions did not necessarily indicate the lack of concentration, but may have reflected the insufficient knowledge of the use of English prepositions by the participants. We analyzed participants' reading times for both the critical PP region (the point at which the experimental conditions started to diverge) and the post critical segment, where spill over effects can be observed. The analysis of the post critical segment is necessary given that the processing of a critical region in a sentence often times continues or "spills over" onto the words immediately following the critical region (e.g., Rayner and Duffy, 1986).

6.3 Results

6.3.1. Group Comparisons

Before the analysis of each preposition and its comparison between groups, the analysis of the post-stimulus end-of-trial question for two groups is carried out with independent-samples t-test to find out whether the bilingual experimental group performed better than the monolingual control group in judging grammaticality of target prepositions. The results revealed that the bilingual experimental group (Group

A) outperformed the monolingual control group (Group B) in judging grammaticality of target prepositions in the SPR task. They significantly rated the questions accurately with a t value of t(65) =2.347, p=.022. Group A was better in in rating ungrammaticality than Group B as well, t(65) =2.027, p=.047. [22] A detailed analysis of each prepositions is given in the section below.

Preposition 'IN': The Use of IN with a Copula versus the Use of IN with a Lexical Verb

To determine whether or not the two groups' reading time patterns differ across the experimental conditions, we conducted independent-samples t-tests for all regions including the critical NP region (the point at which the experimental conditions started to diverge) and the post-critical sentence segments that included time adverbials. The tests were conducted on the logged mean reading times. The results of raw mean reading times for the use of *in* with a copula are shown in Table 6.1 below (Standard deviations are given in brackets). Recall that Kurdish uses a preposition after the copular verb and a circumposition after the lexical verb.

Table 6.1: Raw mean reading times and SDs (in brackets) in milliseconds per group for the use of preposition 'IN' with a copula

Region	R1	R2	R3	R4	R5	R6	R7	R8
	The_1	$Subject_2$	is_3	$Prep_4$	The_5	$Noun_6$	Time adv_7	Time adv_8
Group A	470 (132.44)	641 (164.02)	495 (75.11)	556 (141.72)	557 (66.20)	740 (96.72)	836 (110.96)	1404 (339.27)

[22] The mean and standard deviations of rating grammatical items for Group A (M=81 SD=39) and Group B (M=55 SD=50). The mean and standard deviations of rating ungrammatical items for Group A (M=78 SD=41) and Group B (M=55 SD=50).

Group B	482 (79.02)	665 (136.11)	497 (75.28)	618 (147.10)	547 (60.65)	874 (80.06)	945 (102.41)	1498 (304.32)

The results of the raw mean reading times point to a difference in the critical region (Region 6) and post-critical regions (Region 7 and 8), which were read faster by the bilingual experimental group. Accordingly, an independent t-test results indicated a significant difference between Group A and Group B for the critical Region 6 (the noun in the PP), $t(65) = -6.037$, $p < .001$. A significant difference emerged also in Region 7, where the spillover effect was expected, $t(65) = -4.68$, $p < .001$. The groups also differed in Region 8, where the longer reading time is uninformative about the spillover effect, $t(65) = -2.827$, $p = .006$.

The findings show that Group A read the critical parts of the items including the preposition *in* with the copula in shorter time than Group B, which can be interpreted as the facilitation effect for bilingual participants due to the similarity between L1 and L3. Figure 1 below summarizes findings. As seen in Figure 6.1, difference between raw mean reading times of bilingual experimental group (Group A) and monolingual control group (Group B) started to emerge in Region 6 and spread onto the following two regions.

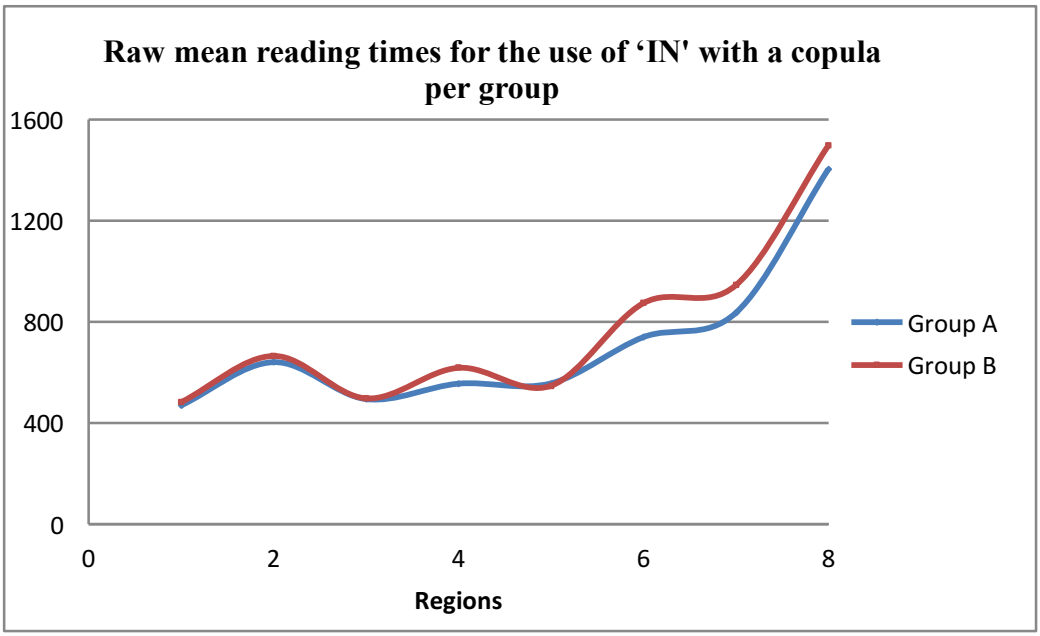


Figure 6.1: Raw mean reading times for the use of ***in*** with a copula per group (in Milliseconds)

To find out whether there is a difference between participants of two groups in terms of the use of *in* with a lexical verb, analysis of raw mean reading times for the use of *in* with a lexical verb was conducted and the results of raw mean reading times are shown in Table 6.2 below.

Table 6.2: Raw mean reading times and SDs (in brackets) in milliseconds per group for the use of 'IN' with a lexical verb

Region	R1	R2	R3	R4	R5	R6	R7	R8
	The_1	$Noun_2$	$Verb_3$	$Prep_4$	The_5	$Noun_6$	Time adv_7	Time adv_8
Group A	475 (51.81)	601 (129.00)	518 (111.75)	590 (110.76)	634 (69.02)	873 (76.81)	929 (82.71)	1567 (220.28)
Group B	480 (64.11)	651 (133.75)	496 (114.31)	650 (124.78)	646 (72.39)	858 (85.00)	954 (86.12)	1476 (275.26)

Results of an independent-samples t-test showed that there is no significant difference between Group A and Group B in the critical Region 6 (t(65) =.788, p=.433) or the post-critical regions 7 (t(65) =-1.240, p=.219) and 8 (t(65) =1.644, p=.105). These findings showed that bilingual participants performed in the same way as monolingual participants on items containing *in* with a lexical verb. Figure 6.2 below displays raw mean reading times for Group A and Group B. As seen in Figure 6.2, participants in two groups have overlaps in their reading times for lexical use of *in*.

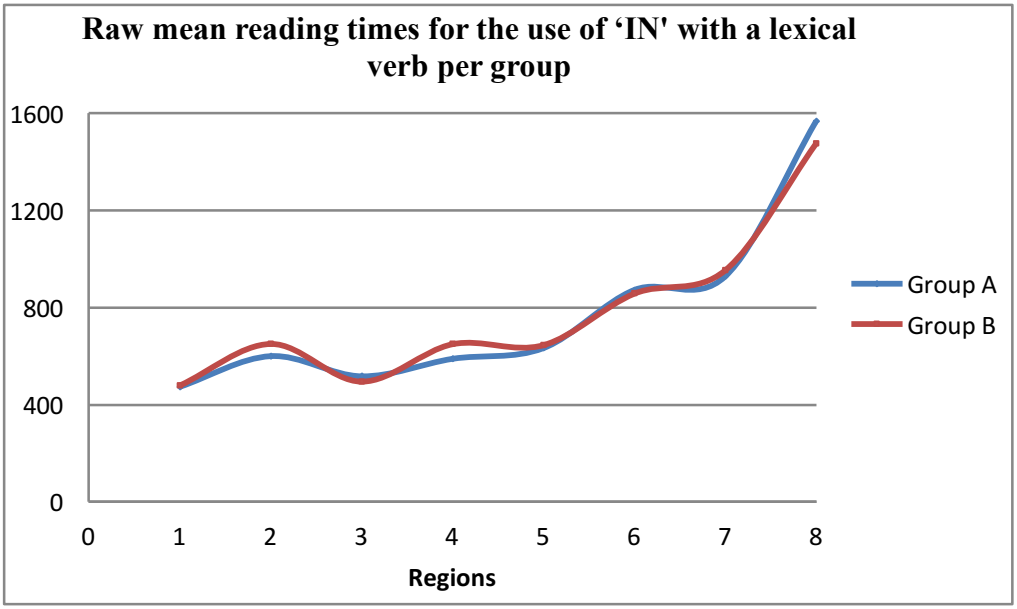


Figure 6.2: Raw mean reading times for the use of ***in*** with a lexical verb per group (in Milliseconds)

Ungrammatical 'IN': The use of IN with a Copula versus The use of IN with a Lexical Verb

In addition to the analysis of *in* for the grammatical items, we examined ungrammatical items to find out whether participants of bilingual experimental (Group A) and monolingual control (Group B) groups differ in reading time of the ungrammatical items. Raw mean reading times and standard deviations showed response latencies for participants in bilingual group for the use of *in* with a copula. Table 6.3 below displays raw mean reading times of the eight regions of the statements including ungrammatical use of *in* with a copula.

Table 6.3: Raw mean reading times and SDs (in brackets) in milliseconds per group for UNGRAMMATICAL use of 'IN' with a copula

Region	R1	R2	R3	R4	R5	R6	R7	R8
	The_1	$Noun_2$	$Verb_3$	$Prep_4$	The_5	$Noun_6$	Time adv_7	Time adv_8
Group A	472 (123.09)	659 (149.15)	524 (125.44)	812 (147.69)	723 (117.70)	998 (207.35)	893 (67.28)	1858 (427.66)
Group B	476 (65.13)	712 (112.27)	475 (115.66)	838 (115.17)	752 (93.37)	878 (98.21)	814 (91.65)	1565 (456.15)

Results of an independent-samples t-test showed that bilingual group started to spend longer time reading ungrammatical items including the use of *in* with a copula. The results revealed a significant difference in the first critical Region 6 between Group A and Group B, $t(65) = 2.950$, $p = .004$. Similarly, there was a significant difference in the post-critical Region 7 ($t(65) = 3.985$, $p < .001$) and final Region, $t(65) = -2.778$, $p = .007$. Relatively longer reading times by bilingual group are taken as an indication of processing difficulty which could be related to the ungrammaticality of the sentence, violation of an expectation, or a reanalysis process (Just, Carpenter and Wooley, 1982, cited in Marinis, 2010). The findings suggest that bilingual participants noticed ungrammaticality of the use of the target preposition and this slowed them down. In other words, it can be concluded that the participants in the bilingual group reacted to the unexpected use of *in* with a copula by slowing down in processing ungrammatical items. Figure 6.3 below summarizes raw mean reading times of two groups.

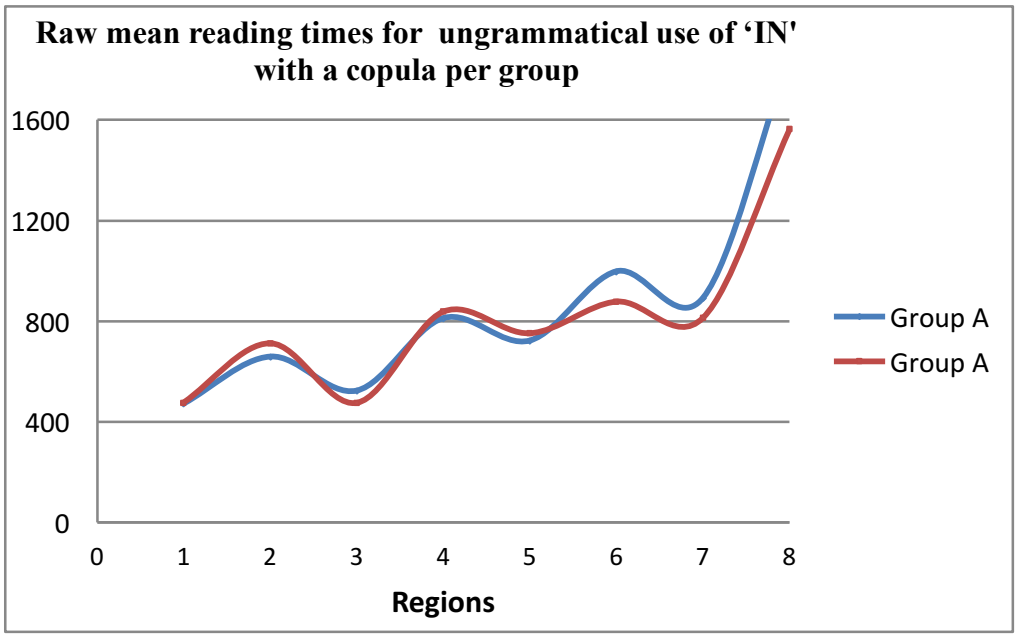


Figure 6.3: Raw mean reading times for ungrammatical use of ***in*** with a copula per group (in Milliseconds)

Moreover, analysis of raw mean reading times for ungrammatical use of *in* with a lexical verb was carried out to see whether two groups differ in processing ungrammatical lexical items. Table 6. 4 displays raw mean reading times of the eight regions of the statements including the ungrammatical use of *in* with a lexical verb.

Table 6.4: Raw mean reading times and SDs (in brackets) in milliseconds per group for UNGRAMMATICAL use of 'IN' with a lexical verb

Region	R1	R2	R3	R4	R5	R6	R7	R8
	The_1	$Noun_2$	$Verb_3$	$Prep_4$	The_5	$Noun_6$	Time adv_7	Time adv_8
Group A	452 (81.47)	632 (145.23)	544 (131.36)	528 (82.62)	461 (52.53)	807 (91.58)	877 (115.63)	1487 (158.34)
Group B	493 (120.27)	677 (111.97)	550 (131.58)	572 (80.77)	442 (53.20)	834 (76.16)	918 (106.93)	1531 (122.3)

The results of an independent-samples t-test revealed no significant difference in the first critical region (Region 6, noun in the PP) between Group A and Group B, t(65) =-1.361, p=.178. Similarly, no significant differences emerged in the post-critical Region 7, t(65) =-1.593, p=.116 and final region (Region 8) t(65) =-1.348, p=.182. The findings suggest that Group A read target experimental statements in the same way as Group B did and therefore there is no difference in the processing of the experimental items including the ungrammatical use of *in* with a lexical verb.

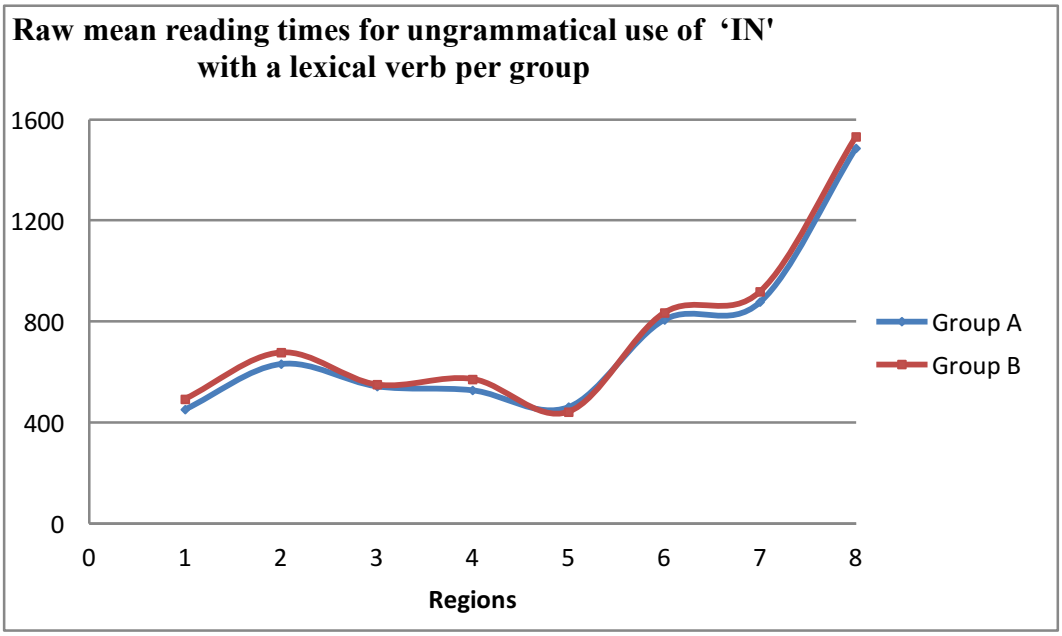


Figure 6.4: Raw mean reading times for ungrammatical use of ***in*** with a lexical verb per group (in Milliseconds)

Preposition 'ON': The use of ON with a Copula versus The use of ON with a Lexical Verb

Table 6.5 shows raw mean reading times of the use of *on* with a copula with their standard deviations in brackets.

Table 6.5: Raw mean reading times and SDs (in brackets) in milliseconds per group for the use of 'ON' with a copula

Region	R1	R2	R3	R4	R5	R6	R7	R8
	The_1	$Noun_2$	$Verb_3$	$Prep_4$	The_5	$Noun_6$	Time adv_7	Time adv_8
Group A	647 (67.40)	619 (93.34)	524 (129.37)	487 (122.59)	525 (96.24)	715 (129.72)	865 (111.58)	1184 (98.43)
Group B	648 (59.69)	622 (99.16)	554 (93.85)	424 (107.68)	554 (93.85)	801 (123.57)	930 (117.63)	1449 (358.59)

Results of an independent t-test indicated a significant difference between Group A and Group B for critical Region 6 (noun in the PP) ($t(65) = -2.856$, $p = .006$), Region 7, ($t(65) = -2.230$, $p = .026$), and Region 8, ($t(65) = -4.075$, $p < .001$). Group A read items including the use of *on* with a copula in shorter time than Group B. The findings are line with the findings obtained for the use of *in* with a copula. Figure 6.5 below gives a summary of the results.

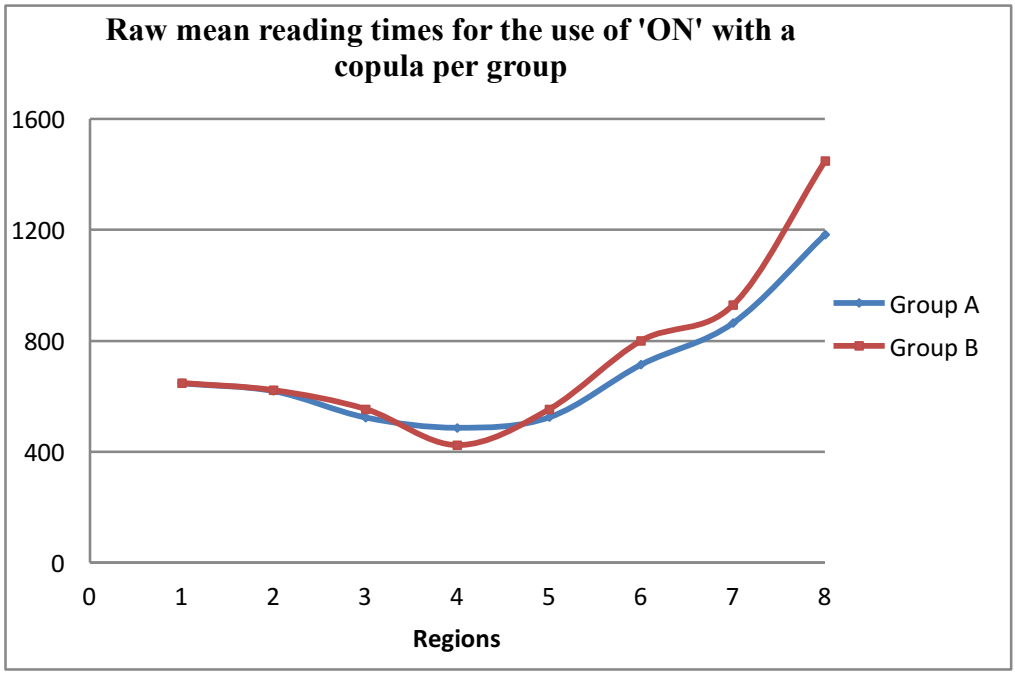


Figure 6.5: Raw mean reading times for the use of ***on*** with a copula per group (in Milliseconds)

Raw mean reading times were also compared for the use of *on* with a lexical verb to whether participants differ in processing the use of *on* with a lexical verb, which is again represented differently in Kurdish (as a circumposition) and Turkish (as a postposition or case marker). The results of raw mean reading times for all regions are shown in Table 6.6.

Table 6.6: Raw mean reading times and SDs (in brackets) in milliseconds per group for the use of 'ON' with a lexical verb

Region	R1	R2	R3	R4	R5	R6	R7	R8
	The_1	$Noun_2$	$Verb_3$	$Prep_4$	The_5	$Noun_6$	Time adv_7	Time adv_8
Group A	485 (99.07)	558 (159.54)	661 (123.53)	588 (136.75)	444 (118.82)	903 (206.09)	942 (76.40)	1559 (271.22)

Group B	532 (68.63)	607 (122.42)	658 (141.21)	666 (107.02)	405 (90.01)	830 (119.64)	909 (64.29)	1466 (197.93)

Given that there was no significant difference in the mean raw reading times in critical Region 6 and post-critical Regions 7 and 8 for the preposition *in* used with a lexical verb, it is predicted that participants in Group A and Group B will show no difference in reading the items containing *on* with a lexical verb. As expected, an independent-samples t-test conducted with the logged data revealed no significant difference in the reading times of Region 6 (t(65) =1.371, p=.175), Region 7 (t(65) =1.875, p=.065), or Region 8 (t(65) =1.388, p=.170). Figure 6.6 demonstrates raw mean reading times for the use of *on* with a lexical verb for both groups.

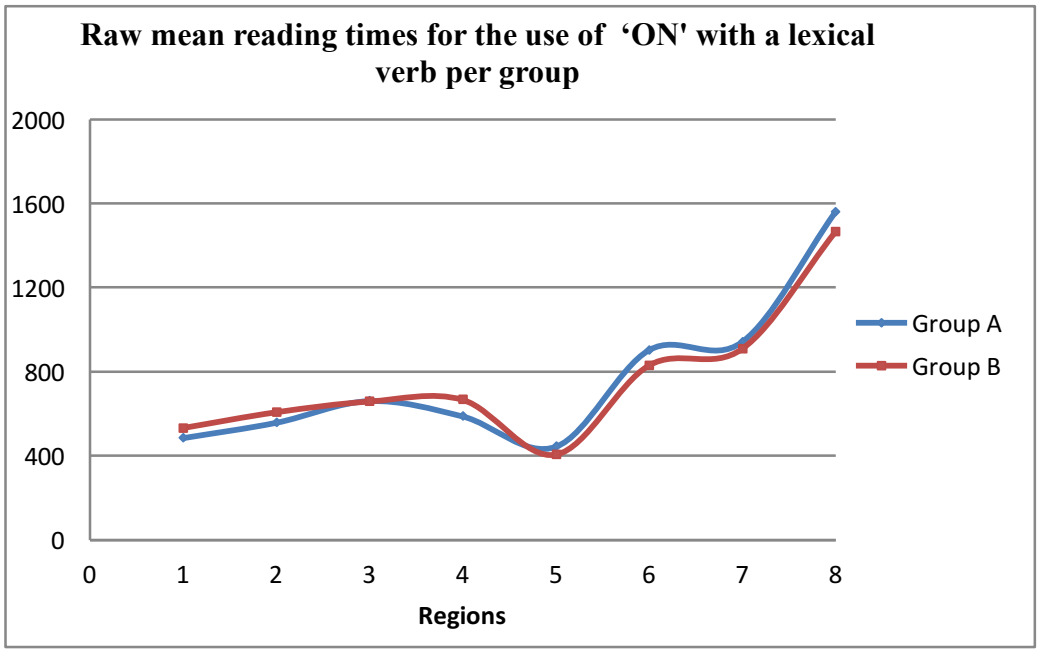


Figure 6.6: Raw mean reading times for the use of ***on*** with a lexical verb per group (in Milliseconds)

Ungrammatical 'ON': The use of ON with a Copula versus The use of ON with a Lexical Verb

Participants' reading times were compared on the ungrammatical items for the

use of *on* (with both a copula and a lexical verb). Results of raw mean reading times with standard deviations in brackets are given in Table 6.7 below.

Table 6.7: Raw mean reading times and SDs (in brackets) in milliseconds per group for UNGRAMMATICAL use of preposition 'ON' with a copula

Region	R1	R2	R3	R4	R5	R6	R7	R8
	The_1	$Noun_2$	$Verb_3$	$Prep_4$	The_5	$Noun_6$	Time adv_7	Time adv_8
Group A	449 (65.32)	629 (97.74)	433 (92.99)	895 (89.43)	672 (162.76)	853 (88.42)	929 (80.81)	1488 (285.28)
Group B	437 (57.06)	663 (85.95)	476 (94.36)	833 (90.73)	622 (128.04)	712 (113.98)	805 (124.58)	1296 (206.06)

The results of an independent-samples t-test revealed that Group A was significantly slower in reading the critical and post-critical regions for the ungrammatical items with *on* used with a copular verb. Significant differences in the reading times between the two groups were found in Region 6 ($t(65) = 5.487$, $p < .001$), Region 7 ($t(65) = 4.943$, $p < .001$), and Region 8 ($t(65) = 3.011$, $p = .004$). The findings show latencies in the reading times of the bilingual experimental group, which is suggestive of the influence of L1 in processing preposition *on* in ungrammatical sentences with copular verbs in L3. Figure 6.7 sums up raw mean reading times for ungrammatical use of preposition *on* with a copula.

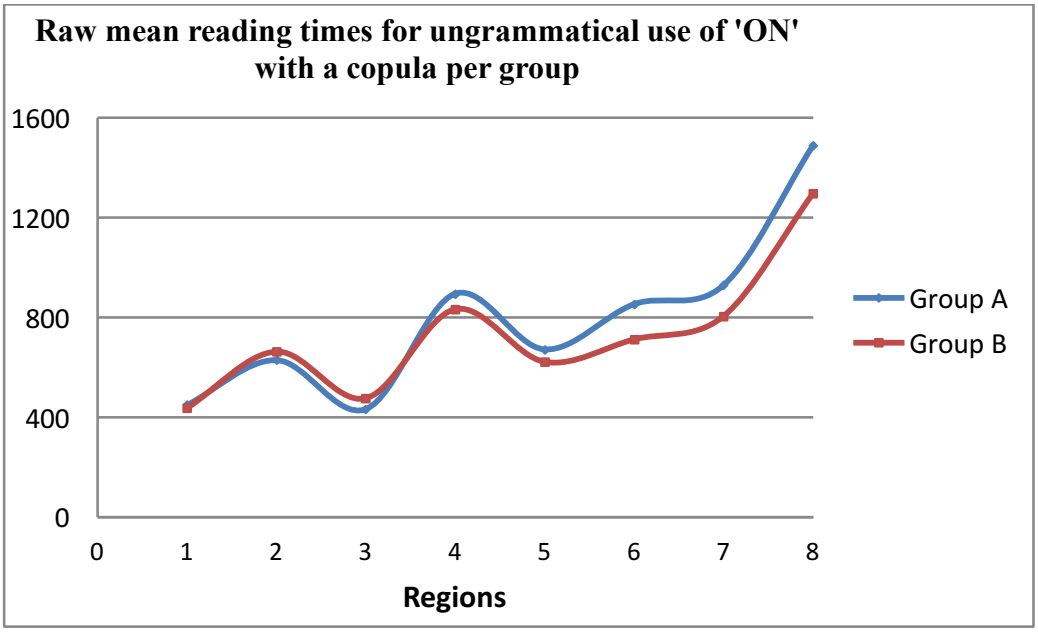


Figure 6.7: Raw mean reading times for ungrammatical use of ***on*** with a copula per group (in Milliseconds)

For ungrammatical use of *on* with a lexical verb, raw mean reading times were calculated and as seen in Table 6.8 below, reading times of two groups look similar.

Table 6.8: Raw mean reading times and SDs (in brackets) in milliseconds per group for UNGRAMMATICAL use of 'ON' with a lexical verb

Region	R1	R2	R3	R4	R5	R6	R7	R8
	The_1	$Noun_2$	$Verb_3$	$Prep_4$	The_5	$Noun_6$	Time adv_7	Time adv_8
Group A	476 (41.21)	572 (127.83)	458 (56.11)	540 (127.68)	503 (104.79)	736 (83.17)	853 (155.72)	1251 (203.22)
Group B	493 (42.41)	616 (97.45)	471 (67.53)	593 (89.66)	521 (99.76)	758 (109.33)	911 (153.33)	1376 (339.92)

Results of an independent-samples t-test indicated no significant difference in the reading times between bilingual and monolingual participants. No significant

difference in the reading times between the two groups were found in Region 6 (t(65) =-.774, p=.442), Region 7 (t(65) =-1.614, p=.111), and Region 8 (t(65) =-1.631, p=.108). Figure 6.8 below demonstrates raw mean reading times for ungrammatical use of *on* with a lexical verb for both groups.

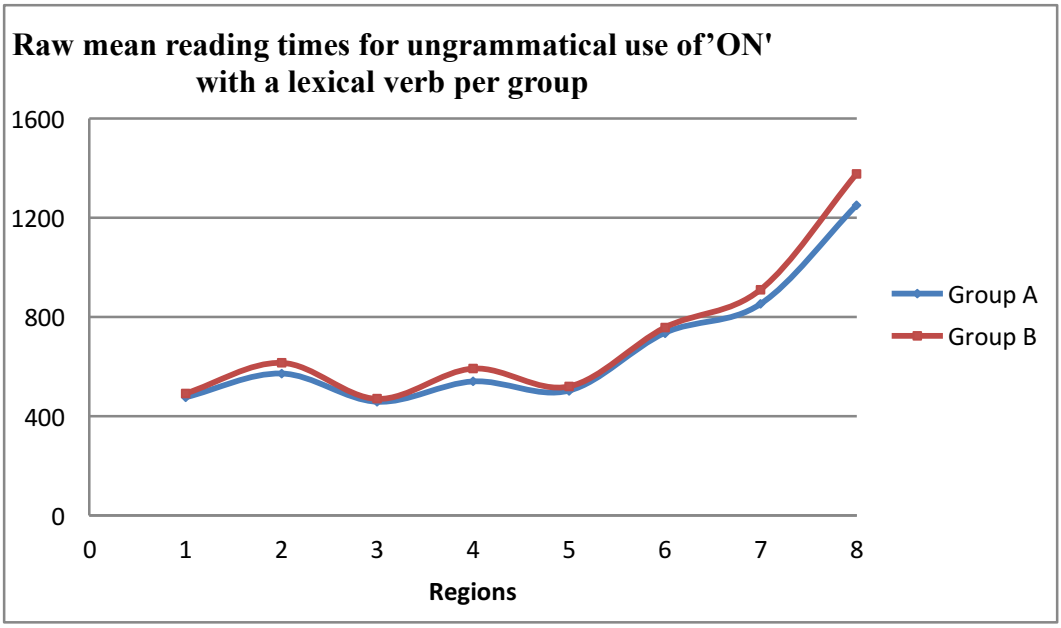


Figure 6.8: Raw mean reading times for ungrammatical use of ***on*** with a lexical verb per group (in Milliseconds)

Preposition 'AT'

Kurdish has a circumposition (*li…de*) as the counterpart of the preposition *at* while Turkish has the dative case marker '-DA'. To find out whether bilingual Kurdish participants differ from monolingual Turkish participants, raw mean reading times for preposition *at* were analyzed in the following table.

Table 6.9: Raw mean reading times and SDs (in brackets) in milliseconds per group for preposition 'AT'

Region	R1	R2	R3	R4	R5	R6	R7	R8
	The_1	$Noun_2$	$Verb_3$	$Prep_4$	The_5	$Noun_6$	Time	Time

							adv_7	adv_8
Group A	626 (74.16)	674 (40.64)	538 (72.17)	623 (71.66)	492 (91.62)	616 (105.12)	826 (121.73)	1255 (173.41)
Group B	655 (62.99)	680 (40.51)	502 (64.75)	633 (74.40)	518 (107.80)	753 (93.21)	912 (132.40)	1388 (262.93)

It is seen in the table that Group A had faster reading times in Region 5, Region 6 and the last two regions, where adverbs of time are added to the sentence. Similarly, results of an independent-samples t-test indicated a significant difference in critical Region 6 ($t(65)= -5.692$, $p<.001$), post-critical Region 7 ($t(65)= -2.80$, $p=. 007$) and 8 ($t(65)= -2.281$, $p=.026$). Group A processed experimental items including at faster than Group B.

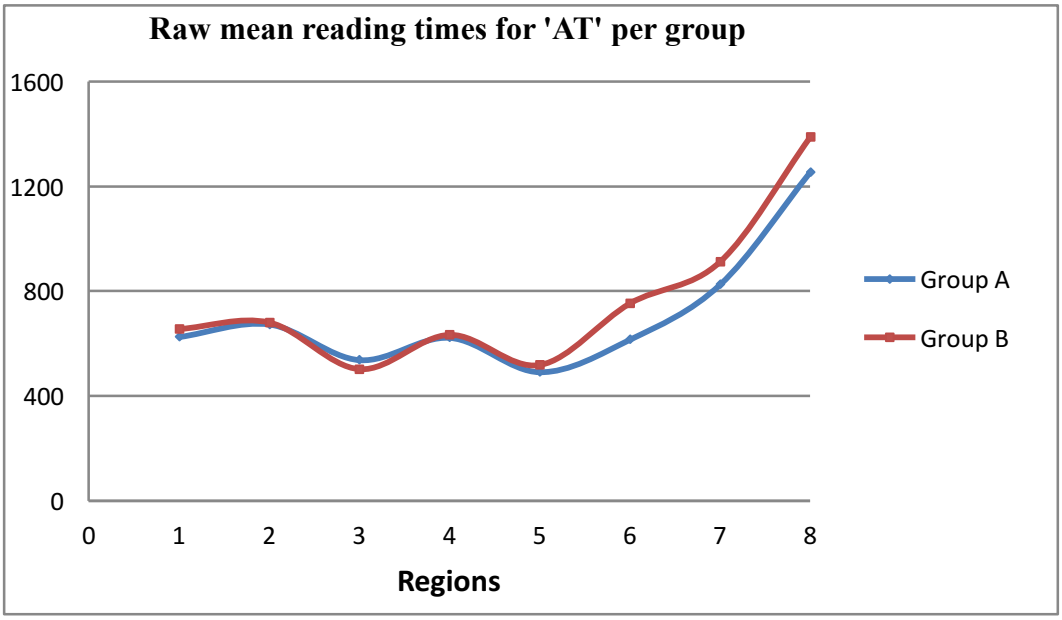


Figure 6.9: Raw mean reading times for the use of ***at*** per group (in Milliseconds)

Summary of the results are given in Figure 6.9 above, which displays faster reading times for the participants in Group A and therefore faster performance in processing experimental stimuli.

As for ungrammatical items, raw mean reading times for Group A appeared to be longer than those of Group B as seen in Table 6.10 below.

Table 6.10: Raw mean reading times and SDs (in brackets) in milliseconds per group for UNGRAMMATICAL use of preposition 'AT'

Region	R1	R2	R3	R4	R5	R6	R7	R8
	The_1	$Noun_2$	$Verb_3$	$Prep_4$	The_5	$Noun_6$	Time adv_7	Time adv_8
Group A	568 (109.45)	641 (164.02)	551 (126.83)	466 (119.28)	590 (146.89)	988 (144.37)	971 (128.45)	1693 (247.08)
Group B	520 (89.19)	665 (136.11)	568 (111.54)	379 (89.04)	556 (124.01)	908 (71.68)	890 (118.67)	1270 (224.90)

Accordingly, results of an independent-samples t-test showed a significant difference in Region 6 ($t(65)= 2.779$, $p=.007$, Region 7 ($t(65)= 2.667$, $p=.010$) and Region 8 ($t(65)= 7.113$, $p<.001$)). These findings suggest that the participants in Group A were significantly slower than the participants in Group B in processing ungrammatical experimental stimuli including *at*. Figure 6.10 sums up findings of raw mean reading times for each group.

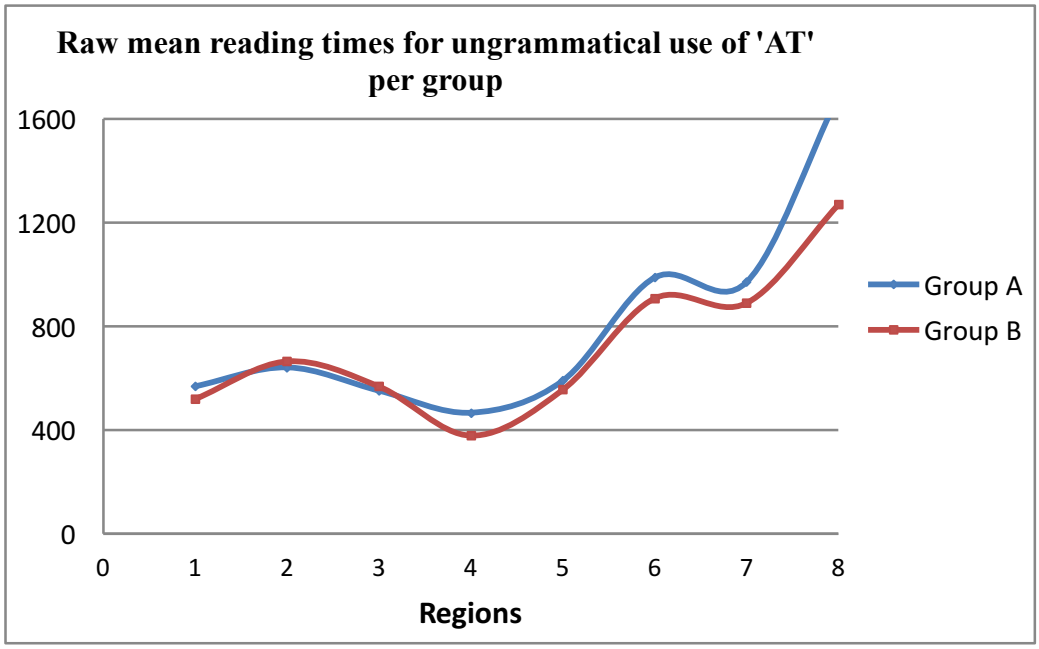


Figure 6.10: Raw mean reading times for ungrammatical use of ***at*** per group (in Milliseconds)

These findings show response latencies for the bilingual group, who seemed to have noticed the violation in the use of *at*, which resulted in longer reading time and processing difficulties on the part of participants.[23] As seen in the figure above, Group A had slower reading times, in contrast to the grammatical items, where they had faster reading times. These results point to the facilitation triggered by overlaps in adpositional systems of Kurdish and English.

Preposition 'BEHIND'

The preposition *behind* has a preposition *li paş* as its counterpart in Kurdish and the postposition *arkasında* in Turkish. This means that bilingual Kurdish participants have the preposition as the equivalent of target preposition, which can be facilitative in the third language acquisition process. Analysis of raw reading time for preposition

[23] A significant difference was also found in Region 4 ($t(65)= 3.411$, $p=.001$), where the participants saw violated use of a preposition with the preceding verb. The bilingual experimental group slowed down to reanalyze the unexpected use of *behind*. This may have been suggestive of awareness of mismatch between preposition in verb phrase (VP).

behind showed that bilingual Group A read grammatical items faster than monolingual Group B. Table 6.11 below displays raw mean reading times for participants in Group A and Group B.

Table 6.11: Raw mean reading times and SDs (in brackets) in milliseconds per group for preposition 'BEHIND'

Region	R1	R2	R3	R4	R5	R6	R7	R8
	The_1	$Noun_2$	$Verb_3$	$Prep_4$	The_5	$Noun_6$	Time adv_7	Time adv_8
Group A	556 (77.54)	674 (70.89)	678 (72.16)	689 (90.43)	551 (66.63)	627 (67.80)	767 (97.69)	1391 (235.20)
Group B	530 (63.83)	652 (74.23)	657 (67.67)	662 (122.24)	569 (68.11)	696 (64.32)	840 (75.921)	1554 (226.64)

The results of raw mean reading times are corroborated by the results of an independent t-test, which revealed a significant difference between Group A and Group B in both critical and post-critical regions for the logged mean reading times. The results revealed a significant difference between Group A and Group B in Region 6 ($t(65) = -4.100$, $p < .001$), Region 7 ($t(65) = -3.288$, $p = .002$) and the final region (Region 8) $t(65) = -2.993$, $p = .004$. The findings suggest that participants in bilingual group experience less processing difficulty in the processing of the target stimuli.

Figure 6.11 below shows the regions where two groups started to diverge. It is seen that participants in both groups started to diverge in Region 6.

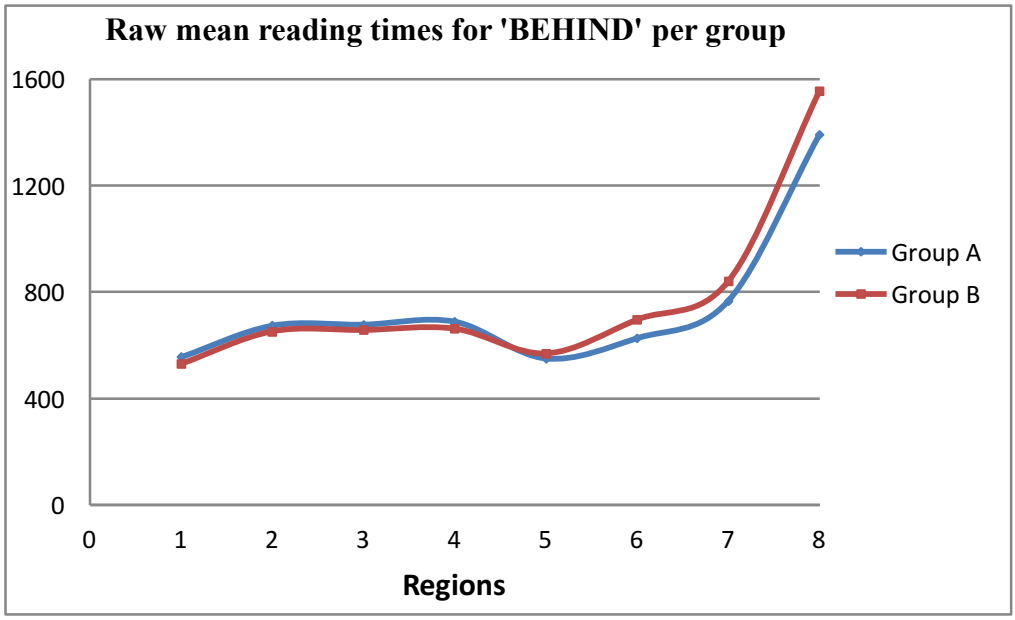


Figure 6.11: Raw mean reading times for the use of ***behind*** per group (in Milliseconds)

The analysis of *behind* for ungrammatical items was also done to find out whether participants of bilingual experimental and monolingual control groups differ in the reading time of these ungrammatical items. Similar to the findings related to other use of prepositions, raw mean reading times and standard deviations showed response latencies for participants in bilingual group. Table 6.12 below displays raw mean reading times of the eight regions of the statements including ungrammatical use of *behind*.

Table 6.12: Raw mean reading times and SDs (in brackets) in milliseconds per group for UNGRAMMATICAL use of preposition 'BEHIND'

Region	R1	R2	R3	R4	R5	R6	R7	R8
	The_1	$Noun_2$	$Verb_3$	$Prep_4$	The_5	$Noun_6$	Time adv_7	Time adv_8

Group A	584 (63.93)	718 (57.38)	645 (105.29)	614 (83.94)	515 (103.46)	825 (104.59)	905 (170.61)	1816 (235.25)
Group B	590 (64.50)	683 (87.40)	641 (92.12)	559 (100.40)	523 (104.51)	703 (79.22)	774 (64.70)	1475 (238.56)

Results of an independent-samples t-test indicated that the bilingual group started to spend longer time reading ungrammatical items including preposition *behind*. The results revealed significant difference in the first critical Region 6 between Group A and Group B, t(65) =5.514, p<.001. Similarly, there was a significant difference in the post-critical Region 7 (t(65) =4.188, p<.001) and final Region, t(65) =5.615, p<.001. Other than the critical regions, Region 4, where preposition *behind* is seen, was read significantly slower by Group A, t(65) =2.557, p=.013. Figure 6.12 below shows the Group A and Group B's reading times for ungrammatical items with the preposition *behind*.

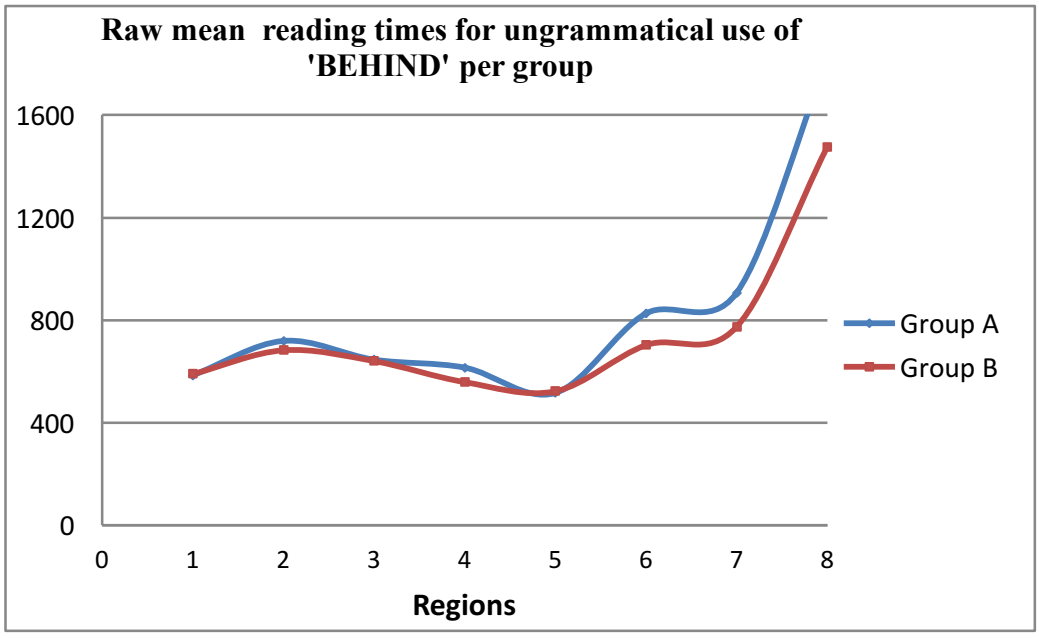


Figure 6.12: Raw mean reading times for ungrammatical use of ***behind*** per group (in Milliseconds)

Preposition 'OVER'

The counterparts of the preposition *over* in Turkish is a postposition *üzerinde* and in Kurdish a preposition *li ser*. We first examined preposition *over* by focusing on raw mean reading times, which can be seen in Table 6.13 below. The reading times of the critical regions were faster for the participants in bilingual group.

Table 6.13: Raw mean reading times and SDs (in brackets) in milliseconds per group for preposition 'OVER'

Region	R1	R2	R3	R4	R5	R6	R7	R8
	The_1	$Noun_2$	$Verb_3$	$Prep_4$	The_5	$Noun_6$	Time adv_7	Time adv_8
Group A	522 (44.97)	740 (50.77)	592 (83.14)	657 (68.24)	500 (97.05)	649 (93.78)	894 (86.16)	1614 (311.35)
Group B	560 (54.83)	753 (50.05)	598 (81.00)	672 (73.53)	546 (56.97)	711 (105.77)	930 (134.64)	1681 (368.31)

An independent-samples t-test was conducted to see whether the bilingual group and the monolingual group differ significantly in reading times of experimental items. The results showed that Group A was significantly faster in reading the noun in Region 6 than Group B, t(65) =-2.532, p=.014. The participants in the bilingual group read this region faster, indicating that the knowledge of preposition in their native language may have facilitated processing of target preposition.[24] However, there was no other significant differences between the two groups (in contrast to the findings related to other prepositions).

The reading times of the bilingual and monolingual group for the preposition *over* are summarized in Figure 6.13.

[24] A significant difference was also found in Region 5, which precedes the critical region, t(65) =-2.533, p=.014.

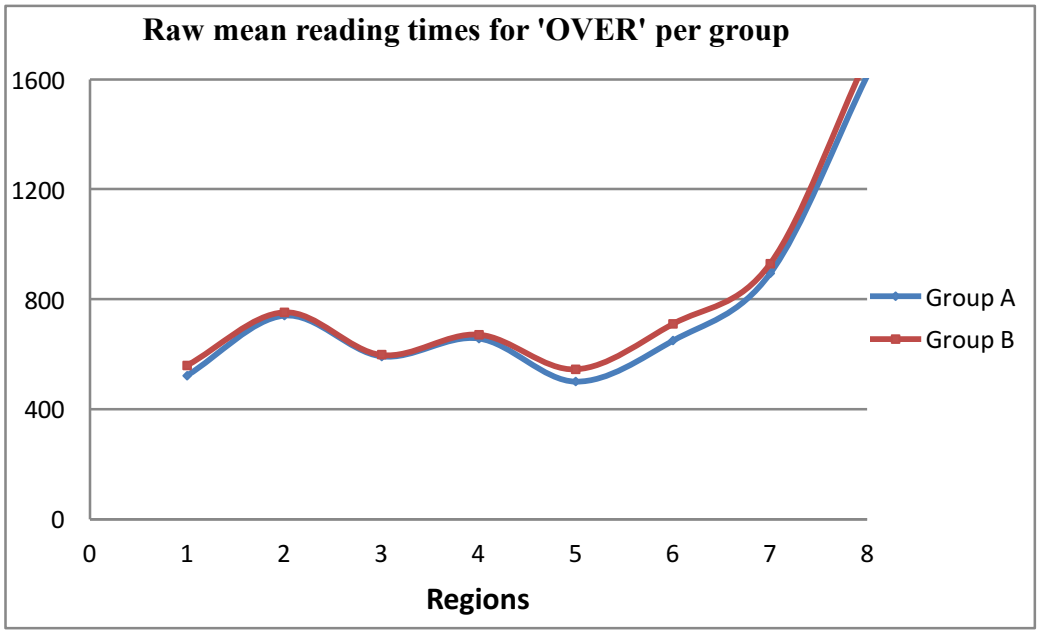


Figure 6.13: Raw mean reading times for the use of ***over*** per group (in Milliseconds)

Analysis of the use of *over* for ungrammatical items indicated differences in mean raw reading times between bilingual and monolingual groups. The results showed longer reading times and response latencies for bilingual group as seen in Table 6. 14 below.

Table 6.14: Raw mean reading times and SDs (in brackets) in milliseconds per group for UNGRAMMATICAL use of preposition 'OVER'

Region	R1	R2	R3	R4	R5	R6	R7	R8
	The_1	$Noun_2$	$Verb_3$	$Prep_4$	The_5	$Noun_6$	Time adv_7	Time adv_8
Group A	513 (69.64)	535 (104.87)	671 (82.43)	711 (131.59)	565 (83.38)	842 (134.56)	939 (93.89)	1602 (239. 85)

Group B	547 (92.07)	589 (111.88)	662 (67.56)	629 (55.11)	589 (111.88)	766 (92.93)	817 (104.86)	1492 (221.99)

The results of t-test indicated a significant difference in Region 6 (t(65) =2.681, p=.009) and Region 7 (t(65) =4.999, p<.001), while no significant difference emerged in the final region t(65) =1.955, p=.055. Figure 6.14 below gives a general picture of raw reading times ungrammatical use of preposition *over*.

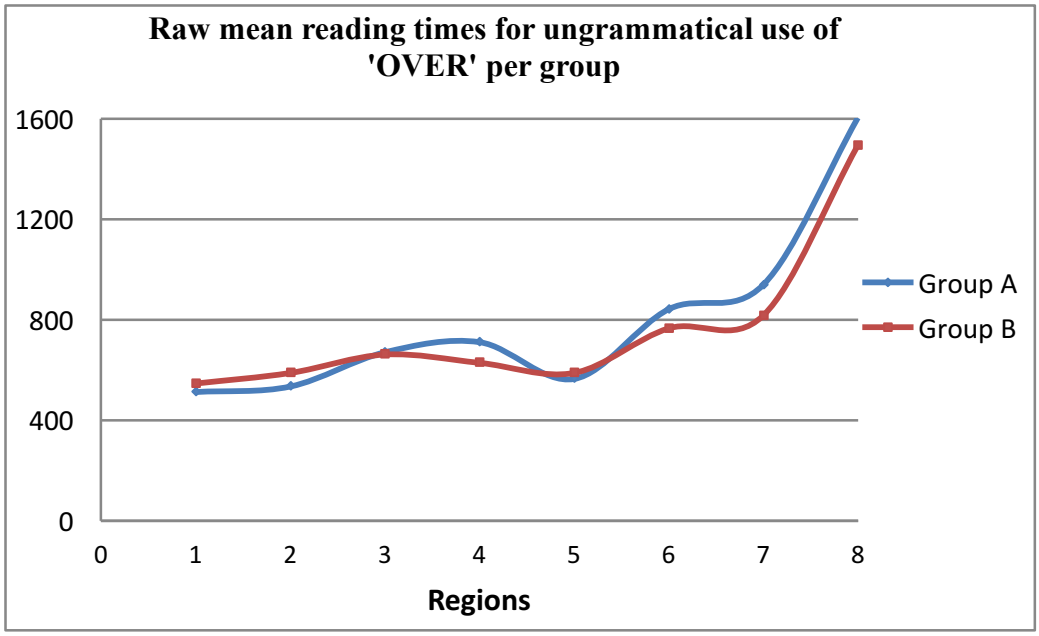


Figure 6.14: Raw mean reading times for ungrammatical use of ***over*** per group (in Milliseconds)

Preposition 'TO'

The preposition *to* again has different forms in Kurdish depending on the context it appears in. It either takes the form of the circumposition *ber bi…di* or the suffix *–E* in Kurdish. In Turkish, *to* is represented with either the preposition *doğru* following a dative-marked NP, or with the suffix *-E* alone. The results of mean raw reading times for grammatical use of preposition *to* are given in the following table.

Table 6.15: Raw mean reading times and SDs (in brackets) in milliseconds per group for preposition 'TO'

Region	R1	R2	R3	R4	R5	R6	R7	R8
	The_1	$Noun_2$	$Verb_3$	$Prep_4$	The_5	$Noun_6$	Time adv_7	Time adv_8
Group A	688 (72.14)	641 (115.09)	870 (92.76)	545 (108.81)	564 (94.78)	734 (98.13)	844 (94.25)	1373 (223.35)
Group B	688 (72.97)	682 (109.27)	890 (65.14)	571 (111.97)	561 (77.45)	757 (71.48)	919 (115.13)	1427 (279.85)

As seen in the table, the mean raw reading times of both groups look very similar except for region 7. Accordingly, the results of an independent-samples t-test on the logged data indicated no significant difference for the critical Region 6, t(65) =-1.227, p=.224. However, a significant difference was found in the post-critical Region 7, t(65) =-2.908, p=.005. Again, there was also no significant difference in the final region, t(65) =-.798 p=.427. Below is Figure 6.15 summarizing the findings of raw mean reading times.

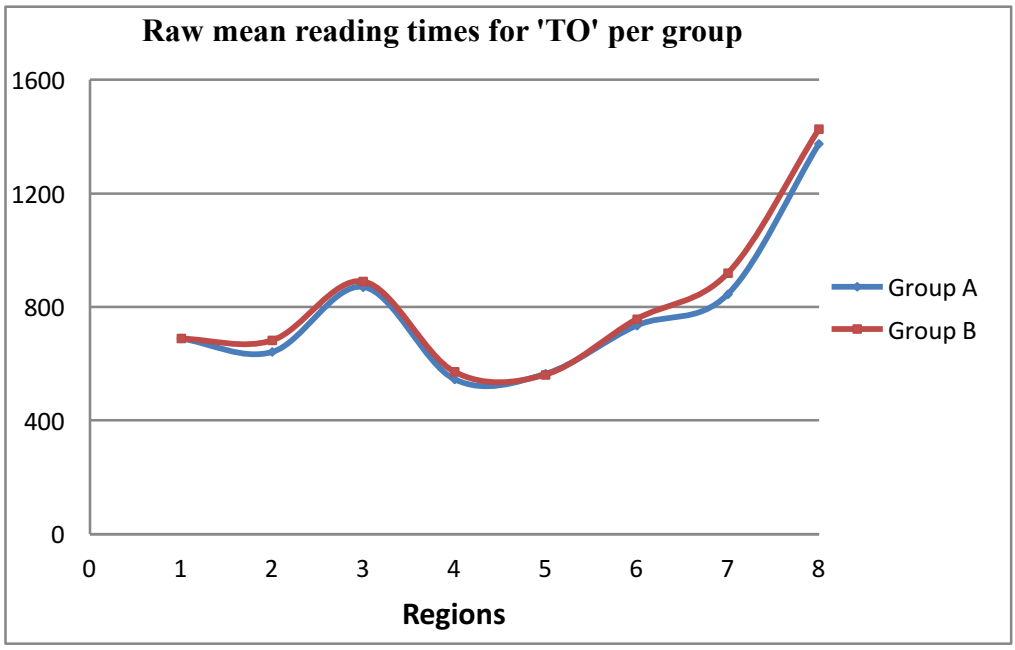


Figure 6.15: Raw mean reading times for the use of ***to*** per group (in Milliseconds)

Ungrammatical use of preposition *to* was also examined. The results of raw mean reading times for Group A and Group B are displayed in Table 6.16 below.

Table 6.16: Raw mean reading times and SDs (in brackets) in milliseconds per group for UNGRAMMATICAL use of preposition 'TO'

Region	R1	R2	R3	R4	R5	R6	R7	R8
	The_1	$Noun_2$	$Verb_3$	$Prep_4$	The_5	$Noun_6$	Time adv_7	Time adv_8
Group A	570 (102.67)	774 (115.82)	743 (169.27)	874 (140.07)	695 (126.54)	998 (207.35)	977 (175.55)	1317 (322.09)
Group B	561 (92.07)	814 (139.57)	805 (110.37)	794 (155.54)	749 (93.28)	864 (103.28)	878 (98.21)	1357 (319.32)

Results of an independent-samples t-test showed that there is a significant difference in Region 6, (t(65) =2.950, p=.004) and Region 7 (t(65) =2.764, p=.007). The findings suggest that Group A had response latencies and were slower in progressing ungrammatical items compared to Group B.[25] Figure 6.16 below displays mean raw reading times for ungrammatical use of *to*.

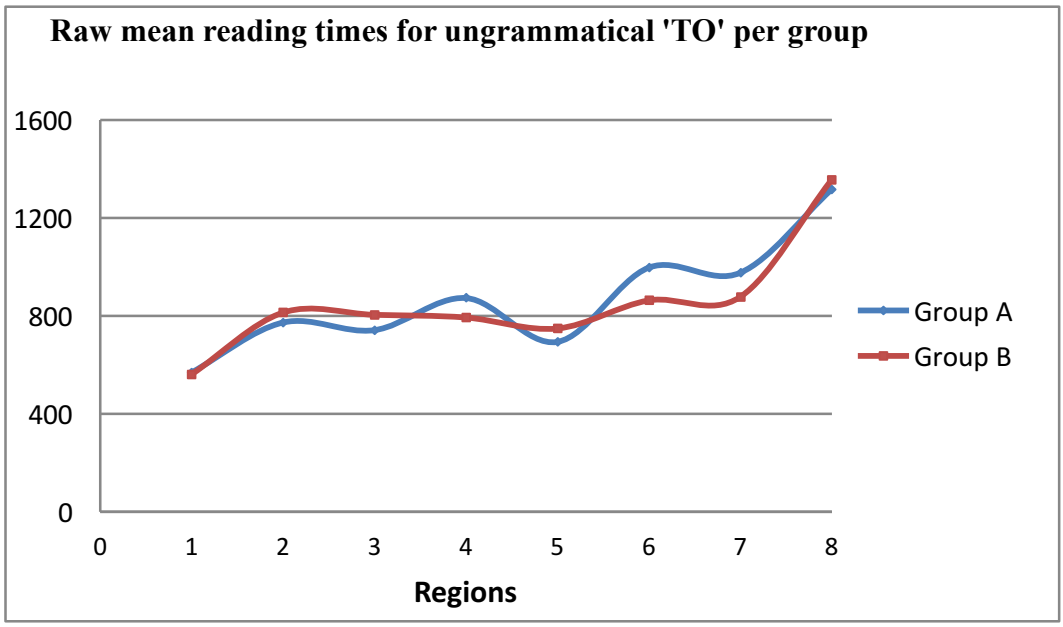


Figure 6.16: Raw mean reading times for ungrammatical use of ***to*** per group (in Milliseconds)

6.3.2. Results Within Groups

The use of IN with a Copula versus The use of IN with a Lexical Verb

As for the within-group analysis, a paired samples t-test was run to see whether there is a difference between the use of *in* with the copula and the use of *in* with a lexical verb. The test results revealed a significant difference for Group A between

[25] A significant difference was also found in Region 3 (t(65) =2.118, p=.038) and Region 5 (t(65) =-2.159, p=.035.).

copular and the use of *in* with a lexical verb. A significant difference emerged in Region 6, t(32)= -5.904, p<.001, Region 7, t(32)= -3.536, p=.001 and the final region, t(32)= -2.844, p=.008. For Group B, on the other hand, no significant difference was found in the critical Region 6 (t(33)= .811, p=.423), the post-critical Region 7 (t(32)= .465, p=.645), or the final Region 8 (t(33)= .899, p=.375). The findings suggest that bilingual participants performed faster with the use of *in* with a copula, possibly by relying on their knowledge of the preposition *li* in Kurdish as the counterpart of preposition *in* in English.

The use of ON with a Copula versus The use of ON with a Lexical Verb

A paired samples t-test was run to see whether there is a difference between the use of *on* with a copula or a lexical verb. The test results indicated a significant difference for Group A between the use of *on* with a copula and a lexical verb in the critical Region 6, t(32)= -4.127, p<.001, Region 7, t(32)= -3.451, p=.002, and the final region t(32)= -7.807, p<..001. For Group B, however, no significant difference was found in either critical the Region 6, t(33)= -.906, p=.371or in the post-critical Regions 7, t(32)= .650, p=.520, or Region 8, t(33)= -.555, p=.582. The findings supports the findings related to the use of *in* with a copula or a lexical verb. Speakers of Kurdish processed the preposition *on* used with a copular verb faster than they did the same preposition when used with a lexical verb. This is consistent with the fact that in Kurdish, the counterpart of *on* with copular verbs is the preposition *li ser*, while the counterpart of *on* with lexical verbs takes the form of a circumposition *li ser…de*.

6.4. Discussion of Results

Results related to preposition *at* revealed a significant difference between two groups for critical region although two languages have different counterparts of preposition *at* (circumposition in Kurdish, the locative case marker '-DA' in Turkish). As for prepositions *behind* and *over*, the results supported facilitative effect of L1 Kurdish prepositions on L3 English. For preposition *to*, there was no significant difference between two groups' participants for critical region. Yet, an unexpected significant difference emerged between two groups in the post-critical Region 7.

With the findings from self-paced reading experiment, the following conclusions can be drawn about the processing of English prepositions by the bilingual experimental group compared to the the monolingual control group. Bilingual participants were faster in reading grammatical items including target prepositions. Faster reading times may be taken to indicate that bilingual subjects relied on similarities between their L1 and target language L3, which led to the facilitation in processing. On the other hand, monolingual participants read experimental stimuli of target prepositions more slowly, which points to no processing facilitation, which can be due to the differences between their L1 and L2. The pattern reverses in ungrammatical items. When ungrammatical items were examined, the bilingual participants were slower than the monolingual participants in reading the stimuli. These findings suggest that bilinguals noticed a violation of an expectation for the use target prepositions and slowed down to reanalyze the stimuli. Unlike bilinguals, monolinguals did not slow down for the violation and went on reading ungrammatical items with similar pace.

A possible explanation for the same performance for use of *in* and *on* with a lexical verb is that in this configuration, both bilingual Kurdish participants and monolingual Turkish participants have different forms of adpositions as counterparts of prepositions, which show no overlap with English. Kurdish has a circumposition *li….de* and Turkish has postposition *üstünde* or the locative case marker *–DA*.

CHAPTER 7

GENERAL DISCUSSION AND CONCLUSION

This chapter consists of two major sections. The first section relates the findings of off-line tasks and on-line task by discussing general conclusions that have been drawn on the basis of these results. Section two presents implications of these conclusions for teaching and provides suggestions for further research.

7.1. Summary of the Study and General Discussion

This study employs a cross-linguistic framework in analyzing the acquisition of adpositions in English as a third language. The central aim of the study is to investigate cross-linguistic influence of L1 (Kurdish) and L2 (Turkish) in the acquisition of L3 (English). The study was conducted with Turkish-Kurdish bilingual participants that made up the experimental group (Group A) and monolingual Turkish participants that served as a control group (Group B). I tried to find out which of the two known languages (L1-Kurdish, L2- Turkish) is the major source of CLI in the acquisition of L3 (English) prepositions as revealed by possible differences between the experimental group and the control group. To this end, two off-line picture description tasks and an on-line self-paced reading task were used in the data collection procedure. Overall results revealed in these tasks are presented and discussed to evaluate to what extent the general picture that emerged from the study supported CLI in third language acquisition and which of the two known languages (L1-Kurdish, L2- Turkish) is the major source of CLI in the acquisition of L3 (English) prepositions.

There have been an increasing number of studies on CLI among multilinguals. The findings suggest that there are methodological challenges faced by researchers from different fields due to the complexity of cross-linguistic influence and factors interacting with CLI. One major reason for these challenges is that transfer may occur between multiple languages simultaneously in a complicated way (e.g., L1 and L2 jointly interacting with each other and influencing L3) (Cenoz, 2003; De Angelis, 2005). Moreover, transfer can be multi-directionally influencing L3 acquisition while

L3 acquisition influencing L1 or L2 use (e.g. Tseng, 2016). The main source of transfer in L3 is either L1 or L2. Transfer may occur only, or predominantly, from the L1 to the L3 (Bouvy 2000; Hermas, 2010; Leung 2006; Na Ranong & Leung, 2009). Alternatively, transfer may occur predominantly from the L2 to the L3, acknowledged as L2 Status Factor, which maintains that the L2 takes on a significantly stronger role than the L1 in the initial stages of L3 morphosyntactic acquisition (Bardel & Falk 2007; Bohnacker 2006; Hammarberg 2001; Rothman & Cabrelli Amaro, 2010). It is also possible that properties of both the L1 and the L2 transfer to the L3 (Flynn, Vinnitskaya & Foley 2004). And finally, it is possible that what matters is not the order of acquisition, but rather, which language (the L1 or the L2) is structurally (or typologically) closer to, or perceived as being structurally close to, the L3 (Cenoz 2003; De Angelis & Selinker 2001; Foote 2009; Lammiman, 2009; Montrul, Dias & Santos 2011; Rothman, 2010, 2015; Singleton & O'Laoire 2006). The languages chosen for this study were selected in a way that the source of the transfer for the use of prepositions can be predicted. While Kurdish and English have some structural overlaps in their adpositional systems, with the existence of prepositions in Kurdish just like in English, Turkish has its own distinct system of adpositions, with postpositions and case markers. We chose for investigation two groups of adpositions: adpositions that were represented similarly in the participants' L1 (Kurdish) and L3 (English), with Turkish having a different pattern, and adpositions that were represented differently in Kurdish and English, but similarly in Kurdish and Turkish. This made it possible to determine the source of CLI in the use of L3 (English) based on the comparison of the results of the experimental group with the results of the control group.

The overall results obtained from the off-line picture description with multiple choices task showed that bilingual participants perform better in recognition and comprehension of prepositions *in, on, at, behind* and *over*, but not of the preposition *to*. Recall from Chapters 1 and 2 that *in* and *on* (in their use with a copula), *behind*, and *over* take the form of prepositions in Kurdish. In accordance with the predictions, the findings showed that overlaps between the adpositional systems of Kurdish (L1) and English (L3) languages paved the way for the facilitation in third language

acquisition process for bilingual participants. These findings were corroborated by the findings of the comparison between the use of *in* and *on* with a copula and a lexical verb. Bilingual subjects showed better performance in the use of prepositions *in* and *on* with a copula than with a lexical verb. On the other hand, no such difference was observed in the control group. This is attributed to the fact that in Kurdish, but not in Turkish, the counterpart of *in* used with a copula (e.g. *li hündir* 'in house-OBL') and *on* used with a copula (*li ser dare* 'on tree-OBL') are prepositions. By contrast, the counterparts of *in* (e.g. *di hündir de digri* 'in house-OBL POSTP cry-PROG.3SG') and *on* used with a lexical verb (*li ser dare de runiştiyi* 'on tree-OBL POSTP sit-PROG.3SG') are circumpositions in Kurdish. Therefore, Turkish-Kurdish bilingual participants did not outperform monolingual Turkish participants with regard to use of *in* and *on* with a lexical verb. As predicted, the monolingual group displayed no difference in the use of *in* and *on* with a copula and a lexical verb. This is consistent with the fact that in Turkish, all the forms map onto the locative case *-DA* in Turkish. The findings supported the influence of L1-Kurdish prepositions and their facilitative effect on the recognition and comprehension of L3-English prepositions. However, knowledge of postpositions and case markers in Turkish did not seem to result in any facilitation for monolingual L2 learners of English.

For the use of preposition *to*, the bilingual participants in the experimental group did not differ from the monolingual participants in the control group even though this preposition is represented as a circumposition in Kurdish, which has a pre- part preceding the noun. This suggests that despite partial linear overlaps between prepositional and circumpositional phrases does not lead to facilitation in the acquisition of prepositions. This possibility, however, is contradicted by the fact that the bilingual experimental group outperformed the monolingual control group in the recognition/comprehension of target preposition *at* even though *at* is represented as a circumposition in Kurdish. It is possible that the decisive factor for the better performance of the experimental group is simply the fact that in Turkish, *in, on,* and *at* all map onto a single case marker *–DA*, whereas in Kurdish each preposition corresponds to a different form. Thus, although there is no structural overlap between Kurdish and English regarding *at*, the representation different from the two other

locative prepositions (*on* and *in*) sufficed to lead to the better performance of the bilingual participants. Notice, however, that this explanation cannot account for the contrast between the performance of the experimental group on prepositions *in* and *on* used with a copula and with a lexical verb, which follow straightforwardly from the structural overlap between Kurdish and English.

The findings of the teddy bear picture description task were also in line with the findings of multiple choice task. It was revealed that the bilingual experimental group outperformed the monolingual control group not only in the recognition/comprehension (tested in the multiple choice task) but also in the production of target prepositions. The findings of the teddy bear picture description task demonstrated that bilingual participants used L3-English prepositions more accurately than monolingual participants except for prepositions *at* and *to*, for which the performance of the two groups was similar. Given that *at* and *to* are represented in Kurdish as circumpositions and postpositions or case markers in Turkish (See Table 1.1 in Chapter 1), the prediction that there would be no difference between the two groups' performance was confirmed by the findings of the teddy bear picture description task. Findings related to other prepositions (*in, on, behind, over*) are supportive of the facilitative effect of L1-Kurdish on the acquisition L3-English, which can be traced to structural similarities/overlaps between adpositional systems of L1 and L3 of bilingual subjects. The results confirm the prediction that knowledge of prepositions, which are present in Kurdish adpositional system, is the source of CLI in the acquisition of L3 English.

Evaluating the processing of L3-English prepositions, the self-paced reading task (SPR) corroborated the findings of the off-line tasks. The findings of the SPR task indicated that the bilingual experimental group process target prepositions with less difficulty than the monolingual control group. Although the performances of the participants in the two groups were similar in the initial regions of the experimental items, the bilingual subjects started to diverge from the monolingual ones when they reached the critical region (the noun in the PP). Faster reading times indicated that the bilingual subjects processed prepositional phrases with relatively less processing

difficulty, which can be explained by the structural similarities in the adpositional systems of their L1 and L3 and this led to facilitation on the part of bilingual experimental group. By contrast, the monolingual subjects read experimental items more slowly than the bilingual ones, which points to no facilitation on their part. This was expected due to the differences between their L1-Turkish and L2-English.

When prepositions *in* and *on* were analyzed further for the difference between the use of these prepositions with the copula and a lexical verb, it was found that bilingual participants read copular items significantly faster than monolingual participants. The significant difference revealed between the two groups suggests that the bilingual participants probably benefited from similar representation of *in* and *on* in Kurdish (preposition when used with a copula) and English, whereas the monolingual participants did not have any structural overlaps between their L1-Turkish and L2-English. As for the use of *in* and *on* with a lexical verb, no significant difference was revealed between the two groups, as predicted. The results concerning preposition *at* were different from the findings revealed in the off-line teddy bear picture description task, where the bilingual participants had similar performance to the monolingual participants. The results revealed in the SPR task supported the findings of picture description task where the bilingual participants outperformed the monolingual participants in recognizing/comprehending target preposition *at*.

Turning to ungrammatical experimental items, the bilingual participants were slower than monolinguals in reading the ungrammatical items. The difference between two groups emerged when the participants reached critical region 6 (the NP following target preposition). The use of English prepositions with unexpected nouns made the bilingual participants slow down (possibly to reanalyze ungrammatical stimuli), which suggests that the violation of an expectation lengthened the processing time for them. The monolingual participants, however, were not slower in reading the ungrammatical stimuli and upon encountering the inappropriate noun after the preposition, went on reading with the same speed. The performance differences between the two groups' participants can be explained by influences from the participants' L1. Namely, only those whose L1 has prepositions just like English (i.e., Turkish-Kurdish bilinguals)

were sensitive to the violations in the use of English prepositions, thus could be argued to have a better competence in target language.

Results regarding *at* and *to,* which are represented as circumpositions and are therefore not predicted to facilitate L3 English prepositions, differed across the three tasks, as seen in Table 7.1 below. In the first picture description task, no significant difference emerged between Group A and Group B as predicted since representations of these two prepositions in Kurdish and Turkish are different from that of English. Yet, Group A used *at* unexpectedly better than Group B in this task. As for the teddy bear picture description task, which depicts production of target prepositions by the participants, the two groups performed similarly as predicted. However, when processing is taken into account, Group A outperformed Group B. These findings demonstrated that although *at* and *to* are represented as circumpositions in Kurdish they seem to influence the use of target English prepositions.

Table 7.1: Comparison of results for prepositions *at* and *to* across the three tasks for Group A and Group B

	Task 1 (Multiple Choice)	Task 2 (Teddy Bear)	Task 3 (Self-paced Reading)
AT	Group A > Group B	Group A=Group B	Group A > Group B
TO	Group A=Group B	Group A=Group B	Group A > Group B

In sum, off-line (comprehension and production) and on-line (processing) tasks all showed that the experimental bilingual group had fewer problems than the monolingual control group in the cases of those prepositions where their L1 Kurdish has structural overlaps with L3 English. This points to the conclusion that structural similarities between languages (in this case L1-Kurdish and L3-English) plays a role in CLI and results in facilitation for third language learners. Studies involving L3 speakers of different combinations of languages have consistently reported that learners use a language which is typologically closer to and have structural similarities with the L3 as the supplier language rather than a typologically distant language

(Ahukanna, Lund & Gentile, 1981; Bartelt, 1989; Cenoz, 2001; Ringbom, 1987; Ringbom & Jarvis, 2011; Singh & Carroll, 1979; Stedje, 1977, among others). As revealed by the findings in this study, it seems to be the typologically similar L1 (Kurdish) that is the source of CLI on the acquisition of L3. Thereby, the findings are supportive of Typological Proximity Model (TPM) (Rothman, 2010, 2011, 2013), which argues that structural proximity between the L3 and the L1 and/or the L2 determines transfer to L3. Rothman (2013, p.5) argues that "multilingualism is conditioned by a cumulative effect of previous linguistic acquisition; however, the TPM views selection of a language for transfer as being conditioned by factors related to structural similarity between the languages at play". That is to say, TPM maintains that structural similarities at an underlying level of linguistic competence across the three languages have a key role in transfer to L3. The findings are consistent with the claim that the bilingual experimental group consistently benefited from the structural similarities between their L1 (Kurdish) and L3 (English) in using target prepositions.

7.2. General Discussion of the Findings

In response to the research questions sought in this study, the following predictions were made, which might explain CLI in third language acquisition.

1. If CLI in third language acquisition comes from L1 or the typologically similar language, Kurdish should facilitate acquisition of English prepositions in light of previous findings concerning multilinguals and cross-linguistic influence (Cenoz, Hufeisen & Jessner, 2002; De Angelis, 2005). Turkish-Kurdish bilinguals are expected to be better in comprehension, processing, and production of English prepositions as the adpositional system of their native language which includes structural overlaps with the adpositional system of English (L3). Adpositional system of Kurdish has prepositions just like in English as well as circumpositions, which might also facilitate the acquisition of prepositions because of the "pre-" part in the structure of circumpositions (e.g. *li…..de*). As for the control group (Turkish native speakers), it is predicted that knowledge of adpositional system of Turkish (i.e., postpositions and case

markers), which is quite different from that of English, will not facilitate the use of English prepositions.

2. If CLI in third language acquisition comes from L2, no difference will emerge between the two groups on any prepositions. As Turkish is the language that is acquired later than Kurdish and it is the L2 for third language learners of English, L2 might become the source of CLI in the acquisition of further languages (L3 English).
3. Given that bi/multilingualism has been associated with improved metalinguistic awareness (Jessner, 2008) and third language learners have two linguistic systems when acquiring a third language and therefore more language experience at their disposal, bi/multilinguals are expected to have better performance in third language acquisition process than monolinguals.

Considering the predictions made, the findings demonstrated that the first prediction concerning structural similarity between L1-Kurdish and L3-English is borne out. The findings indicated that the knowledge of the adpositional system of Kurdish, which includes prepositions, facilitated acquisition of English prepositions. The prediction that CLI comes from L2 or foreign language is disproved with the findings in that the monolingual group performed significantly worse than the bilingual group exactly on those prepositions where Kurdish has parallel structures. If Turkish was the supplier language in the acquisition of English prepositions, the results of monolingual and bilingual groups would not differ from one another, contrary to fact. The findings also seem to support the third prediction as well since Kurdish-Turkish bilinguals seem to rely on metalinguistic awareness especially in processing target English prepositions. They outperformed monolinguals with faster reading times and significant judgement of grammaticality. Bialystok (2009, p.7) similarly argues that "bilingualism is an experience that has significant consequence for cognitive performance."

The overall results obtained from off-line and on-line tasks have shown that Turkish-Kurdish bilingual participants have better competence and performance in the English prepositions than monolingual Turkish participants. It is acknowledged that

bilinguals consistently display higher levels of explicit knowledge about language than do monolinguals (Bialystok, 1987, 2001, 2007; Diaz, 1985; Galambos & Goldin-Meadow, 1990; Ricciardelli, 1992; Sanz, 2000; Yelland et al., 1993), and it has been proposed that this difference provides an advantage in additional language learning (Bialystok, 2007; Cenoz, 2013). Similarly, Cenoz (2003) claimed that heightened metalinguistic skill/knowledge of bilinguals is likely advantageous to L3 learning what Cenoz (2003) calls the additive effect of bilingualism on L3 acquisition. Turkish-Kurdish bilingual experimental group benefited from 'the bilingual advantage' (Bilingualism Forum, 2015; Grosjean, 1998; Paap et al, 2015; Valian, 2015), which contributes to their use of the linguistic repertoires they have had. Grosjean (2012) argued that 'the bilingual advantage' - the experience of using two or more languages - strengthens executive control (also called executive function). Bialystok (2009) also argues that bilingualism should have an advantageous effect on the function of executive control. The author cited Miyake et al. (2000) and claimed that the primary processes in the executive system are inhibition, shifting of mental sets (task switching or cognitive flexibility), and updating information in working memory. The findings of processing task (SPR), in which the Turkish-Kurdish bilingual participants transferred their knowledge of prepositions in Kurdish into L3-English learning process, presumably supported the arguments of bilingual advantage.

Moreover, the findings of the picture description with multiple choices revealed that bilinguals were better in recognizing and comprehending English prepositions with the exception of preposition *to*. This finding was confirmed with the findings in the teddy bear task. In the teddy bear picture description task, the two groups of participants used *at* and *to* similarly, with no significant difference in their performance. These findings indicate that the structure of circumpositional phrases appear to be more than just a prepositional phrase accompanied by a postpositional particle in Kurdish since their pre- part did not facilitate the comprehension or production of English prepositions for Turkish-Kurdish bilingual participants.

The findings of the self-paced reading task revealed that bilingual participants processed target prepositions faster than monolingual participants, presumably by

relying on their implicit knowledge in the on-line task. Keating and Jegerski (2015, p.2) stated that "on-line methods measure interpretation in real time, and they are believed to tap participants' implicit knowledge of language." In other words, since on-line methods allow little time for conscious linguistic problem solving, it gives a picture of implicit knowledge and competence of participants. Based on the processing task, Turkish-Kurdish bilinguals do seem to be more competent than L1-Turkish monolinguals in the processing of English prepositions. This points to the bilingual experimental groups' reliance on their implicit knowledge, which also points to the L3 advantage that contributes to an increased ability to reflect on language and manipulate it (Jessner 1999, 2006; Thomas, 1988). A number of empirical studies published over the last few decades have provided evidence that previous experience with more than one language provides an advantage when learning additional languages (e.g., Cenoz, 2013; Cenoz & Valencia, 1994; Hernandez, Sierra, & Bates, 2000; Sanz, 2000, 2007). It is reported that learners employ linguistic knowledge from their previous languages when developing the L3 and learners with previous language experience have a greater level of metalinguistic knowledge, which they apply to the new learning task. Similarly, Dominique et al. (2011) argued that enhanced metalinguistic awareness in bilinguals has been identified as one of the key variables contributing to the advantages of bilingual over monolingual language learners in acquiring an additional language. Bilingual advantage, however, cannot be the whole story since it would predict better performance of bilinguals on all prepositions.

As well as trying to explore CLI in third language acquisition process, this study intends to predict possible factors that are likely to be operative in CLI. Research in CLI has consistently identified two factors which affect how previously learned languages may influence the learning of a third: typological closeness and second language (L2) status (e.g. Odlin & Jarvis, 2004; Ringbom, 2001). Some CLI studies indicate that L2 can take on a stronger role than L1 in the initial state of L3 syntax (e.g. Bardel & Falk 2007; Bohnacker 2006; Falk & Bardel 2011; Leung 2005; Rothman & Cabrelli Amaro, 2010). Researchers citing L2 status as the main factor approached L2 status from different perspectives. One explanation for the influence of L2, rather rather than of L1 on L3 is the labelling of L1 as 'non-foreign' unlike L2 and L3 which

are labelled as foreign and therefore are likened to each other (Hammerberg, 2001). Another commonly cited explanation for L2 status is cognitive similarity between L2 and L3. According to Falk and Bardel (2011), L2 status can be explained as an outcome of the higher degree of cognitive similarity between L2 and L3 than between L1 and L3. Yet, the factor that has received most attention is typology. Typology is either understood as the similarity between the background language(s) and the target language or as similarity of particular structures between a background language and the target language, regardless of relatedness between languages. Much of the research body concerning the effects of cross-linguistic similarity on transfer in relation to typology has been conducted in the context of L3 acquisition or multilingualism because it is easier to see the effects of cross-linguistic similarity when participants have at least two potential source languages, one of which is similar to the recipient language (in our case Kurdish), one of which is not (in our study Turkish) while learning a target language (in this study English). As revealed by the findings of all tasks, major source of CLI for Turkish-Kurdish bilinguals is their L1, which has structural overlaps with English. Thus, typology can be an explanatory factor for the influence of L1on L3. Typological closeness/proximity between Kurdish and English resulted in facilitation in third language acquisition process. This typological closeness does not necessarily concern the fact that Kurdish and English are both Indo-European languages, but rather the fact that they have structural overlaps in their adpositional systems, which are the focus of this study. Leung (2005, p.58) accordingly argues that "the more languages there are in the pool of prior linguistic knowledge at the language learner's disposal, the more beneficial it will be for his subsequent acquisition of additional languages, especially those that are typologically-related."

Furthermore, it is acknowledged in the research concerning CLI that the learner will pass more rapidly along the developmental continuum (or some parts of it) where the mother tongue is formally similar to the target language than where it differs from it (Corder, 1981, p.101). Ringbom (2007) rightly noted that transfer does not occur in the areas of language use where the source and recipient languages are objectively different and it is the similarities learners perceive or assume to exist between the languages that serve as the source for CLI. Ringbom (1987, p.130) gave the following

example to explain the significance of similarities between languages: "The difference between learning a closely related language and a totally unrelated one can be likened to the situation of two friends, a good tennis player and a good soccer player, who both take up squash while still continuing to have tennis and soccer respectively as their main games." The one with the knowledge of tennis will be better at squash since the two games are quite similar. In our case, Turkish-Kurdish bilinguals relied on their L1 as the source language in learning L3-English as Kurdish and English have structural overlaps in their adpositional systems.

In sum, based on the findings of off-line and on-line tasks, two main conclusions can be drawn in this study. First, structural similarities between languages plays a key role in CLI. Second, in this study, the source of CLI is L1, which confirms the findings of similar studies involving Indo-European languages (Singleton, 1987; Möhle, 1989; Ecke, 2001;De Angelis & Selinker, 2001; Ringbom, 2007, among others). Typology appears to be the overriding factor with regard to adpositions across the languages investigated in the present study (i.e. Turkish, Kurdish, and English). We can assume that similarities between L1, L2, L3 or Ln as well as typological factors may considerably influence CLI in the case of multilinguals as suggested by Typological Primacy Model (Rothman, 2010, 2013). The TPM predicts that the whole of the 'similar' grammar will be the (almost) initial state of L3 acquisition. One such possible design (among others) will involve at least two properties in the same L1– L2– L3 language configuration: one property where the L1 and L3 are similar and one property where the L1 and the L3 differ (assuming that the L1 and the L3 are the structurally similar languages). In order for this latter claim to be definitively supported, this study examined six English prepositions whose counterparts in Kurdish are prepositions (*behind*, *over*, and *in* and *on* (when used with a copula)) and circumpositions (*at* and *to*) and compared their use by third language learners of English. The prediction was that Kurdish-Turkish would do better on the former than on the latter property, because the helping L1 will have its facilitative effect. This prediction was borne out. Dawaele (2010, p.106) accordingly claimed that "learners' affordances will depend on their perception of the qualities of a new language and the amount of cross-linguistic influence knowledge that they can mobilize when learning this new language. Just how

relevant this prior linguistic knowledge is depends on the proximity of target language and any languages known."

7.3. Assumptions and Implications for Teaching

Research conducted within CLI framework has reached the conclusion that previously learnt languages have influence on the third language. Ringbom and Jarvis (2011) emphasized the important role that cross-linguistic similarities play in language learning and questioned whether and to what extent they could be put to effective use in teaching. The authors proposed to make use of, and even overuse, actual similarities at early stages of learning. Spada and Lightbown (1999) analyzed the effects of explicit instruction on question making in second language and claimed that making leaners aware of cross-linguistic differences will ease difficulties the learners face in the target language. Similarly, Bongaerts (1999) reported the help of training the learners for possible difficulties in target language as is the case with the effects of contrastive explicit instruction in certain areas of syntax in the study conducted by Kupferberg and Olshtain (1996). Odlin (2000) reported that researchers increasingly realize that good predictions require close study of what learners understand and produce. Hence, a possible implication that can be drawn from the findings in the present study is to help language learners make use of cross-linguistic similarities between the background language(s) and the target language at early stages (in our case Kurdish and English). Teachers can outline the systematic recurring correspondences between the background language(s) and the target language when two languages have structural similarities that learners can benefit from. Besides, making learners aware of cross-linguistic differences may also be of some help to the learners at early stages when the background language(s) and target language differ greatly from each other (in our case Turkish and English).

Another conclusion that can be drawn from the present study is that learners of a closely related language can move along the acquisition process more smoothly than learners of a distant language (Ringbom & Jarvis, 2011). Ringbom and Jarvis (2011, p.115) argued that "there is less that the language learners need to learn, and that what they do need to learn is likely to be incorporated more easily into their existing

knowledge, and that it will take them less time to arrive at a criterion level of language proficiency." Learning conditions will be favorable for the learners who have less burden compared to the ones learning a distant language. When learners learn a relatively distant language, they may need to pass through more stages of acquisition, which results in more burden on their parts. A possible conclusion of this study is that Kurdish-Turkish bilingual learners of English possibly move along the acquisition process of English more smoothly than Turkish. Because of this, teachers should plan their syllabi accordingly, so that areas that are similar are dwelt on less than areas that are different.

To date, a common trend in language teaching has been to keep previously learnt languages out of the classroom (Jessner, 2008; Odlin, 2000). The aim of keeping previously learnt languages out of the classroom; namely, intentional separation of languages from the classroom, is to prevent any potential negative influence of the known languages on the one being learnt, i.e. target language. Another reason for this separation is to raise the communicative competence of the learners. However, this separation can also prevent positive influence or facilitation in target language acquisition process. Research on multilingualism has shown that multilinguals do not keep their languages apart. On the contrary, there seems to be links and interaction between the different languages in the multilingual learners' minds (Grosjean, 1998; Cenoz, 2003; De Angelis, 2007). New trends in teaching methods tend to take these findings into account and foster contact with other languages, in accordance with suggestions by different authors to move towards cooperation between the known languages (e.g., Clyne, 2003). Therefore, teachers should not always leave the previously learnt languages out of the classroom and make use of rich linguistic repertoires the learners have at hand. "Teaching needs to strike a balance between encouraging learners to make use of actual similarities and preventing exaggerated reliance on merely assumed similarities" (Haastrup, 1991, p.341, cited in Ringbom & Jarvis, 2011). Most importantly, as acknowledged by research on TLA and multilingualism, links are established between the languages in the multilingual mind and made use of during multilingual production. Additionally, metalinguistic awareness and metacognitive skills are developed as part of multilingual development

(Jessner, 2006), which should also be fostered in third language teaching context.

In short, given that the results presented in this study would hold across other research designs, and possibly other groups of bilinguals, the present results have implications in terms of using the first language in students with different backgrounds as a resource that can be utilized for their acquisition of skills in further languages.

7.4. Limitations and Directions for Further Research

Although this study presents a relatively comprehensive picture of the acquisition and processing of prepositions in English as a third language, there are several ways in which it could be improved. First, the study is limited to the investigation of target prepositions at the pre-intermediate level of proficiency. There was 10 percent difference between the results of placement test among the participants and this is a limitation for determining the level of proficiency. Besides, examining the acquisition of prepositions at different levels of proficiency would provide us with the information about the role that proficiency plays in CLI. However, it should be noted that CLI is observed more at initial levels of language learning and starts to decrease at advanced levels (Cenoz, 2003; Rothman, 2013). More precisely, longitudinal data can provide a better picture of transfer from initial levels to advanced levels.

Furthermore, English prepositions should be further explored with different language combinations within the framework of CLI because investigating different combinations with the same and especially different typological overlaps would tell us whether indeed the typologically closer language is the one that is the source of CLI, or is it always the L1. Furthermore, we did not have a monolingual Kurdish group as a control group.[26] If we had Kurdish monolingual control group, and their results were similar to the findings of the experimental group revealed in this study, our findings would be corroborated. However, if their results were different, then we would have to consider the bilingual advantage as the major factor in CLI in third language

[26] Since almost all Kurdish speakers learn L2-Turkish at early ages and become bilinguals, it is not possible to have a Kurdish monolingual control group in our circumstances. A monolingual control group of Kurdish can be found only from elderly people who will, however, not be exposed to English in any context.

acquisition and take into account the multiple interaction of linguistic repertoire available to the multilinguals. Moreover, our findings showed that the foreignness of Turkish did not overwhelm the typological closeness of Kurdish in the acquisition of English as a foreign language or L2 Status Factor. If L1 is typologically similar to L3, the foreignness of L2 does not affect L3 acquisition. If we could find a phenomenon of three languages in which Kurdish would be different from English but Turkish would be similar, then we could test whether it is L1, L2 or typologically similar language which has a role in third language acquisition. Besides, bilingual control groups should be formed to check the effect of structural similarities between two possible languages in the L1–L2 language configuration. A possible control groups could be L1-Turkish and L2-Kurdish or L1-Kurdish and L2-English. Further research with other language combinations to examine possible interaction between these languages and therefore possible source(s) of transfer between these languages will shed light on CLI. In fact, evidence from multilinguals with different language pairings is crucial for a further development of theories on cross-linguistic influence.

Although off-line and on-line data collection tasks complement each other, self-paced reading results can be corroborated by eye-tracking experiment results. Results should be validated with further data from various groups of participants with different combinations of languages to reach a fuller and comprehensive picture of adpositions in TLA process. Further investigation of multiple languages and their activation will contribute to better understanding of the notion of multilingualism and the use of linguistic repertoire by multiliguals. Additionally, investigation of other similar and different structures between Kurdish and English like word order can be addressed in future studies to support the influence of typology as a factor within Kurdish-English context.

Other factors that are operative in CLI research, particularly the significance of L1 and L2 status (in this study L1-Kurdish as a community language and L2-Turkish as official language) should also be explored further to see their effect on TLA within the context Turkish-Kurdish bilingual community. The systematic and principled investigation of cross-linguistic influence in multilingual development should involve

the investigation of both language-based and learner-based factors that have been shown to determine CLI in several studies regarding TLA.

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APPENDICES

APPENDIX A: BACKGROUND QUESTIONNAIRE

This questionnaire is a part of a study on the use of adpositions in English as a third language. All information provided by the participant will be kept confidential. I would be grateful if you could give sincere and detailed responses to all of the questions.

Thanks in advance for your time and patience.

Sakine Çabuk

METU, Department of English Language Teaching

PhD student

SECTION A	
Name:	
Last name:	
Age:	
Gender:	☐ Female ☐ Male
Hometown:	
Parent's level of education	

SECTION B

INSTRUCTION: Please tick the answer that applies to you in the first two questions and provide the answer for the following questions.

1.When did you first start to learn English?

- primary school
- secondary school
- high school

2.How long have you been learning English?

- less than 3 months
- 6 months
- 1-5 years

3.List the books and materials that were used in the English classes.

4.What extra activities, other than the classroom instructions and assignments, do you do to improve your English?

5.Have you ever been to a foreign country? If yes, please write down where, for how long and for what purpose(s) have you been there?

Country	How long	Why
5.1.		
5.2.		
5.3.		

6.Please identify the level of your skills in the language(s) you know (beginner, low-intermediate, intermediate, upper-intermediate, advanced)?

Language	Listening	Reading	Speaking	Writing
6.1.				
6.2.				
6.3.				
6.4.				

7. Please indicate the contexts that you use your L1 and L2, and L3 if applicable.

Context of Use	**L1**	**L2**	**L3**
Communicating with parents			
Communicating with peers			
Communicating at school			
Communication in social community			
TV language			
Language of books read			
Language of counting numbers			
Language of inner voice			
Language of dreams			

APPENDIX B: CONSENT FORM

ARAŞTIRMAYA GÖNÜLLÜ KATILIM FORMU

Bu araştırma, ODTÜ Doktora öğrencisi Sakine Çabuk tarafından Doç. Dr. Çiğdem Sağın-Şimşek danışmanlığındaki doktora tezi kapsamında yürütülmektedir. Bu form sizi araştırma koşulları hakkında bilgilendirmek için hazırlanmıştır.

Çalışmanın Amacı Nedir?

Araştırmanın amacı, üçüncü yabancı dil edinim sürecinde edatların kullanımında diller arasındaki etkileşimi araştırmaktır.

Bize Nasıl Yardımcı Olmanızı İsteyeceğiz?

Araştırmaya katılmayı kabul ederseniz, sizlerden yazılı ve bilgisayar ortamında olmak üzere iki biçiminde veri toplayacağız. İlk olarak verilen resimli çoktan seçmeli İngilizce bir test içerisinden doğru edatları seçmenizi isteyeceğiz. İkinci olarak bir resimde verilen nesnelerin yerlerini İngilizce yazmanızı isteyeceğiz. Son veri toplama yöntemi olarak da bilgisayar ekranında tek tek kelime olarak görünen cümleleri kendi okuma hızınızda değerlendirmenizi rica edeceğiz.

Sizden Topladığımız Bilgileri Nasıl Kullanacağız?

Araştırmaya katılımınız tamamen gönüllülük temelinde olmalıdır. Çalışmada sizden kimlik veya kurum belirleyici hiçbir bilgi istenmemektedir. Cevaplarınız tamamıyla gizli tutulacak ve sadece araştırmacı tarafından değerlendirilecektir. Katılımcılardan elde edilecek bilgiler toplu halde değerlendirilecek ve bilimsel yayınlarda kullanılacaktır.

Katılımınızla ilgili bilmeniz gerekenler:

Çalışma ve araştırma süreci genel olarak sizlere kişisel rahatsızlık verecek sorular veya uygulamalar içermemektedir. Ancak, katılım sırasında tamamlayacağınız testlerden ve cevap vereceğiniz sorulardan ya da herhangi başka bir nedenden ötürü kendinizi rahatsız hissederseniz çalışmayı yarıda bırakıp çıkmakta serbestsiniz. Böyle bir

durumda çalışmayı uygulayan kişiye çalışmadan çıkmak istediğinizi söylemek yeterli olacaktır.

Araştırmayla ilgili daha fazla bilgi almak isterseniz:

Çalışma ve veri toplama süreçlerinin öncesinde ve sonrasında, bu çalışmayla ilgili sorularınız cevaplanacaktır. Bu çalışmaya katıldığınız için şimdiden teşekkür ederiz. Çalışma hakkında daha fazla bilgi almak için doktora öğrencisi Sakine Çabuk (E-posta: scabuk@metu.edu.tr) ile iletişim kurabilirsiniz.

Yukarıdaki bilgileri okudum ve bu çalışmaya tamamen gönüllü olarak katılıyorum.

(Formu doldurup imzaladıktan sonra uygulayıcıya geri veriniz).

İsim Soyad Tarih İmza

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CONSENT FORM FOR PARENTS

Veli Onay Formu

Sevgili Anne/Baba

Bu çalışma Orta Doğu Teknik Üniversitesi Doktora öğrencisi Sakine Çabuk tarafından yürütülmektedir.

Bu çalışmanın amacı nedir? Çalışmanın amacı, üçüncü yabancı dil edinim sürecinde edatların kullanımında diller arasındaki etkileşimi araştırmaktır.

Çocuğunuzun katılımcı olarak ne yapmasını istiyoruz?: Bu amaç doğrultusunda, çocuğunuzdan kendisine verilen resimli çoktan seçmeli İngilizce bir test içerisinden doğru edatları seçmesini isteyeceğiz. Ayrıca bir resimde verilen nesnelerin yerlerini İngilizce yazmasını isteyeceğiz. Son veri toplama yöntemi olarak da bilgisayar ekranında tek tek kelime olarak görünen cümleleri kendi okuma hızında

değerlendirmesini rica edeceğiz. Böylelikle verilerimizi yazılı ve bilgisayar ortamında olmak üzere iki biçiminde toplayacağız. Sizden çocuğunuzun katılımcı olmasıyla ilgili izin istediğimiz gibi, çalışmaya başlamadan çocuğunuzdan da sözlü ve yazılı olarak katılımıyla ilgili rızası mutlaka alınacak.

Çocuğunuzdan alınan bilgiler ne amaçla ve nasıl kullanılacak?: Çocuğunuzdan alacağımız cevaplar tamamen gizli tutulacak ve sadece araştırmacı tarafından değerlendirilecektir. Elde edilecek bilgiler sadece bilimsel amaçla kullanılacak, çocuğunuzun ya da sizin ismi ve kimlik bilgileriniz, hiçbir şekilde kimseyle paylaşılmayacaktır.

Çocuğunuz ya da siz çalışmayı yarıda kesmek isterseniz ne yapmalısınız?: Katılım sırasında sorulan sorulardan ya da herhangi bir uygulama ile ilgili başka bir nedenden ötürü çocuğunuz kendisini rahatsız hissettiğini belirtirse, ya da kendi belirtmese de araştırmacı çocuğun rahatsız olduğunu öngörürse, çalışmaya sorular tamamlanmadan ve derhal son verilecektir.

Bu çalışmayla ilgili daha fazla bilgi almak isterseniz: Çalışmaya katılımınızın sonrasında, bu çalışmayla ilgili sorularınız yazılı biçimde cevaplandırılacaktır. Çalışma hakkında daha fazla bilgi almak için Orta Doğu Teknik Üniversitesi Yabancı Diller Yüksek Okulu'nda Sakine Çabuk ile (e-posta: scabuk@metu.edu.tr) ile iletişim kurabilirsiniz. Bu çalışmaya katılımınız için şimdiden teşekkür ederiz.

Yukarıdaki bilgileri okudum ve çocuğumun bu çalışmada yer almasını onaylıyorum
(Lütfen alttaki iki seçenekten birini işaretleyiniz.

Evet onaylıyorum___ ***Hayır, onaylamıyorum___***

Anne/Baba adı-soyadı: _____ Tarih:_____

Çocuğun adı soyadı ve doğum tarihi:_____

(Formu doldurup imzaladıktan sonra araştırmacıya ulaştırınız).

APPENDIX C: PICTURE DESCRIPTION TASK WITH MULTIPLE CHOICES

Look at the pictures and choose the correct preposition.

1. The man is walking **a) at** the park.

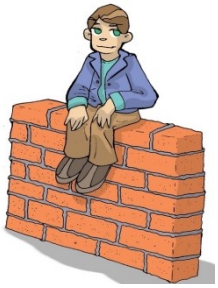
b) on

c) in

2. Sue is driving **a) to** the market.

b) over

c) behind



3. The boy is sitting a) in the wall.

b) on

c) at

4. The girl is a) up the door.

b) over

c) behind

5. The birds are **a) over** his head.

b) behind

c) to

6. The balloons are a) to the clouds.

b) over

c) behind

7. Jim is sending messages a) over his friends.

b) to

c) behind

8. The elephant is a) in the ball.

b) on

c) at

9. The girls danced **a) at** the party.

b) in

c) on

10. The toys are a) on the box.

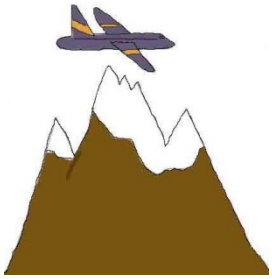
b) at

c) in

11. The boy is hiding a) over the tree.

b) behind

c) to



12. The plane is flying a) behind the mountain.

b) over

c) to

13. The cat is sleeping **a) on** the sofa.

b) in

c) at

14. The man is a) at the car.

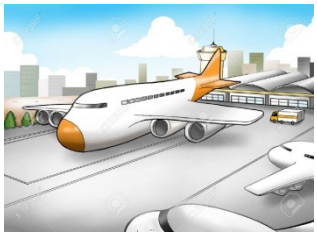
b) on

c) in

15. The picture is a) in the wall.

b) on

c) at



16. The plane is arriving a) on the airport.

b) in

c) at

17. The bridge goes a) behind the river.

b) over

c) to

18. The man is **a) at** the table.

b) on

c) in

19. The lamp is a) to the chair.

b) over

c) behind

20. The boy is going a) over the cinema.

b) to

c) behind

21. The students are a) in the concert.

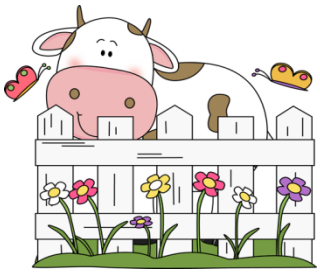
b) on

c) at

22. The fish is swimming **a) in** the aquarium.

b) on

c) at



23. The cow is **a) behind** the fence.

b) over

c) to

24. The kids are lying a) in their beds.

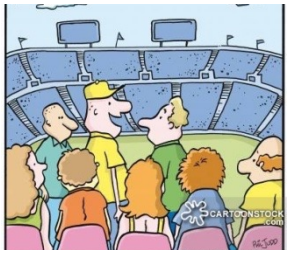
b) at

c) on

25. The sheep is jumping a) to the fence.

b) behind

c) over



26. The people are a) in the match.

b) at

c) on

27. The woman is walking **a) to** the store.

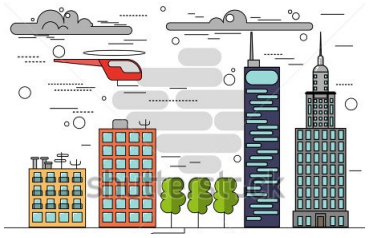
b) behind

c) over

28. The dog is walking **a) behind** the boy.

b) over

c) to



29. The helicopter is a) to the city.

b) over

c) behind

30. They are walking a) behind the center.

b) over

c) to

31. The boy is waiting a) in the lights.

b) on

c) at

32. The sun is shining **a) over** the clouds.

b) behind

c) to

33. The dog is **a) on** the chair.

b) in

c) at

34. They are going a) over the beach.

b) behind

c) to

35. The book is a) on the bag.

b) in

c) at

36. The rabbit is standing **a) in** the hat.

b) at

c) on

APPENDIX D: TEDDY BEAR PICTURE DESCRIPTION TASK

Look at the picture above and complete the sentences below. Where are the teddy bears in the room?

1. The black teddy bear ……
2. The yellow teddy bear …….
3. The green teddy bear…….
4. The purple teddy bear……
5. The red teddy bear……
6. The blue teddy bear……..
7. The brown teddy bear……
8. The pink teddy bear……

APPENDIX E: SELF PACED READING TASK

List 1: Items for 'IN'

List A	List B	List C
1a. **The man is in the garden right now.**	b. * The man is at the garden right now.	c. * The man is on the garden right now.
2a. *The killer is on the prison right now.	b. **The killer is in the prison right now.**	c. *The killer is at the prison right now.
3a. *The boy is at the room right now.	b. * The boy is on the room right now.	c. **The boy is in the room right now.**
4a. **The man cooked in the kitchen last night.**	b. * The man cooked at the kitchen last night.	c. * The man cooked on the kitchen last night.
5a. * The dog slept on the house last night.	b. **The dog slept in the house last night.**	c. * The dog slept at the house last night.
6a. *The girl walked at the forest last night.	b. * The girl walked on the forest last night.	c. **The girl walked in the forest last night.**

List 2: Items for 'ON'

List A	List B	List C
1a. **The poster is on the board right now.**	b. * The poster is in the board right now.	c. * The poster is at the board right now.
2a. *The book was at the floor last night.	b. **The book was on the floor last night.**	c. * The book was in the floor last night.

3a. *The fly is in the window right now.	b. * The fly is at the window right now.	c. **The fly is on the windows right now.**
4a. **The woman slept on the couch last night.**	b. * The woman slept in the couch last night.	c. * The woman slept at the couch last night.
5a. *The man walked at the coast last night.	b. **The man walked on the coast last night.**	c. * The man walked in the coast last night.
6a. *The woman died in the street last night.	b. * The woman died at the street last night.	c. **The woman died on the street last night.**

List 3: Items for 'AT'

List A	**List B**	**List C**
1a. **The couple was at the match last night.**	b. * The couple was in the match last night.	c. * The couple was on the match last night.
2a. *The bus is on the lights right now.	b. **The bus is at the lights right now.**	c. *The bus is in the lights right now.
3a. * The man was in the dinner last night.	b. * The man was on the dinner last night.	c. **The man was at the dinner last night.**
4a. **The plane arrived at the airport last night.**	b. * The plane arrived in the airport last night.	c. * The plane arrived on the airport last night.
5a. * They are eating on the table right now.	b. **They are eating at the table right now.**	c. *They are eating in the table right now.
6a. *The boy danced in the party last night.	b. * The boy danced on the party last night.	c. **The boy danced at the party last night**.

List 4: Items for 'BEHIND'

List A	List B	List C
1a. **The dog is behind the house right now.**	b. * The dog is over the house right now.	c. *The dog was to the house right now.
2a. *The singer is to the stage right now.	b. **The singer is behind the stage right now.**	c. * The singer is over the stage right now.
3a. * The cat is over the window right now.	b. * The cat is to the window right now.	c. **The cat is behind the window right now.**
4a. **The car stopped behind the house last night.**	b. *The car stopped over the house last night.	c. *The car stopped to the house last night.
5a. *The boy sat to the class last year.	b. **The boy sat behind the class last year.**	c. *The boy sat over the class last night.
6a. *The robber hid over the curtain last night.	b. *The robber hid to the curtain last night.	c. **The robber hid behind the curtain last night.**

List 5: Items for 'OVER'

List A	List B	List C
1a. **The bus went over the bridge last night.**	b. *The bus went behind the bridge last night.	c. * The bus went to the bridge last night.
2a. * The birds were to the river last night.	b. **The birds were over the river last night.**	c. *The birds were behind the river last night.

3a. *The balloon is behind the island right now.	b. * The balloon is to the island right now.	c. **The balloon is over the island right now.**
4a. **The planes flew over the area last night.**	b. *The planes flew behind the area last night.	c. * The planes flew to the area last night.
5a. *The kid fell to the chair last night.	b. **The kid fell over the chair last night.**	c. *The kid fell behind the chair last night.
6a. *The robber climbed behind the fence last night.	b. * The robber climbed to the fence last night.	c. **The robber climbed over the fence last night.**

List 6: Items for 'TO'

List A	**List B**	**List C**
1a. **The kids went to the theater last night.**	b. *The kids went over the theater last night.	c. * The kids went behind the theater last night.
2a. *The family went behind the beach last week.	b. **The family went to the beach last week.**	c. * The family went over the beach last week.
3a. * The family moved over the center last month.	b. *The family moved behind the center last month.	c. **The family moved to the center last month.**
4a. **The robber ran to the door last night.**	b. *The robber ran over the door last night.	c. *The robber ran behind the door last night.
5a. *The woman went behind the market last week.	b. **The woman went to the market last week.**	c. *The woman went over the market last week.

6a. *The man went over the office last night.	b. *The man went behind the office last night.	c. **The man went to the office last night.**

FILLERS

List 1 (24 Grammatical Items)

The boy gave a great concert last night.

My mother baked a delicious cake this morning.

The family bought a small house last year.

The chef got a wonderful recipe this morning.

Her brother made a big mistake last night.

The couple needs a big house this year.

His boss ordered a new report this morning.

The kids had a good lesson last week.

The family sold a nice farm last year.

The boy broke a new bicycle this year.

The girl bought a nice skirt last week.

Her sister had a cute baby this year.

The bride had a beautiful dress last night.

The footballer scored a great goal last night.

The postman brings a pink letter every day.

The customer got a new card this year.

The lawyer asked an important question last week.

The student asked a hard question this morning.

The fisherman catches a big fish every day.

The woman is a good worker this year.

The man has a fresh shower every day.

My uncle had a little dog last year.

Our neighbor rode an old bike last year.

Her room was a nice color last month.

List 2 (12 Ungrammatical Items)

My sister had a long hair this year.

The man bought a stylish furniture last year.

The man earns a good money every year.

The woman wanted a pure water this time.

The boy needs a warm milk every day.

The chef tasted a good bread this morning.

The girl has a low energy every day.

The boy found a real gold last week.

Her sister needs a good advice right now.

The garden has a soft grass every year.

The dog ate a cold ice this morning.

The teacher gives a good information every day.

APPENDIX F

TURKISH SUMMARY/TÜRKÇE ÖZET

Giriş ve Kuramsal Artalan

Bu çalışmanın amacı diller arası etkileşim hangi dilin yeni öğrenilen bir dil üzerinde etkili olduğunu araştırmaktır. Sharwood Smith (1983) ve Kellerman (1984) tarafından ortaya atılan diller arası etkileşim bir çok araştırmacı tarafından çok dillik ve ikinci yabancı dil edinimi alanlarında uzun süredir kullanılmaktadır. Diller arası etkileşim dil öğrenenlerin önceden bildikleri dilleri yeni öğrendikleri dil ortamına aktarma sürecidir. Eğer iki dilde benzer ögeler var ise olumlu etki meydana gelir. Eğer iki dil arasında herhangi bir benzerlik yoksa bu dil öğrenenler için yanlış ve hatalara yol açar (Odlin, 2003). Diller arası etkileşim ne zaman ve ne derecede meydana geldiği ortam (sınıf ortamı, ikinci dil edinimi bağlamı), dil seviyesi (seviye yükseldikçe diller arası etkileşim azalır), ve öğrenci tipi (Benson, 2002) gibi etkenlere bağlıdır.

Alanyazında diller arası etkileşimin kaynağının farklı biçimlerde olabildiği belirtilmiştir. Uzun bir zaman ilk dilin (L1) sonra edinilen dillere ana kaynaklık ettiği belirtilmiştir (Angelovska & Hahn, 2012). Yeni yapılan çalışmalar ikinci dil statüsünün, ilk dilden farklı dillerin (yabancı dil etkisi) üçüncü dil ediniminde diller arası etkileşimde bir etken olduğunu belirtmiştir (Dewaele, 1998; De Angelis & Selinker, 2001; Ecke, 2001; Williams & Hammarberg, 1998, ve diğerleri). Diğer yapılan çalışmalar tipolojik olarak benzer dillerin diller arası etkileşimde birinci ya da ikinci dil olmaksızın etkili olduğunu göstermektedir. Bir çok araştırmacı dil öğrenenlerin ikinci dil ile üçüncü dil arasında bir benzerlik algıladıklarında bunu üçüncü dil öğrenme sürecinde kolaylaştırıcı bir etkiye sahip olduğunu belirtmiştir (Cenoz, 2005; De Angelis, 2005; Ecke, 2001; Fouser, 2001; Möhle, 1989; Ringbom, 2001, 2005, ve diğerleri). Bu tez İngilizce, Türkçe, ve Kürtçe dillerini araştırarak –ki

bu diller arasında İngilizce ve Kürtçe arasında benzerlik bulunmaktadır- bu araştırma alanına katkıda bulunmayı hedeflemektedir.

Edatların Üç Dilde Karşılaştırılması

İngilizcede edatlar ismin önüne gelir ve sadece preposition (önedat) formunda kullanılırlar. Türkçede ise edatlar ya postposition (ismin arkasına eklenen edat) ya da isme eklenen hal eki biçimini alırlar. Kürtçede ise hem preposition (ismin önüne gelen edat, önedat) hem de circumposition (ismin hem önüne hem arkasına eklenen edat yapısı) vardır. Bu çalışmada araştırılan İngilizce edatlar ve Türkçe ve Kürtçe dillerinde karşılıkları aşağıdaki tabloda verilmiştir.

Tablo 1.1: Edatların İngilizce, Türkçe ve Kürtçe dillerinde Karşılaştırılmaları

İngilizce	**Türkçe**		**Kürtçe**		
Preposition	***Postposition***	***Hal eki***	***Preposition***	***Circumposition***	***Son Ek***
in	iç-i-(n)de	-DA	***Copula***	***Lexical Verb***	
			li	Dİ … DE/li… DE	
on	üst-ü- (n)de	-DA	***Copula***	***Lexical Verb***	
			li ser	li ser …DE	
at		-DA		Dİ … DE/li… DE	
behind	arka-(s)ı-n-da		li paş		
over	üzeri-(n)de		li ser		
to	-E doğru	-(y)A		Bi ber….Dİ	-E

Amaç ve Biçimbilimsel Odak

Bu araştırmanın amacı ikinci dil ediniminde üçüncü dil ediniminde edatların kullanımında diller arası etkileşimi araştırmaktır. Diller arası etkileşim Weinreich (1953) çalışmasıyla başlayarak bir çok açıdan araştırılmıştır. Fakat yakın zamanda araştırmacılar üçüncü dil veya dördüncü dilin önemine dikkat çekmeye başlamıştır. Bu çalışma üçüncü dil edinim sürecinde edatları inceleyerek hangi dilin (L1-Kürtçe ya da L2-Türkçe) üçüncü dil (İngilizce) ediniminde kaynaklık ettiğini araştırarak bu alanına katkıda bulunmayı hedeflemektedir. Çalışmanın iki temel amacı vardır:

i. Birinci veya ikinci dilden hangisinin üçüncü dil edinimine etki ettiğini ortaya çıkarmak çünkü edatlar Kürtçe Türkçe ve İngilizce dillerinde morfolojik ve sözdizimsel olarak farklılık göstermektedir

ii. Türkçe-Kürtçe iki dilli bireylerin İngilizce edatları algılama, işlemleme, ve kullanımını analiz etmek ve tek dilli bireylerle karşılaştırmak

Bu çalışma İngilizce edatları çevrimiçi ve çevrimdışı deneylerle araştırmaktadır. Resim tasvir deneyleri üçüncü dil İngilizce edatların bilgisini önceki bilinen dillerin (Türkçe ve Kürtçe) nasıl şekillendirdiğini gösterirken çevrimiçi kendi hızıyla okuma edatların işlemlenmesi konusunda bilgi verecektir. Bu çalışma İngilizce edatların (içinde, üstünde, -DA, arkasında, üzerinde, ve –E doğru) yer gösterme ile ilgili özelliklerini araştırmaktadır.

Bu çalışma İngilizce edatları inceleyerek üçüncü dil edinim sürecinde diller arası etkileşimin rolünü araştırmaktadır. İngilizce edatların (*in* 'içinde', *on* 'üstünde', *at* '-DA', *behind* 'arkasında', *over* 'üzerinde', ve *to* '–E doğru') algılanma, işlemleme ve üretimi incelenerek bilinen dillerden (birinci dil ya da ikinci dil) hangisinin İngilizce (üçüncü dil) edatların edinilmesine diller arası etkileşimde kaynaklık ettiği araştırmaktadır. Bu edatların araştırılmasının ana sebebi Kürtçe, Türkçe ve İngilizce dillerindeki edatların morfo-sentaktik özellikleridir. Bazı edatlar bu dillerde benzer şekilde temsil edilirken (örneğin arkasında ve üzerinde Kürtçe ve İngilizcede önedat olarak kullanılır) diğerleri farklı şekillerde temsil edilir (örneğin *in, on, at* 'içinde,

üstünde, ve –DA' İngilizcede önedat, Türkçede tamladığı ismin ardına gelen edat ya da hal eki, Kürtçede ise önedat ya da circumposition (ismin iki ucuna eklenen edat yapısı). Hem benzer hem de farklı biçimde temsil edilen edatların seçilme nedenleri diller arası etkileşimde kaynak dili –ki kaynak dil Kürtçe ya da Türkçe olabilir- saptamaktır.

Araştırma Soruları ve Öngörüler

Bu araştırma aşağıdaki sorulara yanıt bulmayı amaçlamaktadır.

1. Bilinen dillerden hangisi İngilizce edatların algılanması ve kullanılmasında ana kaynaktır?
    a) İngilizceye tipolojik olarak benzeyen Kürtçe mi İngilizce edatların algılanması ve kullanılmasında ana kaynaktır?
    b) İngilizceden tipolojik olarak farklı olan ve ikinci dil olan Türkçe mi İngilizce edatların algılanması ve kullanılmasında ana kaynaktır?

İlk araştırma sorusu çevrimdışı resim tasviri deneylerinden (Algılama üzerine yoğunlaşmış çoktan seçmeli resim tasviri ve edatların kullanımı üzerine yoğunlaşmış ayıcık resim tasviri) elde edilecek verilerle cevaplanacaktır.

2. Bilinen dillerden hangisi İngilizce edatların işlemlenmesinde ana kaynaktır?
    a) İngilizceye tipolojik olarak benzeyen Kürtçe mi İngilizce edatların işlemlenmesinde ana kaynaktır?
    b) İngilizceden tipolojik olarak farklı olan ve ikinci dil olan Türkçe mi İngilizce edatların işlemlenmesinde ana kaynaktır?

İkinci araştırma sorusu ise kendi hızıyla okuma deneyinden elde edilecek bulgularla cevaplanacaktır. Araştırma soruları göz önünde tutularak çalışmanın öngörüleri aşağıdaki gibidir:

1. Eğer üçüncü yabancı dil ediniminde diller arası etkileşim tipolojik olarak benzer dilden geliyorsa diller arası etkileşim ve çok dillilik üzerine var olan bulgular (Cenoz, Hufeisen & Jessner, 2002; De Angelis, 2005) ışığında Kürtçenin İngilizce edatların edinimini kolaylaştırması beklenir. Türkçe-

Kürtçe iki dilli katılımcıların İngilizce edatların algılanması, kullanılması ve işlemlenmesinde daha iyi olmaları beklenmektedir çünkü Kürtçe edat sistemi İngilizce (üçüncü dil) edat sistemi ile benzerlik göstermektedir. Kürtçe edat sistemi önedatların yanısıra circumpositionları (ismin iki tarafına da gelen edatlar) da barındırır ki ismin önüne gelen circumposition (örn. *li…..de*) öğesi de İngilizce edatların edinimini kolaylaştırabilir. Kontrol grubunu oluşturan anadili Türkçe olan katılımcılar için Türkçe edat sistemi (ismin arkasına gelen edat ve durum hal ekleri) İngilizceninkinden farklı olduğu için herhangi bir kolaylık sağlamaması beklenmektedir.

2. Eğer diller arası etkileşim ikinci dilden geliyorsa Türkçenin İngilizce edatların edinimini kolaylaştırması beklenir. Türkçe Kürtçeden sonra edinilen bir dil olduğu için ve üçüncü dil öğrenenler için ikinci dil olduğu için ikinci dilin sonraki öğrenilen dillerin (Üçüncü dil İngilizce) edinimine kaynaklık etmesi olasıdır.
3. İki/Çokdillilik metadil farkındalığı ile ilişkilendirildiği için (Jessner, 2008) ve ayrıca üçüncü dil öğrenenler üçüncü dil edinim sürecinde halihazırda iki dilin bilgisine ve böylece daha çok tecrübeye sahiptirler. Bu nedenle iki/çokdillilerin üçüncü dil edinim sürecinde tek dil bilenlere oranla daha iyi olmaları beklenmektedir.

Örneklem

Çalışmanın örneklemi deneysel grubu oluşturan iki dilli (Türkçe-Kürtçe) katılımcılar ile kontrol grubu olan tek dilli (Türkçe) 67 lise öğrencisinden oluşmaktadır. Deneysel grubu oluşturan Türkçe-Kürtçe bilen iki dilli katılıcılar (33) 15-17 yaş aralığındadır (ortalama yaş: 15.5, 14 kız) ve İngilizceyi (üçüncü dil) yabancı dil olarak öğrenmektedir. Kontrol grubunu oluşturan ve yaşları 15 ile 16 (ortalama yaş: 15.2, 12 kız) arasında değişen İngilizceyi ikinci dil olarak öğrenen ana dili Türkçe olan 34 katılımcıdan oluşmaktadır.

Tüm katılımcılar İngilizceyi yabancı dil olarak öğrenmektedir ve haftalık 40 saatlik 9. sınıf programlarının 6 saati İngilizcedir. Okulda öğretilen İngilizce ders

kitaplarında öğretilen genel İngilizcedir. Ders kitapları dinleme, konuşma, okuma ve yazma olan dört temel beceriyi içerir. İngilizce dersleri dinleme ve okuma becerileriyle harmanlayarak gramer (dilbilgisi) ve kelime öğretimini kapsar. Konuşma ve yazma becerileri dinleme ve okuma becerilerine göre daha sınırlıdır. Bu yüzden katılımcılar kendilerini konuşma ve yazmaya nazaran dinleme ve okuma becerilerinde daha iyi değerlendirmişlerdir. Sınıfta verilen ödevler dışında İngilizceye çok vakit harcamasalar da İngilizceye öğrenmeye karşı tutumları olumludur. Hem iki dilli hem de tek dilli katılıcımlar İngilizce öğrenmeye ilkokul 4. sınıfta başlamaktadır. İngilizce dersleri ortaokul ve lisede de devam etmektedir. Bu yüzden deneyler yapıldığı zaman en az 6 yıl İngilizce öğrenmiş oluyorlar. Veri toplanma sürecinde tüm katılıcımlar orta alt düzeydeydiler. İngilizce seviyeleri ODTÜ Yabancı Diller Yüksek Okulu yerleştirme sınavı esas alınarak belirlenmiştir. İngilizce ile geçirilen vakit sadece sınıf ortamı ile sınırlıdır.

Kürtçe bilen katılımcılar Kürtçeyi anadili olarak doğduğu andan itibaren maruz kalırken Türkçe öğrenmeye başlamaya ise altı yaşında başlarlar çünkü o yaşta okul ile birlikte Türkçeye yoğun bir şekilde maruz kalırlar. Oysa Türkçe ile daha erken yaşlarda televizyon vasıtası ile karşılaşırlar. Zaman içinde okulda Türkçe eğitim ile iki dilli bireylere dönüşürler çünkü okulda İngilizce hariç tüm dersler için eğitim dili Türkçedir.

Katılımcıların sosyo-ekonomik geçmişleri göz önüne alındığında Türkçe-Kürtçe bilen iki dilli katılımcıların aile eğitim seviyesi tek dilli bireylerinkinden daha azdır. Eğitim seviyesi tek dilli katılımcılar için en az lise mezunu çıkarken iki dilli katılımcılar için ilkokuldur. İki dilli ailelerin meslekleri arasında inşaat işçisi, çiftçi, öğretmen, bankacı, ve memur vardır. Tek dilli denek grubunun aile meslekleri arasında ise polis, öğretmen, muhasebeci ve bankacı vardır.

Veri Analiz Süreci ve Yöntemi

Yapılan deneylerden elde edilen veriler tek tek kodlanarak hem nicel hem de nitel analizler yapılmıştır. Çoktan seçmeli resim tasviri içeren ilk deneyden elde edilen verilen doğru yanlış şeklinde SPSS veri tabanına girilerek sonuçlar gruplar arası ve grup içi t-test karşılaştırması yapılarak SPSS ile analiz edilmiştir.

İkinci resim tasviri (Ayıcık resim tasviri) deneyinin sonuçları nitel olduğu için verinin nicel bir şekilde analiz edilebilmesi için dört temel kategori oluşturulmuştur. İlk kategori doğru cevaptır (Ör. Mavi ayıcık kapının arkasındadır). İkinci kategori yanlış cevaptır (Ör. Mavi ayıcık kapının üstündedir). Üçüncü kategori kaçınma kategorisidir ki bu kategoride katılımcı cevap verirken herhangi bir edatı kullanmaktan kaçınmıştır (Ör. Mavi ayıcık beklemektedir). Son kategori ise boş bırakmadır. Bu kategoride katılımcı herhangi bir cevap vermemiştir. Tüm bu kategoriler sayılar ile kodlanarak SPSS veri analiz programına girilmiş ve nicel veri analizi yapılmıştır. Nicel veri analizinin yanısıra nitel veri analizi de aynı kategoriler kullanılarak yapılmıştır. Son kendi hızıyla okuma deneyi ise psikodilbilimde kullanılan bir tekniktir. Bu deney bilgisayar ortamında yapıldığı ve katılımcıların her kelimeyi tek tek kelime okuma hızını ölçtüğü için elde edilen veriler SPPS veri analiz programına aktarılmış ve bu veriler üzerinden grupla arası ve grup içi karşılaştırmaları yapılmıştır.

Deney 1: Çoktan Seçmeli Resim Tasviri

Edatlar Türkçe, Kürtçe ve İngilizcede biçimbilim ve sözdizimsel farklılık göstermektedir. Araştırma çevrimdışı ve çevrim içi veri toplama araçlarıyla gerçekleştirilmiştir. Veri toplamada iki çevrimdışı resim tasvir etkinliği (Çoktan seçmeli resim tasviri ve ayıcık resim tasviri) ve çevrim içi kendi hızıyla okuma teknikleri kullanılmıştır. İlk deney çoktan seçmeli resim tasviridir. Bu deneyde katılımcılar 36 sorudan oluşan çoktan seçmeli bir testi yapmaktadır. Her bir soru için bir resim ve o resmin tasvirini içeren bir cümle vardır. Resmin tasvirini içeren cümle üç seçenek ile sunulmaktadır ve bu seçeneklerden biri doğru cevabı içerirken diğer ikisi yanlış cevabı içermektedir.Veri toplamda renkli resimler kullanılmıştır. Deney kontrol ve deney grubuna aynı günde farklı sınıflarda uygulanmıştır.

Deneyin sonuçları iki grup performansları karşılaştırılması için t-test kullanılmıştır. Test sonuçları deney grubunu *to* (–E doğru) hariç tüm edatlarda *in, on, at, behind, over* (içinde, üstünde, -DA, arkasında, üzerinde) kontrol grubuna göre daha başarılı olduğu saptanmıştır. Verilen doğru cevap kategorisinde deney grubu ile kontrol grubu arasında anlamlı bir fark bulunmuştur $t(65)= 2.796$, $p=.007$. A grubunu oluşturan deney grubu İngilizce edatların fark edilmesi ve algılanmasında algılanması

B grubunu oluşturan kontrol grubundan daha iyidir. Gruplar arası karşılaştırmanın yanısıra aynı zamanda *in* (içinde) ve *on* (üstünde) için –Kürtçede bu iki edat farklı biçimlerde kullanılır. Copula (bağlayıcı eylem) ile kullanıldıklarında preposition (önedat), bir eylem fiili ile kullanıldıklarında circumposition (ismin hem önüne hem arkasına eklenen edat yapısı) biçimini alırlar- grup içerisinde karşılaştırmalar yapılmıştır. Yapılan grup içi karşılaştırmalarda A grubu *in* (içinde) edatının ad fiil ile kullanımı ile eylem fiili ile kullanımı arasında anlamlı bir fark bulunmuştur, $t(32)= 4.423$, $p<.001$. B grubu (kontrol grubu) için ise grubu *in* (içinde) edatının ad fiil ile kullanımı ile eylem fiili ile kullanımı arasında anlamlı bir fark bulunamamıştır, $t(33)= 1.852$, $p =.073$.

Deney 2: Ayıcık Resim Tasviri

İkinci deney bir oda içine yerleştirilmiş sekiz ayıcık içeren edatların cümle içinde kullanımını hedefleyen bir deneydir. Sekiz farklı renkte ayıcık bir oda içinde farklı pozisyonlara yerleştirilmiştir. Katılımcıların bu ayıcıkların yerlerini tasvir etmeleri beklenmektedir. Katılımcılara cümlelerin ilk renk içeren bölümü verilmiştir ve ayıcığın yerini tasvir etmeleri istenmiştir (ör. Mavi ayıcık.....).

Ayıcık resim tasviri deneyinin sonuçları hem nicelik hem nitelik olarak analiz edilmiştir. Yapılan analizlerde gruplar arası karşılaştırmalı t-test sonuçlarına göre deney grubu (A grubu) kontrol grubundan (B grubunu) *at* (-DA) ve *to* (–E doğru) edatları hariç tüm edatları anlamlı bir şekilde daha iyi kullanmıştır. Gruplar arası karşılaştırmalarda her bir edat için doğru kullanma, yanlış kullanma, kaçınma ve boş bırakma kategorilerinin analizi yapılmıştır. Elde edilen bulgular doğru kullanım kategorisi için) *at* (-DA) ve *to* (–E doğru) edatları hariç tüm edatların A grubu (deney grubu) tarafından doğru kullanıldığını ortaya koymuştur. Nitel analizler ise elde edilen nicel bulguların daha detaylı incelenmesini sağlamıştır. Nicel analiz sonuçları kontrol grubunu oluşturan Türkçe anadili olan ve İngilizceyi ikinci dil olarak öğrenen katılımcıların *in, on, at* edatlarını birbirlerinin yerine kullandığını ortaya çıkarmıştır. Bunun olası sebebi *in* (içinde, -DA), *on* (üstünde, -DA), *at* (-DA) edatlarının Türkçede hal eki –DA'ya karşılık gelmesidir. Benzer bir şekilde Türkçe-Kürtçe iki dilli

katılımcılar ise on (*li ser* 'üstünde') ve over (*li ser* 'üzerinde') edatlarını birbirlerinin yerine kullanmıştır.

İki resim analizi sonuçları incelendiğinde ortaya çıkan bulgular Türkçe-Kürtçe bilen iki dilli katılımcıların tek dilli katılımcılardan *in* (içinde, -DA), *on* (üstünde, -DA), *behind* (arkasında), *over* (üzerinde) edatlarını daha iyi kullandıklarıdır. Çünkü bu edatlar İngilizce ve Kürtçede preposition (önedat) olarak kullanılmaktadır ve iki dil arasındaki benzerlik bu edatların edinim sürecini iki dilli katılımcılar için daha kolay kılmıştır. Bu tipolojik benzerlik kolaylaştırıcı etkinin olası nedenidir. Diğer yandan *at* (-DA) ve ve *to* (–E doğru) edatları için aynı şey söylenemez çünkü bu edatların İngilizce ve Kürtçe dillerinde kullanımı farklıdır. İngilizcede bu edatlar ismin önüne gelen önedatlar iken Kürtçede bu edatlar circumposition (ismin iki ucuna eklenen edat yapısı) yapısına denk gelir. Bu nedenle bu edatların kullanımına dair bir kolaylaştırma etkisi görülmemektedir. Aynı zamanda grup içi karşılaştırma sonuçları da elde edilen sonuçları destekler niteliktedir. Bu da diller arası etkileşimin bire bir benzerlik öğesinden yola çıktığını göstermektedir (Kürtçe önedat-İngilizce önedat).

Deney 3: Kendi Hızıyla Okuma

Son deney İngilizce edatların işlemlenmelerini değerlendirmektedir. Bu deney bilgisayar ortamında sunulacak cümlelerin tek tek kelime olarak sunularak yapılmıştır. Bu deneyde 72 deneysel cümleden oluşmaktadır. 36 tane edat içeren cümle ve 36 tane farklı soruları içeren yanıltıcı cümlelerden oluşmaktadır. Farklı gramer yapılarını içeren bu 36 yanıltıcı cümlenin kullanılma sebebi katılımcıların deneyin esas amacı olan edatların farkına varmaması ve cevaplar verirken strateji geliştirmelerini engellemektir. 36 deneysel cümlenin her biri 8 ayrı bölgeden oluşmaktadır. 8 bölgenin her biri bir kelime içermektedir. Deneysel cümlelerin bir örneği ve nasıl sunulduğu aşağıda verilmiştir.

1. The ____ ____ ____ ____ ____ ____ ____ .
2. ____ man ____ ____ ____ ____ ____ ____ .
3. ____ ____ is ____ ____ ____ ____ ____ .
4. ____ ____ ____ in _____ _____ _____ ____.

5. ____ ____ ____ ____ the _____ ____ ____.

6. ____ ____ ____ ____ ____ garden ____ ____.

7. ____ ____ ____ ____ ____ ____ right ____.

8. ____ ____ ____ ____ ____ ____ ____ now.

Yukarıdaki örnekte görüldüğü gibi deneyde hareken eden pencere yöntemi kullanılmıştır. Deneydeki her bir cümle 8 bölüme ayrılmış ve bu sekiz bölüm içerisinde 6. bölge kritik bölge olarak saptanmıştır çünkü o bölge edat öbeği içinde yer alan isim bizlere edatların işlemlenmesi konusunda bulgu sunacaktır. Son iki zaman zarfının eklenme nedeni ise kritik bölgenin sona bırakılmamasıdır çünkü son bölge taşma etkisinin görülebileceği bir alandır. Ayrıca kritik bölgedeki kelimeler sıklık derecesine göre düzenlenmiştir. 6. Bölgedeki kelimelerin ortalama sıklık derecesi 4.3 ile 5.4 arasında değişmektedir. Bu kelimelerin sıklık derecesi için SUBTLEX-US Zipf değerleri kullanılmıştır (Zipf değerleri SUBTLEX-US, Brysbaert ve New, 2009 ve Van Heuven, Mandera, Keuleers, ve Brysbaert, 2014). Deneydeki tüm cümlelerden sonra 9. Bölgede katılımcıların okudukları cümleleri dilbilgisi bakımından doğru ya da yanlış olarak değerlendirmeleri istenmiştir. Doğru ya da Yanlış seçenekleri sunularak katılımcıların cümleyi gramer yapısı olarak doğru bulup bulmadıkları ölçülmüştür.

36 deneysel cümle her bir edatı *in, on, at, behind, over, to* (içinde, üstünde, -DA, arkasında, üzerinde, ve –E doğru) altışar kez test etmektedir. Bu altı cümle Latin Square ile gruplara dağıtılmıştır böylece her bir grup edatın iki doğru kullanımı ve 4 yanlış kullanımını görecektir. Bu altı cümlenin üçü bağlayıcı eylem (copula) içeren cümleler ve diğer üçü ise eylem fiil içeren cümlelerden oluşmaktadır. Bu ayrımın yapılma nedeni ise daha öncede belirtildiği gibi bu edatlar copula (bağlayıcı eylem) ile kullanıldıklarında preposition (önedat), bir eylem fiili ile kullanıldıklarında circumposition (ismin hem önüne hem arkasına eklenen edat yapısı) biçimin alırlar.

Deney iki gruba da aynı günde farklı seanslarda uygulanmıştır. Deneyden önce tüm katılımcılar bilgi ve gönüllü katılım formunu doldurmuşlardır. Tüm katılıcılar bir bilgisayar ekranı önünde oturup boşluk (space) tuşunu kullanarak ilerlemişlerdir.

Space tuşu kelime kelime ilerleme için kullanılırken her bir cümlenin sonunda katılımcılar 'Bu cümle dilbilgisi açısından doğru mudur' sorusunu görmüştür. Sonrasında 'F' ve 'J' tuşlarını kullanarak okudukları cümleleri dilbilgisi (grammatical judgment) açısından değerlendirmişlerdir. Bu soru cümlesi tek tek kelime yerine tüm cümle şeklinde sunulmuştur. Tüm kelimeler için okuma süresi ayrı ayrı kayıt altına alınmıştır.

Deney sonuçlarının analizi SPSS veri analiz programı ile yapılmıştır. Veriler sadece gruplar arası değil aynı zamanda grup içinde t-test karşılaştırmaları ile analiz edilmiştir. Sonuçlar katılımcıların hem doğru hem de yanlış cümleleri değerlendirmesini içermektedir.

Deneyden elde edilen genel sonuçlar iki dilli katılımcıların tek dilli katılımcılara göre İngilizce edatları anlamlı bir şekilde daha iyi işlemlemektedir. İki dilli grup gramatik (doğru) cümleleri daha hızlı bir şekilde okumuşlardır. Hızlı okuma zamanları iki dilli katılımcıların İngilizce ve Kürtçe dilleri arasındaki benzerlikten faydalandığını ve bunun işlemlemede kolaylık sağladığını ortaya koymuştur. Diğer yandan, iki dilli grup edatların yanlış kullanımını içeren cümleleri tek dilli kontrol grubuna göre daha yavaş okumuştur. Bu bulgu iki dilli katılımcıların edatlar ile ilgili dilbilgisi hataları fark ettiklerini ve bu hataları analiz etmek için yavaşladıklarını göstermektedir. Ayrıca copula (bağlayıcı eylem) kullanılan cümleler iki dilli katılımcılar tarafından diğer cümlelere göre daha hızlı okunmuştur. Bunun yanı sıra *in* (içinde) ve *on* (üstünde) edatlarının bir eylem fiili ile sunulduğu cümlelerde iki grup arasında bir fark ortaya çıkmamıştır. Elde edilen bulgular iki dilli bireylerin İngilizce edatları daha hızlı işlemledikleri ve İngilizce ve Kürtçedeki edat yapılarındaki benzerliğin bu süreci kolaylaştırdığı ortaya konmuştur.

Genel Sonuçlar

Elde edilen genel bulgular çalışma çerçevesinde yapılan öngörülerin ilkini doğrulamıştır. İngilizce ve Kürtçe dilleri arasındaki edat yapısındaki benzerlik- ki iki dilde de önedatlar kullanılmaktadır- İngilizce edatların edinimini kolaylaştırmıştır. Diller arası etkileşimin bu bulgular sonucunda tipolojik benzerlik gösteren birinci dilden geldiği ortaya konmuştur. Dilleri arası etkileşimin ikinci dilden geldiği ikinci

öngörü ise elde edilen bulgular doğrusunda yanlış çıkmıştır çünkü tek dilli grup İngilizce ve Kürtçenin ortak edat yapısına sahip olduğu edatlarda iki dillilerden daha kötü performans göstermiştir. Eğer Türkçe İngilizce edatların edinilmesine kaynaklık etmiş olsaydı Türkçe-Kürtçe bilen iki dilli katılımcılar ile sadece Türkçe bilen katılımcılar arasında bir fark çıkmayacaktı. Bulgular ayrıca Türkçe-Kürtçe iki dilli katılımcıların metadil farkındalığına sahip olarak bunu İngilizce edatların algılanması, işlemlenmesi ve kullanılmasında kullandıkları destekler görünmektedir. İki dilli katılımcılar doğru yanlış gramatik değerlendirmede de tek dillilere göre daha iyidirler. Bialystok (2008, s.7) iki dilliliğin bilişsel performansa ciddi katkıları olduğunu belirtmektedir. Ayrıca üçüncü dil öğrenenler üçüncü dil edinim sürecinde halihazırda iki dilin bilgisine sahiptirler ve böylece daha çok tecrübeye sahiptirler. Bu nedenle iki/çokdillilerin üçüncü dil edinim sürecinde tek dil bilenlere oranla daha iyi oldukları alanyazında vurgulanmıştır.

Elde edilen genel sonuçlar Türkçe-Kürtçe bilen iki dilli katılımcıların İngilizce edatların ediniminde tek dillilere göre daha iyi performans ve algıya sahip olduklarını göstermiştir. İki dillilerin tek dillilere göre daha fazla açık bilgiye (explicit knowledge) sahiptirler (Bialystok, 1987, 2001, 2007; Diaz, 1985; Galambos & Goldin-Meadow, 1990; Ricciardelli, 1992; Sanz, 2000; Yelland et al., 1993) ve bu farkın üçüncü ya da bir diğer dil öğrenmede avantaj sağlamaktadır (Bialystok, 2007; Cenoz, 2013). Benzer bir şekilde Cenoz (2003) yüksek metadil bilgi ve becerisinin üçüncü dil öğrenim sürecinde iki dilliler için avantajlı olduğunu belirtmiştir ve bu avantaja iki dilliliğin üçüncü dil edinim sürecinde katkı sunucu etkisi demiştir. Türkçe-Kürtçe iki dilli deney grubu iki dillilik avantajından faydalanmıştır (Bilingualism Forum, 2015; Grosjean, 1998; Paap et al, 2015; Valian, 2015) ki bu sahip oldukları dil repertuarlarına katkıda bulunmuştur. Grosjean (2012) iki dillilik avantajının –iki ya da daha fazla dil kullanma tecrübesi- yönetimsel zihin kontrolünü (aynı zamanda yönetim fonksiyonu denir) güçlendirdiğini iddia etmiştir. Bialystok (2009) da iki dilliliğin yönetimsel zihin fonksiyonları üzerinde olumlu bir etkisi olduğunu öne sürmüştür. Yazar Miyake ve diğerlerinin (2000) çalışmalarını alıntılayarak yönetimsel sistemdeki önemli işlemlerin yavaşlatma, zihinsel işlevler arası geçişler (bir işten diğerine geçiş veya zihinsel esneklik) ve hafızayı güncelleme olduğunu belirtmiştir. Kendi hızıyla okuma

deneyinin sonuçları –İki dilli katılıcımlar İngilizce edatları tek dilli katılımcılardan daha hızlı işlemlemiş ve Kürtçedeki edat bilgisini İngilizce öğrenme ortamına aktarmıştır- iki dillilik avantajını destekler görünmektedir.

Bunun yanı sıra çoktan seçmeli resim tasvir deneyinin sonuçları iki dillilerin İngilizce edatların fark edilmesinde ve algılanmasında *to* (–E doğru) edatı hariç tek dillilere göre daha iyi olduklarını ortaya koymuştur. Bu bulgu ayıcık resim tasvirinin sonuçlarıyla örtüşmektedir. İki grup at (-DA) ve *to* (–E doğru) edatlarını benzer bir şekilde kullanmıştır ve gruplar arasında anlamlı bir fark ortaya çıkmamıştır. Bu sonuçlar circumposition (ismin iki ucuna eklenen edat yapısı) edat öbeğinin sadece ismin önüne eklenen bir ön edat parçası olmadığını göstermiştir çünkü ismin önüne gelen bu parça Kürtçe-Türkçe iki dilli katılımcılara İngilizce edatların algılanması ve kullanılması konusunda yardımcı olmamıştır.

Kendi hızıyla okuma deneyinin sonuçları iki dilli katılımcıların İngilizce edatları daha hızlı işlemlediğini göstermiş ve muhtemelen katılımcılar bu çevrim içi deneyde örtük bilgilerini kullanmışlardır. Keating and Jegerski (2015, s.2) "çevrim içi metotların yorumlamayı gerçek zamanda ölçtüğünü ve bu yöntemlerin katılımcıların örtük bilgisini ortaya çıkardığını" belirtmiştir. Bir diğer deyişle çevrim içi metotlar bilinçli dilbilimsel problem çözmeye yetecek kadar zaman vermemekte ve katılımcıların örtük bilgisi ve dil örgüsü (edinç) hakkında bir resim sunmaktadır. İşlemleme deneyine dayanarak, Türkçe-Kürtçe iki dilli katılımcıların İngilizce edatların işlemlemede tek dillilere göre daha fazla dil örgüsüne (edinç) sahip olduğu söylenebilir. Bu iki dilli deney gurubunun örtük bilgiye erişimini ve dolaylı olarak dil kullanma ve üzerine düşünme becerisinin yükselmesine katkıda bulunan iki dillilik avantajına işaret etmektedir (Jessner 1999, 2006; Thomas, 1988). Son yıllarda yapılan pek çok ampirik çalışma birden fazla dil öğrenme tecrübesinin yeni bir dil öğrenmede avantaj sağladığını ortaya koymuştur (Ör. Cenoz, 2013; Cenoz & Valencia, 1994; Hernandez, Sierra, & Bates, 2000; Sanz, 2000, 2007). Dil öğrenen kişilerin önceki dil öğrenme bilgisini üçüncü dilin geliştirilmesinde kullandıkları ve önceden dil tecrübesi olan dil öğrenenler yeni öğrenme durumlarında uyguladıkları metadil bilgisine sahiptirler. Fakat tüm bu açıklamalara karşın iki dillilik avantajı iki dillilerin tek dillilere oranla daha iyi olmasının tek sebebi olarak açıklanamaz.

Bu çalışma sadece üçüncü dil edinim sürecinde diller arası etkileşimi araştırmanın yanı sıra diller arası etkileşimde olası faktörleri araştırmaktır. Diller arası etkileşim üzerine yapılan araştırmalar daha önce öğrenilen dillerin öğrenilen üçüncü dili nasıl etkilediği üzerine iki faktör belirlemişlerdir: tipolojik benzerlik ve ikinci dilin statüsü (Ör. Odlin & Jarvis, 2004; Ringbom, 2001). Diller arası etkileşim üzerine yapılan bazı çalışmalar üçüncü dil edinimde ilk safhalarda ilk dilden ziyade ikinci dilin daha önemli bir rol aldığını göstermiştir (Ör. Bardel & Falk 2007; Bohnacker 2006; Falk & Bardel 2011; Leung 2005; Rothman & Cabrelli Amaro, 2010). İkinci dil statüsünü ana faktör olarak alıntılıyan araştrmacılar ikinci dil statüsüne farklı açılardan yaklaşmışlardır. İkinci dilin etkisinin açıklamalarından biri ikinci dilin birinci dilin aksine yabancı dil olarak görüldüğü için yabancı dil olarak görülen üçüncü dil ile aralarında bir bağlantı kurulduğudur (Hammerberg, 2001). Alıntılanan bir açıklama ise ikinci dil ve üçüncü dillerin edinimi arasındaki bilişsel benzerliktir. Falk ve Bardel'e (2011) göre ikinci dil statüsü birinci dil ile üçüncü dil yerine ikinci dil ile üçüncü dil arasındaki bilişsel benzerlik ile açıklanabilir. Fakat en çok ilgiyi çeken faktör tipolojidir. Tipoloji ya var olan diller arasındaki benzerlik ya da hedef dil ile önceki öğrenilen dillerden biri arasındaki benzer dil öğeleri kastedilmektedir –bu benzerlik durumu diller arasındaki tipolojik yakınlıkla ilgili değildir. Diller arası etkileşimde aktarımı üzerine yapılan araştırmalar üçüncü dil ve çok dillilik bağlamında yapılmıştır çünkü iki potansiyel kaynaklık dil edebilecek dil olduğunda diller arası benzerliğin etkilerini görmek kolaydır. Eğer bu iki dilden biri öğrenilen hedef dile yakınsa ve bir tanesi ise benzerlik göstermiyorsa diller arası benzerliği araştırmak daha kolaydır. Tüm deneylerde ortaya çıktığı gibi Türkçe-Kürtçe iki dilliler için diller arası etkileşimin kaynağı İngilizce ile ortak edat yapılarına sahip Kürtçedir. Bu nedenle ilk dilin üçüncü dil üzerine etkisinde tipoloji açıklayıcı bir faktördür. Kürtçe ile İngilizce arasındaki tipolojik benzerlik/yakınlık üçüncü dil edinim sürecini kolaylaştırmıştır. Bu tipolojik benzerlik Kürtçe ve İngilizcenin Hint-Avrupa dil ailesine ait olmasından ziyade edat sistemlerindeki benzerlikten kaynaklanır. Leung (2005, s.58) "dil öğrenenler kullanabileceği önceki dillerin havuzunda daha fazla dil oldukça sonra öğrenilecek diller özellikle tipolojik yakınlık/benzerlik bulunanlar için daha yararlı olacaktır.

APPENDIX G: CURRICULUM VITAE

Personal information

Name:	Sakine
Surname:	Çabuk
Date of birth:	January 26, 1985
Place of birth:	Mardin/ Turkey
Address:	Ayyildiz Mah. Ahimesud Bul. Halkkent Sitesi 109G/2 Elvankent 06790 /Ankara-Turkey
Telephone:	(+90) 536 932 80 83
E-mail(s):	scabuk@metu.edu.tr , sakinec@gmail.com

Education

2010-2017	Middle East Technical University, Ankara/ Turkey PhD in English Language Teaching
2007- 2009	Middle East Technical University, Ankara/ Turkey MA in English Language Teaching GPA 3.86 /4.00
2003-2007	Hacettepe University, Ankara/ Turkey BA in English Language Teaching GPA 3.53 /4.00
1999-2003	Ataturk Anatolian Teacher Training High School, Hasanoglan, Ankara GPA 4.98 /5.00

Work/Teaching Experience

2013-onging	English Language Instructor at Middle East Technical University Ankara-Turkey
2007- 2011	Instructor at TOBB Economy and Technology University, Ankara-Turkey
2007 (January-March)	Ballard High School, Iowa/ the USA
2007 (April- September)	Working in two discrepant privately funded Language courses with different proficiency Levels, Ankara

2006 (September-December)	Working with young learners in TEGV (Voluntary work)
2006 (October-December)	Working with special kids in CEDAM (Voluntary work)

Conferences and Workshops

2015 (March)	2nd edition International Conference on Urban Multilingualism & Education
2014 (August)	ICTL 17th International Conference on Turkish Linguistics, Rouen- France
2013 (May)	Conference on Multilingualism and Multiliteracy in Potsdam-Germany
2011 (May)	IJAS conference in Salzburg- Austria International Journal of Sciences
2011 (March)	Squaring the Circle- Izmir University of Economics and Technology, Izmir/ Turkey
2011 (March)	18th TESOL conference at Thessaloniki Greece
2010 (March)	One-day with Stephan Krashen in Ankara Turkish Army Conference, Ankara/ Turkey
2009 (May)	Language Education Today- Code switching and Code mixing in Bilingual Interaction, Timisiora-Romania
2008 (September)	METU Postgraduate Conference In Linguistics and Language Teaching Middle East Technical University, Ankara
2008 (August)	Pearson Longman Teacher Training Courses- Creative Methodology for the Classroom, Bodrum, Antalya/Turkey
2008 (April)	Golden Implementations to Enable Students' Productive Skills to Flourish, Atilim University, Ankara
2008 (March)	Innovative and Good Applications in the

	Field of Foreign Language Teaching, Yuce College, Ankara
2007 (January-February)	Student-centered pedagogy and Technology integration seminars Iowa State University, Iowa-the USA

Publications

1. Contact between Kurmanji Kurdish and Turkish at Lexical and Morphological Level, International Journal of Bilingualism (to appear)
2. Releasing the Genie of Multilinguality out of the Bottle: A Proposal for a Trilingual Education Model for Schooling in Community Languages used in Turkey, Working Paper 2 in AMuSE project (2013)
3. English Article System: Challenges for Turkish Learners of English- Conference Proceedings of IJAS conference in Salzburg- Austria, International Journal of Sciences, 4 (10), 107-129, (2011)
4. Code switching and Code mixing in Bilingual Interaction- Chapter 1 of Book titled Language Education Today (2009)
5. Prepositions in Second Language Acquisition Process (MA Thesis, METU, 2009)
6. Playing Ostrichman or Keep an Eye on Recasts- Conference Proceedings of 6th METU Postgraduate Conference in Linguistics (2008)

Scholarships

2006 -2007(December-March)	Fulbright Scholarship Turkish Student Internship Project Iowa State University, the USA
2012-not completed	Fulbright Scholarship for PhD degree in Linguistics at Purdue University, the USA

Personal Skills and Competences

Languages	Kurdish (Native) Turkish (Native) English (Advanced) German (Pre-Intermediate)

Computer Skills	Microsoft Office and Internet Applications SPSS Ibex Farm - Pyscholinguistic Experiments CLAN CHILDES METU Turkish Corpus Workbench Exmaralda Partitur Programs ELAN (Eudico Linguistic Annotator) Web Annotator for Data Collection and Analysis in Scientific Research Phyton Computer Programming

Projects

METU Turkish Corpus-Data analysis with EXMARaLDA (2009-2010)

AMuSE- Approaches to Multilingual Schools in Europe (2012-2015)- P8 project [Project Assistant]

TEZ FOTOKOPİSİ İZİN FORMU

ENSTİTÜ

Fen Bilimleri Enstitüsü	
Sosyal Bilimler Enstitüsü	√
Uygulamalı Matematik Enstitüsü	
Enformatik Enstitüsü	
Deniz Bilimleri Enstitüsü	

YAZARIN

Soyadı : Çabuk
Adı : Sakine
Bölümü : Yabancı Diller Eğitimi Bölümü/ İngiliz Dili Öğretimi

TEZİN ADI (İngilizce) : An Experimental Study on Acquisition of Prepositions in English as a Third Language

TEZİN TÜRÜ : Yüksek Lisans [ ] Doktora [√]

1. Tezimin tamamından kaynak gösterilmek şartıyla fotokopi alınabilir. [ ]
2. Tezimin içindekiler sayfası, özet, indeks sayfalarından ve/veya bir bölümünden kaynak gösterilmek şartıyla fotokopi alınabilir. [ ]
3. Tezimden bir bir (1) yıl süreyle fotokopi alınamaz. [√]

TEZİN KÜTÜPHANEYE TESLİM TARİHİ: