Hacettepe University Graduate School of Social Sciences
Department of Linguistics

THE EFFECTS OF SYNTACTIC PRIMING ON TURKISH ENGLISH BILINGUALS' PRODUCTION OF PASSIVE SENTENCES

Sena ARMAN ERGİN

Master's Thesis

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KABUL VE ONAY

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Sena Arman Ergin tarafından hazırlanan "Türkçe İngilizce İki Dillilerin Edilgen Tümce Üretiminde Sözdizimsel Hazırlamanın Etkileri" başlıklı bu çalışma, 06.09.2019 tarihinde yapılan savunma sınavı sonucunda başarılı bulunarak jürimiz tarafından Yüksek Lisans Tezi olarak kabul edilmiştir.

Prof. Dr. Işıl Özyıldırım (Başkan)

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Yukarıdaki imzaların adı geçen öğretim üyelerine ait olduğunu onaylarım.

Prof. Dr. Musa Yaşar Sağlam

Enstitü Müdürü

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YAYIMLAMA VE FİKRİ MÜLKİYET HAKLARI BEYANI

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18/09/2019

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ETİK BEYAN

ETİK BEYAN

Bu çalışmadaki bütün bilgi ve belgeleri akademik kurallar çerçevesinde elde ettiğimi, görsel, işitsel ve yazılı tüm bilgi ve sonuçları bilimsel ahlak kurallarına uygun olarak sunduğumu, kullandığım verilerde herhangi bir tahrifat yapmadığımı, yararlandığım kaynaklara bilimsel normlara uygun olarak atıfta bulunduğumu, tezimin kaynak gösterilen durumlar dışında özgün olduğunu, **Dr. Öğretim Üyesi, Taylan Akal** danışmanlığında tarafımdan üretildiğini ve Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü Tez Yazım Yönergesine göre yazıldığını beyan ederim.

Sena Arman Ergin

ACKNOWLEDGEMENTS

There have been many people and circumstances that helped the completion of this thesis. I would like to thank them all otherwise; this thesis would not have been complete.

First and foremost, I would like to express my sincerest gratitude to my thesis advisor, Dr. Taylan Akal, for his academic guidance, continuous support, kindness and more importantly constant faith in me throughout the thesis. He was always ready and there to offer his help. I consider myself very lucky to have worked with him.

I would also extend my thanks to Prof. Dr Işıl Özyıldırım, Assoc. Prof Emine Yarar, Dr. Duygu Özge and Dr. Zeynep Doyuran for their valuable feedback and insightful comments on this thesis. I am grateful to University of Turkish Aeronautical and Association for providing me opportunities to finish my thesis. My dear friends, Ayşe Karataş, Betül Çelik, Elif Meltem Birsöz Özköse, Sebahat Boztunç, Türkan Kaplan, Gökhan Yıldız, Alp Kaan Kılınç, Ferudun Ceylan walked alongside me in every step of this thesis. Thank you for your ongoing encouragement and love.

My parents deserve whole-hearted gratitude for supporting me unconditionally whatever I want to pursue in this life. Without their guidance and belief in me, I certainly could not have finished it.

Finally, my husband, Mehmet, very big and best gratitude goes to you. Thank you for your great patience, love and sacrifices. He always knows how to motivate me in every moment. Without you, the path goes to completion of this thesis would have seemed very dark. Thank you for the enlightment and being there for me.

ABSTRACT

ERGİN ARMAN, Sena.*The Effects of Syntactic Priming on Turkish English Bilinguals' Production of Passive Sentences*, A Master's Thesis, Ankara, 2019.

Syntactic priming is defined as the tendency of producing recently exposed utterance. The present study investigates the effects of syntactic priming which is passive structure on the production of passives among 30 Turkish (L1)-English (L2) bilinguals. The study also examined whether passive structure was shared between these two languages via syntactic priming. Participants and researcher described a picture each other one by one. 30 subjects were divided into two groups; 15 participants were provided with Turkish primes while other 15 were presented with English primes. Each group including 15 participants was again divided into two groups as 7-8, changing the prime type as active or passive. Mann Whitney U test was conducted to report direction of priming, prime type and number of passives produced as dependent variable. The results of the experiment reported that the direction of priming did not play a role in the production of passives. However, the results demonstrated priming effects both from Turkish-English and English-Turkish conditions. Hearing a passive Turkish sentence gave rise to increase in the production of passive utterances in English, and vice versa providing evidence from Turkish-English bilinguals for shared syntax account. The existence of priming effect regardless of the direction of priming postulated symmetrical relation between two languages in Turkish-English bilinguals

Keywords

Psycholinguistics, syntactic priming effect, bilingual, passive structure

ÖZET

ERGİN ARMAN, Sena. Türkçe İngilizce İki Dillilerin Edilgen Tümce Üretiminde Sözdizimsel Hazırlamanın Etkileri, Yüksek LisansTezi, Ankara, 2019.

Yapısal hazırlama en son maruz kalınan yapının yeniden üretilme eğilimi olarak tanımlanmaktadır.Bu çalışma, edilgen yapıda olan söz dizimsel hazırlamanın 30 kişiden oluşan Türkçe (D1) –İngilizce (D2) iki dilliler gurubunun edilgen cümle üretim üzerindeki etkilerini incelemektedir.Çalışma aynı zamanda edilgen yapının sözdizimsel hazırlama yoluyla diller arasında paylaşılıp paylaşılmadığını da incelemektedir.Katılımcılar ve araştırmacı bilgisayar ekranında çıkan resimleri birbirlerine teker teker betimlediler. 30 katılımcı ikiye bölündü. 15 katılımcıya Türkçe hazırlama verilirken, diğer 15 katılımcıya İngilizce hazırlama sunuldu. 15 kişiden oluşan 2 gurup tekrar 7 ve 8 olmak üzere iki guruba bölündü ve hazırlama türü etken ve edilgen olarak değiştirildi. Hazırlamanın yönü, hazırlama çeşidi yani etken ya da edilgen tümce kullanımı ve bağımlı değişken olan üretilen edilgen tümce oranı için Mann Whitney U testi kullanıldı. Araştırmanın sonucu gösterdi ki Türkçe'den-İngilizce'ye ve İngilizce'den Türkçe'ye durumlarında edilgen hazırlama etkisi gözlemlendi yani katılımcının edilgen tümce duyması edilgen tümce üretiminin artmasına sebep oldu. Ancak hazırlamanın yönünün edilgen tümce üretimine etkisi gözlemlenmedi, diğer bir deyişle tümcenin kurulduğu dilin edilgen hazırlama üzerinde bir etkisi yoktur. Ortaya çıkan diller arası hazırlama etkisi Türkçe-İngilizce iki dilliler için paylaşılmış sözdizimi modeline kanıt oluşturur. Bu çalışmada hazırlama etkisinin hazırlanan dilden bağımsız olarak hem Türkçe'den İngilizce'ye hem de İngilizce'den Türkçe'ye görülmesi bu iki dil arasında simetrik bir ilişki olduğunu da ortaya koymaktadır.

Anahtar Sözcükler

Psikodilbilim, sözdizimsel hazırlama etkisi, ikidillilik, edilgen yapı

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LIST OF ABBREVIATIONS

DO	: Double Object
E	: English
EFL	: English as a Foreign Language
Gen	: Genitive
L1	: First Language
L2	: Second Language
NP	: Noun Phrase
Obl	: Oblique Object
Pass	: Passive
PL	: Plural
PO	: Prepositional Object
Pres	: Present
T	: Turkish

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CHAPTER 1: INTRODUCTION

1.1. A GENERAL LOOK AT STRUCTURAL PRIMING

During a conversation, speakers sometimes use the same sentence structure as the previously uttered one. For instance, a speaker may start the sentence with passive and the other speaker may continue along with passives even though the alternative structure exists. This procedure is mostly done even without realizing it is being done in this way. So, why do speakers have this kind of a tendency to repeat the same structures that have been used in the previous utterance?

Syntactic priming as it is mostly referred as repetitive phenomenon (Branigan 2007, Loebell & Morey, 1992) is a very fertile tool for studying and deeper understanding of bilingualism, L2 learners, learning and speech production mechanism, syntactic representations, children with SLI, Boca's aphasics and testing the syntactic theories, (shared or separate syntax). When all these areas are considered, it is also postulated that it has been observed in all population by making it ecologically valid.

With the utmost definition, structural priming, which is also known as syntactic priming is defined as the tendency of repeating or uttering the recently heard or produced sentences (Bock, 1986). The term syntactic priming has been used to refer that phenomenon, but structural priming is adopted by some researchers because linguistic priming is not needed to be syntactic and the former surmises the presence of certain syntactic representation (Bock, Loebell, & Morey, 1992). However, in this study, both terms are used interchangeably.

The emergence of the experimental research on syntactic priming within the scope of repetition can be traced back to Levelt and Kelter (1982) who showed that structural repetition effect is observable when businesses are asked *at what time does your shop close?* or *What time does your shop close?* The answers to those questions vary along with whether the preposition is used or not. The question was answered as *at five*

o'clock more than *Five o'clock* when the question was *at what time does your shop close,* which included the preposition "at."

For the syntactic priming, as Mc Donough and Trofimovich (2009) have suggested minimum two alternate forms are obligatory since the production of a recently confronted structure as opposed to alternative that has the same meaning characterizes the syntactic priming. Datives are mostly used in the syntactic priming research because two syntactic structures exist as an alternate and they have the same meanings. To give an example;

(1) They gave the bouquet to the singer. (Prepositional dative)

(2) They gave the singer the bouquet. (Double – object dative)

Therefore; the researcher can investigate the effect of certain dative form (prime) to the production of certain dative form (target) as given in Bock (1989). In Bock (1989)'s research, it was demonstrated that the participants uttered more prepositional dative responses after prepositional datives and the same phenomenon has been observed with the double-object datives.

As opposed to other types of priming such as auditory and semantic which gauges the speed and accuracy of processing (McDonough et al., 2008). Syntactic priming is determined "by calculating how frequently speakers produce a particular structure following exposure to that structure, compared to their use of that structure following exposure to an alternate structure." (McDonough and Trofimovich, p.99). For example, frequency of passive utterances following each prime is calculated and divided by the sum of passive and active responses following the prime, so the numerator shows the number of passives following the passive or active condition and denominator demonstrates the total number of active and passive utterances for the given condition.

Structural priming has been used as a tool to investigate cross-linguistic priming effect for 40 years in different languages including Persian, Spanish, Korean, Turkish, Thai, Mandarin Chinese, Dutch (e.g., Ameri-Golestan et al., 2012; Hartsuiker et al., 2004; McDonough et al., 2008; Bahadır 2012; Stabile et., 2015; Vasilyeva, Waterfall, Gámez, Gómez, Bower, & Shimpi, 2010; Kim et al., 2008; Hartsuiker, Kolk, & Huiskamp, 1999), and different grammar structures including active-passive, direct-indirect questions, *wh*- questions, DO-PO, complementizer *that*, genitive-possessive constructions (e.g., Ameri-Golestan et al., 2012; Jaeger & Snider, 2008; Bahadır 2012; McDonough et al., 2008; Bock et al., 2000). Although few of them are mentioned above, structural priming is a very well proven method and an area that attract attention from psychologists, linguists, neuropsychologists, cognitive scientists and educators.

How the syntactic information is represented and whether the syntax is shared or separate in bilinguals are addressed with priming research as well, namely the organization of L1-L2 syntactic information can be investigated under the syntactic priming. Separate syntax account (Kim& McDonough, 2008) suggests speakers have separate abstract system for each language even they share the same syntactic representation, and this means some information is stored twice. This account can be useful to explain superficially similar but different constructions. When one language is active in bilinguals, separate account will be more efficient in a way that the speaker focuses on the active language at that moment and the processing becomes faster and effective by not taking into consideration of constructions in another language. The other account, which is shared-syntax supposes some syntactic information shared by two languages is stored once by reducing the redundancy. When it comes to their predictions in bilingual research, it goes without saying that shared syntax anticipates cross-language priming. On the other hand, separate syntax presupposes no cross-language priming because there will be no interaction between two languages.

Hartsuiker, Pickering, & Veltkamp (2004) tested the cross-linguistic priming effects on Spanish-English bilingual adults. Picture description was used to elicit answers in a way that the confederate described the picture to participant in Spanish and the participant was required to use English for describing the following picture. As a result, it was

found that subjects uttered more passive structures after being primed for the passives rather than active sentences by suggesting that two languages prime each other. The results were also interpreted as these two languages may share the same abstract syntactic structure by supporting the evidence for shared syntax between languages. Furthermore; among different second languages it was observed that "…priming between a first and second language was as strong as priming between two different second languages." (Hartsuiker, Beerts, Loncke, Desmet, & Bernolet, 1993, p.30).

Regarding the L2 learning area and pedagogical implications, the effect of syntactic priming on the production of certain grammar structures is under the scope of investigation. Research conducted by McDonough and Mackey (2008) demonstrated that L2 learners are encouraged to produce more developmentally advanced structures thanks to syntactic priming. Pre-test/post-test design is carried out to see the effect of interactive communicative activities, which include developmentally advanced *wh*-question forms on the subsequent production of *wh*-question. In the research, Thai EFL learners and the interlocutor are engaged in an information gap activity in which a more advanced speaker-the scripted interlocutor and the participant ask each other *wh*-questions and answer them in turn. The learner's question following the interlocutor involved similar developmentally advanced question as his/her, therefore; syntactic priming including interactive tasks can be useful for the production of certain advanced grammatical structures. Several studies (e.g., Kim & McDonough 2008; Ameri-Golestan & Nezakat-Alhossaini, 2012) have demonstrated syntactic priming may play a role in second language learning in terms of facilitation, more production of target structure and implicit learning.

Over the last two decades, many researchers in the area of second language acquisition and priming have focused on the learner's performance when there is an alternative of the same construction such as active-passive, prepositional-object and double object (Bock & Griffin 2000). Furthermore; the studies are stretched to development of certain grammatical forms, which carry difficulties for the L2 learners in terms of production, comprehension and representation. As a result of this, one can anticipate the potential pedagogical implications of priming in a classroom environment in a way that the

information obtained by the priming research provides a variety of approaches to presenting grammar structures. Classroom activities can be varied with the inclusion of priming and students may be encouraged to use these structures.

1.2. WHY IS PASSIVE DIFFICULT TO PROCESS AND LEARN?

Passive construction is considered as one of the most difficult structures for both advanced and beginner learners who have especially difficulties in producing them in oral communication (Ju, 2000). Its processing was also found more difficult than the active counterparts in a way that participants were quicker at the judging of the grammaticality of active sentences than passives (Forster & Olbrei, 1973). There are some other studies that have explored the causes of this difficulty. Non-canonical structure of passives as a result of obligatory movement and impairment of passives in aphasic people and late acquirement of passives by children are the reasons of why passives are considered as more difficult than actives when it comes to processing active and passive sentences (Ferreira, 2003). Broadly speaking, three reasons are put forward to explain the relatively difficulty of passive compared to active; its infrequent use, its syntactically complex structure and heuristic account that suggests agent first startegy, in other words, canonical order of English sentences starts with NP which is agent but the situation is different in passives (Bever, 1970; Ferreira, 2003).

According to Larsen Freeman (1997), even the passive voice has a clear form, the learner must master in three aspects of it, which are morphosyntax, semantics and pragmatics. Non-canonical structure of passives as a result of obligatory movement and impairment of passives in aphasic people and late acquirement of passives by children are the reasons of why passives are considered more difficult than actives when it comes to processing active and passive sentences (Ferreira, 2003). Choomthong (2011) stated that reordering the subject and object constituents, and the use of different form of auxiliary “be” according to the tense of sentence cause the difficulties for ESL learners. Some studies focused on the differences between L1 and L2 passive constructions in a way that syntactic and semantic inequality between L1 and L2 was stated as the origin of the difficulties due to L1 interference (McDonough & Trofimovic, 2015). In another

study conducted with Igbo bilinguals, Scholastica (2018) revealed that students cannot be sure in which situation they should use passives and they had problems with the forms of the passives regarding tense, aspect and irregular verb change therefore, not mastering at pragmatic and grammar knowledge of passives are the sources of difficulties with passives for Igbo students. Kurtoğlu (2006) investigated over passivization errors of Turkish EFL learners and potential reasons for this tendency. The fact that Turkish verbs can be passivized from intransitives unlike English had an effect on passivization errors made by learners therefore L1 interference was implied as a reason. When it comes to pedagogical implications, focus on the differences and similarities between Turkish and English passives should be made clear by the teacher while teaching target structure. Kurtoğlu (2006) indicated the influence of traditional way of teaching English on students' preferences for using passives in a way that transformation activities from active to passive sentences are generally given to students for practice and when students are engaged with these activities they think active and passive voices can be used interchangeably without realizing certain situations in which passives must be used instead of actives.

All in all, L1 interference, the lack of pragmatic knowledge where to use passives appropriately, and relatively complex structure of passives for L2 learners such as the use of V3 and irregular verbs make passives difficult for learners in terms of both producing and understanding. There are some other features of passives that make passives inherently difficult such as non-canonical order of passives, movement operations and infrequent use of them.

1.3. STATEMENT OF THE PROBLEM

When these are taken into consideration, it is seen that the investigation of passives in L2 under the scope of priming may determine the relationship between the role of priming and the production of so-called difficult grammar structures. If the priming has any promoting effect on passives, there will be implications for L2 learning. In the present study, the effects of syntactic priming on the passive will be explored by looking at L2 English bilinguals - advanced English learners, when they are primed by

passive structure in one language and expected to produce that target structure in another language. The present study is also significant to investigate the cross-linguistic priming effect between Turkish-English and English-Turkish in a bidirectional way, and to answer whether these two languages have a shared representation. Currently, no data is available on the passive priming from Turkish to English and from English to Turkish among Turkish-English bilingual adults.

The literature provides several evidences for shared-syntax by providing cross-linguistic priming effect regarding different languages (Desmet et al., 2006; Loebell et al., 2003; Hartsuiker et al., 2004). However, there is a certain need to include diverse language users who are late L2 bilinguals and typologically different language which is Turkish in this study to see whether the similar observation would be made when the language and population show differences from the other studies.

1.4. AIM OF THE STUDY

The aims of the study are stated as (1) to examine the impact of structural priming on passive production among bilingual adults who are late L2 learners (2) to examine the cross-linguistic priming between Turkish and English passives, and (3) to determine the direction of priming in these two languages.

1.5. RESEARCH QUESTIONS

The study addresses the following research questions:

(1) Does structural priming result in an increase in production of passive structures for adult L2 learners / bilinguals of English who have L1 Turkish?

(2) Do Turkish-English bilinguals share syntactic information across the languages or have different syntactic stores?

(3) Are there any differences in the production of Turkish and English passives? In other words, is the priming between Turkish and English one way (asymmetrical) or bi-directional (symmetrical)?

1.6. PILOT STUDY

To answer the research questions above, pilot study was conducted first to see potential problems if there was any before the experiment. There might be problems with the instructions, pictures etc. The pilot study was conducted in July with the participation of 5 English instructors from a foundation university, UTAA. After the pilot study, short interviews were carried out with the participants regarding the aim of the study and the experiment itself.

1.6.1. Methodology of the Pilot Study

Generally, in priming studies, syntactic properties that participants are exposed to have been manipulated by the researcher to investigate whether the following utterance varies along with the input. The most related study to the current one is the investigation of passive structures in Spanish-English bilinguals who hear a picture description in Spanish and then describe in English (Hartsuiker et al., 2004). The present study extends the previous study in both directions with different languages (T-E, E-T). Likewise, in this study, each participant was exposed to 15 priming condition and 15 target pictures but the language of priming whether Turkish or English and the type of priming whether the sentence is active, or passive were changed. Based on Bock's (1986) analysis in "Syntactic persistence in language production", the calculation was made in a way that the frequency of passives was found after each prime and it is divided by the sum of active and passive responses following the prime.

1.6.1.1. Participants

The data for the pilot study were collected from 5 participants (4 male and 1 female) who were native speaker of Turkish and late English bilinguals. They all had YDS (Foreign Language Exam) scores that were above 90, but Oxford University Press and University of Cambridge Local Examinations Syndicate Test was given to see their English proficiency level. The test includes 60 questions and their scores ranged between 50-57 that correspond to C1-C2.

Table 1. Demographic and linguistic information of pilot study participants

Group	Gender	Age (Mean)	Teaching Experience (Mean)	First Exposure to English (Age, Mean)
T-E (n=3)	2F 1M	29	4	10
E-T (n=2)	2F	28	5	11

For the pilot study, Turkish-English group included 3 subjects and English-Turkish group included 2. Their teaching experience ranged from 3 to 5 making the average 4 and 5 for the groups.

1.6.1.2. Materials

For each condition, there are 15 pictures for researcher, 15 for the participants and 10 fillers for the participants. Primes and target words were selected from the conversation corpora of the Longman Spoken and Written English Corpus and their Turkish translations were used in Turkish condition. Pictures were taken from a website "People's images" that provide free images for the users. Verbs were also given in the box under the picture so that participant would know which verb they would use while describing the pictures.

1.6.1.3. Procedure

The participant sat in a silent room with the researcher in front of a computer and their voice was recorded via voice recorder in computer. The priming and filler sentences and target photos were presented with the help of Power Point Presentation. There were 4 different priming conditions: T-E (n=3): 1 active and 2 passive priming; E-T (n=2): 1active and 1 passive priming. Dependent variables are the participants' responses to these different sentence structures. Before the experiment, it was said that this was a communicative game that can be used in EFL class and each person would describe the picture depicted one by one. It was told that one sentence explanation would be enough, and past tense should be used for the description to block the infelicitous use of the present progressive passive. For example, pictures with the blue box would be described by the experimenter, whereas, the orange would be described by the participants. After the experiment ended, the researcher asked the aim of the research again and questioned why they used active or passive structures and revealed the purpose of the study.

1.6.1.4. Results

Overall, the production of passives was lower than the overall use of actives across conditions. Apart from Turkish to English passive priming condition, there was just 1 participant in each condition, and it did not have any significant value statistically. Table 2 shows the number of responses of 5 participants by different priming conditions. Other category was aimed to be used either for the incomplete sentence or any type of sentence that cannot fit active or passive category.

Table 2. Active and passive responses by prime in pilot study

Experimental Condition	Responses by 5 participants		
Turkish to English priming	Active	Passive	Other
Active Primes (*n*=1) (15)	15	0	0
Passive Primes (*n*=2) (30)	30	4	0
English to Turkish priming			
Active Primes (*n*=1) (15)	15	0	0
Passive Primes (*n*=1) (15)	0	15	0

As it can be seen from the table 2, in Turkish to English condition when the prime was given as active, there was no occurrence of passives by the participant. Passive sentences occurred just 4 out of 34 utterances and the rest was active sentence examples produced by the participants. In the condition of English to Turkish, the sentences were all active when the prime was given as active that is similar to Turkish-English condition. However, all the sentences were passive when participants were provided with passive structures. Even the number of subjects was very limited, the results showed the existence of passive priming, in other words, the number of passives uttered by the speakers was more than the active sentences compared to passive sentences after active primes.

Short interviews after the experiment gave valuable insights for the revision of the study. One participant who was in the active priming condition indicated that the aim of the study was to explore the use of definite and indefinite articles, and another said s/he had no idea about it. Most interestingly, for the passive priming conditions, the total passive responses from 3 participants were considerably high. One participant indicated that s/he realized the use of passive construction by the researcher and wondered what would happen if s/he used as well. Another participant said s/he was also aware of the use of passive structure and s/he wanted to use it because the researcher used it. The last participant added it was more natural to use actives because s/he felt s/he was saying something in an indirect way when passive is used. This plot study showed that there

must be an adjustment about the instruction of the study since it did not hide the purpose of the study well even participants did not have experience any difficulties following the instruction. Based on the results of the pilot study, those below were changed and added into the main study;

- Even it was said it was a communicative game activity to be used in the classrooms next year, apparently it was not successful at distracting the attention from sentence structures used. Therefore, there was a need for cover task to minimize the attention on language form and an increase in the number of fillers because of the same reason.

- Instructions were found easy to follow by subjects, but it needed small adjustments because participants were confused with which colour indicated their turn “orange” or “blue”. Additionally, “we language” was used in the instruction to mark the collaboration, but they interpreted as participant and the researcher would describe the same photo at the same time.

- There was a need of test to evaluate to what extent sentences describe the pictures given because they were selected from the website according to the selected verbs from the corpus by the researcher.

- There was a need of test to balance the frequency of passive verbs used in both Turkish and English.

1.7. THE PRESENT STUDY

After the pilot study, the shortcoming of the study was determined and necessary changes were made accordingly. The changes will be mentioned in related section.

1.7.1. An Overview of the Study

The present study was redesigned based on the pilot study. The data of the current study was collected 2 weeks after the pilot study. In the present study, participants first listened to the experimenter while she was describing a picture then they described their

pictures. The target and prime pictures can be described in both active and passive sentences. Since there were two different conditions, in each condition, the languages were reversed. The participants were given a memory checklist before the experiment and they were required to check them because after the experiment has been finished, it was said that they would evaluate the statements in the list whether they were true or false based on the pictures in the experiment. The statements in the list were selected from the filler pictures (such as balık sarıydı- *the fish was yellow*). That was one of the differences from the pilot study.

Primes and target words were selected from the conversation corpora of the Longman Spoken and Written English Corpus and their Turkish translations were used in Turkish condition. Equivalent translation adaptation was used before in cross-linguistics priming studies including different languages such as Spanish-English and German-English Vasilyeva et al. (2010) Loebell and Bock (2003). In the literature, the translations usually were made by the author and checked by native speakers for naturalness and grammaticality. In the present study, translated Turkish sentences with the pictures depicting the event were checked with the help of likert scale for naturalness of the sentence and appropriateness of it for the picture, and unacceptable pictures and sentences were eliminated from the study. The need of such a test was decided after the pilot study and conducted before the main study. In order to reduce the likelihood of using primes intentionally and prevent the participants from realizing the aim of study, fillers were doubled to the total number of primes, the aim of the study was told differently to participants and an additional task was added for that aim. The details of the present study are presented below.

(bulmak)

Prime Picture appears on PPT and the researcher describes it in Turkish.

Picture Description (Researcher, Turkish Prime)

(punish)

Target Picture appears on PPT and the participant describes it in English.

Picture Description (Participant, English Target)

(beyaz)

Filler Picture appears on PPT and the participant describes it in English.

Picture Description (Researcher, Turkish Filler)

(grey)

Filler Picture appears on PPT and the researcher describes it in Turkish.

Picture Description (Participant, English Filler)

Figure 1. The flow of the experiment for T-E passive condition

Figure 1 demonstrates the examples from the main test and the sequence of the experiment, and target words to be used can be seen below the picture as well.

1.7.2. Participants

Participants who were involved in the pilot study were excluded from the main study. The study included 30 participants (22 male and 8 female) who were advanced English

Language teachers and T-E bilinguals in a foundation university, UTAA (University of Turkish Aeronautical and Association). All participants are native speakers of Turkish and started learning English as their L2 in Turkey. They all had YDS (Foreign Language Exam) scores that were above 90, but Oxford University Press and University of Cambridge Local Examinations Syndicate Test was given to balance participants' English proficiency level. The test included 60 questions and their scores ranged between 48-57, and the mean was 54 and SD= 3.18. They were randomly and equally assigned to 2 groups that are Turkish-English (15) and English-Turkish (15) groups based on their results. Additionally, they answered background questionnaire (see Appendix 1) before the experiment. They demonstrated homogeneous features in terms of teaching experience, English scores and their first exposure to English. They were late bilinguals who learned English in a classroom setting after the age of 9-10 and they indicated they used English mostly in English classrooms since the use of target language is a policy in this university and their use of English in social life was highly restricted since their family members and colleagues were Turkish and they used Turkish in their social life. Table 3 shows the demographic and linguistic information of them.

Table 3. Demographic and linguistic information of main study participants

Group	Gender	Age (Mean)	Teaching Experience (Mean)	First Exposure to English (Age, Mean)
T-E (*n*=15)	11F 4 M	28	5	9
E-T (n=15)	11 F 4 M	28	5	10

As it can be seen from the table 3, groups were quite homogeneous in a way that they were all late L2 English bilinguals. Their teaching experience ranged between 4 to 8 and the mean was 5. Their age also ranged from 26 to 32 and the mean was 28 in each group.

1.7.3. Materials

Target and prime words were selected from Longman spoken corpora and written English corpus as in the study of Kim& McDonough (2008) for the pilot study. Likewise, in the main study, they were planned to be used again. However, the pilot study had showed that they needed a revision since some passive structures in Turkish may not sound appropriate to some Turkish native speakers or they may not be successful enough to describe the pictures given in the test. Therefore, selected verbs which were coloured with grey below were tested via likert scale test.

Table 4. Table of the verbs used in likert-scale test

Occur in Passive (2 to 18 per million)						Verbs selected by the researcher
throw	Hang	blow	give	help	build	Make
catch	Paint	punish	break	steal	choose	Water
see	Read	buy	find	cut	wash	
bring	Sell	raise	open	clean	change	
change	offer	ask	scare	push	play	

Table 4 shows the list of the verbs that were tested, and they were selected from Longman spoken corpora and written English corpus based on their frequency. *Make* and *water* were added into the list by the researcher.

Before the main test, 4 points likert scale was used for the appropriateness of Turkish sentences and how well sentences fit into depicted images. In SLA studies, grammaticality judgement and acceptability test were widely used with the help of likert scale that provides information about the sentences. Ratings generally vary from 4 to 7 points (Gass, 2008). In most of the cross linguistic priming was studied in bilinguals, direct translation of the sentences and verbs have been used without any test by providing the chance to use same pictures and to show the same actions in both language conditions. (Hartsuiker, Pickering, & Veltkamp, 2004; Vasilyeva et al. 2010). It is important to use same verbs with the same pictures in both conditions for a better comparison, but this situation may lead a problem if there is a huge difference in frequency of passive use between the verbs in one language and translated counterpart.

This situation is aimed to be achieved conducting a Turkish passive appropriateness test. Thanks to this test, inappropriate use of Turkish passive was also detected and removed before the main test was conducted. The test was prepared using Google Forms and the link was shared and sent online to participants who also work as English instructors, namely Turkish-English bilinguals in Turkey. For the instruction of the test, participants were told that they would judge how the sentences are appropriate to describe the pictures in the test. Option 1 showed that the sentence was definitely not suitable for describing the picture. Option 2 showed the sentence was not suitable for describing the picture. Option 3 showed the sentence was suitable for describing the picture and finally option 4 showed the sentence was definitely suitable for describing the picture (see Appendix 2 for online test).

Table 5. The results of the participants' responses to likert-scale test

	Definitely Not Appropriate		Not Appropriate		Appropriate		Definitely Appropriate				
Items	f	%	f	%	f	%	f	%	n	Mean	SD
Item 1	0	0	1	5	11	55	8	40	20	3.35	0.59
Item 2	1	5	3	15	11	55	5	25	20	3.00	0.79
Item 3	0	0	1	5	10	50	9	45	20	3.40	0.60
Item 4	0	0	2	10	8	40	10	50	20	3.40	0.68
Item 5	0	0	2	10	8	40	10	50	20	3.40	0.68
Item 6	0	0	2	10	12	60	6	30	20	3.20	0.62
Item 7	0	0	5	25	10	50	5	25	20	3.00	0.69
Item 8	0	0	5	25	12	60	3	15	20	2.90	0.64
Item 9	0	0	3	15	11	55	6	30	20	3.15	0.67
Item 10	0	0	1	5	12	60	7	35	20	3.30	0.57
Item 11	0	0	0	0	10	50	10	50	20	3.50	0.51
Item 12	0	0	4	20	4	20	12	60	20	3.40	0.82
Item 13	1	5	3	15	7	35	9	45	20	3.20	0.89
Item 14	0	0	3	15	8	40	9	45	20	3.30	0.73
Item 15	0	0	0	0	6	30	14	70	20	3.70	0.47
Item 16	0	0	0	0	8	40	12	60	20	3.60	0.50
Item 17	0	0	1	5	11	55	8	40	20	3.50	0.59
Item 18	0	0	4	20	11	55	5	25	20	3.05	0.69
Item 19	0	0	7	35	11	55	2	10	20	2.75	0.64
Item 20	0	0	5	25	10	50	5	25	20	3.00	0.62

Table 5 shows descriptive analysis of each item carried out by SPSS. In this table, each item represents the Turkish passive sentence with the picture in the test and shows the

appropriateness rate of it given by the subjects in terms of frequency and percentage. Items are given respectively; (1)*Balık yakalandı (The fish was caught by the man) (2)Duvar adam tarafından boyandı (The wall was painted by the man) (3)Çocuk adam tarafından havaya kaldırıldı (4) Kutu kadın tarafından açıldı (The box was opened by the woman) (5)Hediye adam tarafından çocuğa verildi (The present was given to the child by the man) (6) Çiçek kıza adam tarafından getirildi (The flower was brough to girl by the man) (7)Kitaplar adam tarafından okundu (The books were read by the man) (8)Tekerlekli sandalye kadın tarafından itildi (The wheelchair was pushed by the woman) (9)Bahçe adam tarafından sulandı (The garden was watered by the man) (10)Yatak kadın tarafından yapıldı (The bed was made by the woman) (11) Ev adam tarafından inşa edildi (The house was built by the man) (12)Top çocuk tarafından fırlatıldı (The ball was thrown by the child) (13)Lastik adam tarafından değiştirildi (The tyre was changed by the man) (14)Ev adam tarafından temizlendi (The house was cleaned by the man) (15)Araba adam tarafından satıldı (The car was sold by the man) (16)Çocuk adam tarafından cezalandırıldı (The child was punished by the man) (17) Kanıt dedektif tarafından bulundu (The evidence was found by the detective) (18)Yemek aşçı taafından hazırlandı (The food was prepared by the cook) (19) Mavi T-shirt kadın tarafından seçildi (The blue T-shirt was chosen by the woman) (20)Para hırsız tarafından çalındı (The money was stolen by the man).*

Item 15 which was *Araba satıldı* was rated as the most appropriate sentence among all, and it was followed by item 16 that was *çocuk cezalandırıldı*. Item 19 *mavi T-shirt seçildi* and item 8 *tekerlekli sandalye itildi* were removed from the study since their mean was below 3 even it was closer to 3 appropriate scale, 2.75 and 2.90 respectively. When it was considered that all items were rated from 1 to 4 points, 3 ensures the appropriateness therefore; other 18 items were kept for the study. In fact, participants' short answers were required on the test with reason if they indicated the sentence was not appropriate for the picture. Most of the sentences which were considered as not appropriate were not derived from the fact that they were passive structures instead participants were not able to be sure of the completeness of the actions. For instance, item 14 *ev temizlendi* was perceived by some in a way that the person in the picture might pretend as he cleaned the house but maybe he did not carry out the action.

Similarly, item 2 *duvar boyandı* was thought as inappropriate since there were some parts of the wall which were not painted yet. In the experiment, they were told they were requried to use simple past without thinking of the completeness of the action given in the picture. Therefore, the critical thinking on the completeness of the action and the question of whether the action was actually done were aimed to be blocked in the instruction and throughout the study.

Table 6. Verbs selected for the main study after appropriateness test

Occur in Passive (2 to 18 per million)						Verbs selected by the researcher
throw	hang	blow	give	Help	build	make
catch	paint	punish	break	Steal	choose	water
see	read	buy	find	Cut	wash	
bring	sell	raise	open	clean	change	
change	offer	ask	scare	push	play	

The sentences with verbs push and choose were removed for the main study since the mean of them was below 3 that was appropriateness level. As a result, 18 verbs which were coloured with grey were decided to be used in the main study.

Table 7. Prime and target pairs for E-T condition

Pair 1	catch (1)	vermek (2)
Pair 2	bring (3)	okumak (4)
Pair 3	open (5)	inşa etmek (6)
Pair 4	throw (7)	sulamak (8)
Pair 5	make (9)	boyamak (10)
Pair 6	steal (11)	satmak (12)
Pair 7	find (13)	cezalandırmak (14)
Pair 8	prepare (15)	değiştirmek (16)
Pair 9	clean (17)	kaldırmak (18)

Table 7 shows prime and target pairs in E-T condition. Verbs on the left indicate prime and verbs on the right show Turkish targets to be used by the subjects. In the T-E condition, prime and target items remained same but prime verbs were translated into

Turkish while target verbs were translated into English. The order remained the same in each condition. The prime target pairs were matched randomly. The materials of the main study included 40 pictures that were taken from a web site that provided free images. 9 pictures were for the researcher and other 9 for the participants' test. Target and Prime pictures show simple events that could be described as passive and active. There were 18 filler pictures with intransitive verbs to hide the purpose of the study. The filler sentences and pictures also elicited structures other than the target structures in a way that fillers did not show actions instead they indicated situations (such as balık sarıydı *the fish was yellow*) and the rest 4 served as the warm-up. For each picture, there were two alternatives for the description as passive and active structures. Each picture had corresponding English and Turkish active/passive alternatives. In each language, the experimenter described the picture active or passive by providing prime to the participants. The pictures were shown on PPT and the verbs that the speakers used were given to them written form in a box on the right of the picture. The participant understood his/her turn via the star symbol on the box appeared on PPT. The agent was animate in the pictures, and the patients were always inanimate apart from two pictures and these two pictures were presented consequently as a prime and target match. The pictures were equally and randomly assigned to conditions as prime and target pair (See Appendix 3 for the screenshot of the experiment).

To disguise the aim of the study, fillers and memory test checklist (see Appendix 4 for memory checklist) were used. Typically, primary taks of these priming studies were told the participants that was a recognition memory test. (Kim& McDonough, 2008). In the study of Lobell & Bock (2003), the participants were told that the experiment would test the effect of two languages on picture and sentence memory. In the present study, participants were told this study was actually designed to investigate to what extent people memorize colours in English and Turkish. After the checklist was given out, they looked at the sentences on paper for 3 minutes and they tried to memorize them because they would see them in the experiment then they would decide on whether the sentrence was correct or false according to the experiment. For instance; on the paper, the participant sees *kedi beyazdı* sentence and there is a T/F box next to it. When the experiment starts, the picture of brown cat appears as a filler, but the participant cannot

write anything on the paper s/he has to memorize them and wait at the end of the experiment to write.

A computer was used with a voice recording and the participants' voice was recorded with their consent (See Appendix 5).

1.7.4. Procedure

The experiment took place in a quiet room in front of a laptop in a workplace/ university. The researcher arranged timetable for each participant. The participant first entered the room and signed the consent form and allowed researcher to record his/her voice. Each session took place 8-10 minutes. The laptop was placed in the middle of the table allowing both researcher and the subject to see laptop screen equally. Researcher first gave the memory test checklist and subject read the instruction written on the same paper. The researcher was ready to explain the instruction if there is any confusion. Subjects used their time for checking the items since they were told they would see the pictures of them in the experiment therefore they would try to memorize sentences in the test. Here, the aim was to distract subjects from the aim of the experiment.

Next, instruction appeared on the screen for the experiment. Researcher clicked on the button and trial set consisting of 4 pictures that can be only explained by intransitive verbs started. After being ensure that the subject understood the procedure that the researcher and the participant describe the pictures one by one to each other but using different languages, the researcher clicked on the button and the experiment started. Prime and target pictures with verbs were shown to each participant in the same order. However, they were ordered in a way that similar context or pictures did not follow each other with the aim of blocking the effect of priming due to context similarity that may lead a third variable problem. Additionally, each verb was used only once to inhibit lexical priming effect (see Appendix 6 for the list of sentences)

During the experiment, whenever a subject sees a star sign, they understand that they describe the picture. In other cases, the researcher describes either by providing prompt or filler. In the pilot study, different colours had been used to mark who would say the sentence, but some participants mixed their colours and described researcher's picture therefore star sign was used to prevent confusion and during the experiment confusion has not been observed.

At the end of the experiment, subjects were given a memory test checklist and they completed the statements either True or False based on what they remembered from the experiment and then the aim of the study was shared with them. Since the number of participants was 30, post questions regarding the experiment and aim of the experiment were not asked

The researcher has four different sets for each group; T-E (active prime), T-E (passive prime), E-T (active prime), E-T (passive prime). Among sets, while the pictures with verbs and the order of them remained the same, prime type and language, which were provided by the researcher, were different as passive or active, Turkish or English. Also, the response language was different in the same way.

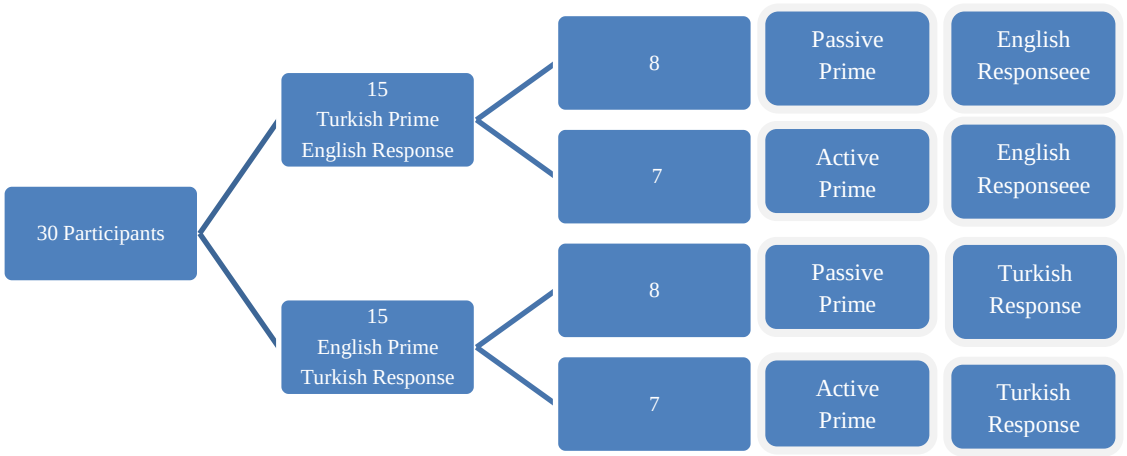

Figure 2. Division of subjects by condition

As it can be seen in Figure 2, each condition includes 15 subjects then they were divided into two groups according to the prime types as active or passive.

1.7.5. Scoring

Data from the voice recorder was transcribed by the researcher and checked by one colleague. Responses of the participants were coded as “active”, “passive” and “other”. An utterance in both languages including patient in the subject position and followed by a transitive verb was coded as “passive”. In English, SVO order was accepted for an active structure with a grammatical subject. In both languages, an agent in the position of subject and followed by a transitive verb was coded as “active”. In Turkish, SOV / SVO order with or without grammatical subject was thought to be accepted at first, but all participants used grammatical subjects in sentences, null subjects were not observed and SVO order was not observed either. In terms of passives, full passives or by passives (e.g. *The wall was painted by the man*) and short passives or truncated passives (e.g. *The wall was painted*) were coded as passives in both languages as in other research. (Vasilyeva et al. 2010; Ameri-Golestan et al., 2012). In another research, Hartsuiker et al. (2004) coded passive structure without by phrase as “other”. Overall, most L2 studies classify passive structures as passives whether they have with by-phrase or not. (Mc Donough and Trofimovich, 2009).

Subjects were instructed as to use simple past to prevent unnatural use of present continuous in passives and to create past context in all pictures. Only the verbs, which were given in the box in the experiment, were accepted; synonyms or other cases were not accepted, and they were excluded. Any tense apart from simple past which was instructed in the experiment was not accepted either. However, one must be aware of the fact that all participants have been teaching English at least 3 years and they are high proficient speakers in English, therefore; they are very aware of the language they use, and they are very careful about the grammaticality of language they taught. As a result of this, the number of responses coded as “other” was very limited with the occurrence of three at total. In that way, the frequency of passives after each prime type has been calculated and target ratio scores were received like in Bock’s analysis (1986).

CHAPTER II: BACKGROUND TO THE STUDY

2.1. STRUCTURAL PRIMING AND LEARNING

Two prominent theories are intimately related to structural priming; the implicit learning and residual activation theory. In relation to the implicit learning, Seger (1994) proposes three main criteria. The first one is related to consciousness in which a person is not able to explain the activity verbally because it occurs outside of the awareness and the person cannot reach that consciousness. To give an example, a person can tie shoelace thanks to the personal observation of that activity and throughout imitation; maybe, a person cannot achieve to perform it and fails but still can learn from that failure. When it is asked to explain the procedure of tying shoelace, that person may not explain it very well but still carry out it. According to Chang (2008) language learning also seems to contain that kind of implicit learning and it is possible to stretch it to L2 learning. The second one "subjects learn information that is more complex than a single simple association or frequency count." (Seger, 1994, p. 164). The third one covers the incidental learning that takes place without realizing, and it occurs incidentally. Chang, Dell, Bock, & Griffin (2000) claim that "syntactic persistence occurs through implicit error-based learning. This theory argues for a system in which sentence structures are assembled through the construction of abstract syntactic frames into which lemmas are then inserted." (as cited in Segaert, Menenti, Weber & Hagoort, 2011, p.1). Therefore, syntactic priming can facilitate that error-based learning which is example – driven learning. Bock & Griffin (2000) have demonstrated that implicit learning and structural priming are closely related in a way that they share very similar features such as the abstract representation, occurring without the consciousness and relative persistence. The idea of structural priming may contribute to learning is derived from the fact that it has a relatively long-lasting effect. Bock & Griffin (2000) scrutinized the persistence of syntactic priming and reached the conclusion that it can stay over relatively long lags despite the other intervening sentences. More specifically, when the sentences are produced after the prime and without the prime, the significant priming effect has been observed, furthermore; after two intervening sentences (Lag 0) and ten intervening sentences (Lag 10), the priming effect has still existed, and the priming strength is not

declined in these two different experiments. Their results were compatible with the idea of syntactic priming results in implicit learning in contrast to residual activation theory. Another study conducted with amnesic people (Ferreira, Bock, Wilson, & Cohen, 2005) aimed to answer of which memory mechanism is used for the syntactic persistence; procedural or declarative. Syntactic persistence is observed in both experimental and control groups, namely, control speakers and patients with anterograde amnesia who have impaired explicit memory for the primes. The results suggest that procedural memory carries the syntax and the syntactic priming is rooted in implicit learning.

The second theory, which is called residual activation theory, suggests that syntactic priming is lexically driven and the persistence in syntactic priming is explained by the activation of combinatorial nodes. When the passives are taken into account, activation affects the combinatorial nodes and the word order is influenced by the activation of them (e.g., the NP-NP) agent or patient. It is a short – term memory account and the priming effect will be stronger in the case of repeating the head in combinatorial nodes such as the verb for transitive sentence (Pickering and Branigan, 1998). For instance, when the verb "give" is in a prepositional object position like "She gave a bouquet to them", the combinatorial nodes NP – PP are activated, while in a double object situation like "She gave them a bouquet", NP – NP are activated.

When two models are compared, it is seen that implicit learning model cannot explain the lexical boost whereas lexicalist residual activation model cannot explain the priming effect that stayed longer. The controversiality motivated some researchers (such as Ferreira & Bock, 2006; Pickering & Ferreira, 2008) to put forward a multifactorial approach. According to them, syntactic priming is a result of abstract and implicit learning model, but it is possible to foster it via a lexically – driven system. Furthermore, Ferreira and Bock (2006) postulate difference between long-term and short-term priming effects based on the implicit versus explicit learning. The repetition may make the memory explicit and it can be short-lived whereas long-term effects come from the implicit learning system.

Pickering and Branigan (1998) have explored the strengthening effect of structural priming when the verbs are repeated between prime and target in a written sentence completion task, and this is called *lexical boost effect*. This shows that syntactic knowledge is lexically dependent to some extent, because when the target and the prime share the same verb, the lemma node will be activated with the combinatorial nodes that lead to increase in priming effect. Another critical term regarding the syntactic priming is *inverse-preference effect,* which amplifies the priming with the existence of a less frequently used or preferred prime (Bock 1986). Regarding the present research, when the active and passive sentences are given, passive prime sentences are expected to lead to more reuse of this structure rather than the active sentence. *Cumulativity* by Jaeger and Snider (2008) has been reported to play a role in increasing the priming effect. In the corpus study, the use of *that* is boosted along with the number of *that*, which is used previously.

"Structural priming has proved to be a strong, versatile, and resilient phenomenon. It is informative about the mechanisms that underlie language use in many different populations and appears to facilitate both language learning and communication" (Pickering et. al., 2008, p. 455). It is highly predictable that including a variety of populations, languages, grammar structures, tasks and integrating eye-tracking, fMRI, corpus-based, classroom interaction studies into structural priming will enhance its validity. In the following section, the types of tasks used in syntactic priming will be explored with the examples and logic behind it.

2.2. TYPE OF TASKS USED IN SYNTACTIC PRIMING

For the selection of one specific structure from the alternative, the existence of at least one equal structure is a prerequisite, and the priming effect will be observed when the users produce the target structure more after being exposed to it compared to the alternative. PO – DO dative (Bock, 1989), active-passive (Stabile et al., 2015), interchangeable locative sentences that show the directions such as *the vase on the table - on the table is a vase* (Hartsuiker et al., 1999) are generally preferred to be used in research. The minimization of attention to the language form is very crucial in the task

to prevent participants from figuring out the real aim of the study. To this end, filler sentences are used, and the purpose of the study is explained as either memory recognition experiment or to find more about how communication occurs among people. Picture depiction, sentence recall, sentence completion, and scripted interaction (confederate scripting) will be investigated.

2.2.1. Picture Depiction

As the name suggests, participants are required to describe the pictures after a prime. In the study of Bock (1986), priming and filler sentences, and the pictures for them are included. Prior to the test, participants have studied some words and sentences because they have been told that it is a memory test to reduce the attention on grammar structure. Later, the participants are required to decide on whether they have seen the picture or heard the sentence before, for the decision part; they are needed to repeat the sentences since it is told that this is a kind of technique for the memory test. After the repetition part, namely; priming, they have produced the sentences upon the pictures given. All the repetitions and descriptions are recorded. For the analysis, the target structure which is analyzed, the alternative of it and the "other" which is used to include responses that is not coded as either of them are used. In respect to the bilingual studies in adults, the focus of the research is the representation of language in bilinguals (Hartsuiker et al., 2004). The participant and the confederate described the pictures each other but actually the confederate read the scripted sentences, which are primes. While the researcher has used Spanish for the description, the participant described the subsequent picture in English. As a result, cross-linguistic syntactic priming has been observed in the use of passive. In another research with Mandarin-English speakers, the storybook is created with the pictures including animal characters and the title of the book is named as "Yesterday at the Zoo" to elicit the past simple structures blocking the use of present continuous passive which sounds unnatural in Mandarin (Stabile et. al., 2015). Picture description with the modified procedure is employed here because it increases the authenticity of the interaction compared to sentence recall and completion task.

2.2.2. Sentence Recall

The task was introduced by Potter and Lombardi (1990) who have suggested the immediate recall of sentences is not derived from the verbatim-surface representation, but from the regeneration of sentences from conceptual level. Participants read the sentences using RSVP – Rapid Serial Visual Representation on computer screen and recalled them after a short intervening. It is believed that prime sentences affect the structure of reconstructed structures. To give an example, in the case of prime mismatches the target structure but presents an alternative sentence that has the same meaning, the participants have tendency to use the prime sentence construction instead of target.

They first read and recall the example (3), NP location and NP object prime then see the sentence (4), NP object and NP location target, and they often use the order of NPs as in the prime.

(3) The maid rubbed the table with polish.

(4) The farmer heaped straw onto the wagon.

(Chang, Bock & Goldberg, 2003, p.35)

2.2.3. Sentence Completion Task

Pickering et. al. (1998) are the pioneers of sentence completion task that aims to get written production data. The instruction is to complete the sentence fragments with the first things that come to their minds. For the written data, they are given booklets whereas they are sometimes required to read aloud the sentence fragments, which will be recorded. PO and DO constructions are generally in the question in a way that in the testing part participants are required to complete the sentence with one of the forms which are equally acceptable such as either PO or DO form. The results are calculated

as how many target sentences occurred after each prime. If the sentence is completed with the structure of prime, then it is said that priming has occurred.

2.2.4. Scripted Interaction Task (Confederate- Scripting)

That task was introduced by Branigan, Pickering & Cleland (2000) to investigate the occurrence of priming in a conversation. In an interactive task or playing a card game, scripted interlocutor and the participant take turns to describe the pictures to each other. After listening to the interlocutor's description, s/he looks for an appropriate picture card that depicts the interlocutor's sentence and prime sentence just comes before the description of the participant. For the analysis, proportions are used after the each prime. The main advantage of it is that it is more like a real dialogue, authentic in the context of interactive task such as playing card games. Individual sessions are held with the participants in a quiet room. Unbeknownst to the participants, pictures are designed in a way that some are served for the experimenter's set and the rest is separated for the description of the participant apart from the fillers.

2.3. STRUCTURAL PRIMING AND BILINGUALISM

If we assume that there is an interaction between L1 and L2 syntax, cross-linguistic syntactic priming can be a good starting point to investigate this assumption. When the prime and target language are different from each other, the effects of it can be observed. Some studies show the bidirectional feature of cross-linguistic syntactic priming effects such as from German to English and English to German in PO-DO datives, namely; the production of English datives primed to the use of German datives and vice versa (Loebell and Bock, 2003). In another study with Spanish-English bilinguals, Hartsuiker et al. (2004) demonstrated syntactic priming across languages, and it is suggested that new structures and languages should be explored for the further research by including the other types of bilingualism. The asymmetry of syntactic priming has been observed by Vasilyeva et al. (2010) in the study of bilingual Spanish-English children, parallel passive structures that existed in English and Spanish were used as prime types and they explored priming effects of passives. Bilingual children

showed strong cross-linguistic effect from Spanish to English that is very similar to the results of adults, however; the priming effect from English to Spanish does not exist which suggests the asymmetric relation of these two languages in these bilinguals. However, they were not sure how to interpret the result because previous studies showed the priming effect in both directions regardless of the dominance of one language, namely in unbalanced bilinguals. Therefore, the direction of the priming may be contributed to the everyday use of passives in terms of frequency and this means that activation does not ensure the subsequent production. It can be said that if the activation does not reach the threshold, the production may not be observed. It should not be forgotten that the surface structures and the word order are very similar in Spanish and English. There are some other studies, which show no priming effect across languages. Bernolet et al. (2007) have studied with Dutch-English bilinguals and found priming effect within the language, whereas there has been no priming effect between these languages. In their study with complex noun phrases, it is suggested the different word order for the verb and adjective in the target structure gives rise to that conclusion. The same study has been conducted in Dutch-German bilinguals who demonstrate the priming between the languages, which have the same word order. Therefore, it is believed the similarities between the languages and word order have an impact on syntactic priming, on the other hand, Desmet and Declercq (2006) have found the priming effect in spite of the different word in Dutch and English relative clause attachment.

It is clear that priming literature has appealed to the existence of shared syntactic representations to elucidate the cross-linguistic priming in adult and child bilinguals (Hartsuiker, Pickering, & Veltkamp, 2004; Vasilyeva et al. 2010). However, it is not clear to what degree word order and language similarity have an effect on priming. Therefore, it is important to conduct priming studies with a variety of languages and different bilingual populations to investigate crucial factors in priming.

Most of the priming studies have followed the Hartsuiker et al. (2004) who suggested the shared syntax for modelling the findings of cross-linguistic priming of passives in Spanish-English bilinguals. These studies mostly referred to which extent syntactic

representation in the bilingual mind is shared. While the shared-syntax account predicts cross-linguistic syntactic priming, separate-syntax account does not. These two questions will be the focus of the present study as mentioned in the first chapter, research questions.

- Do Turkish-English bilinguals share syntactic information across the languages or have different syntactic stores?

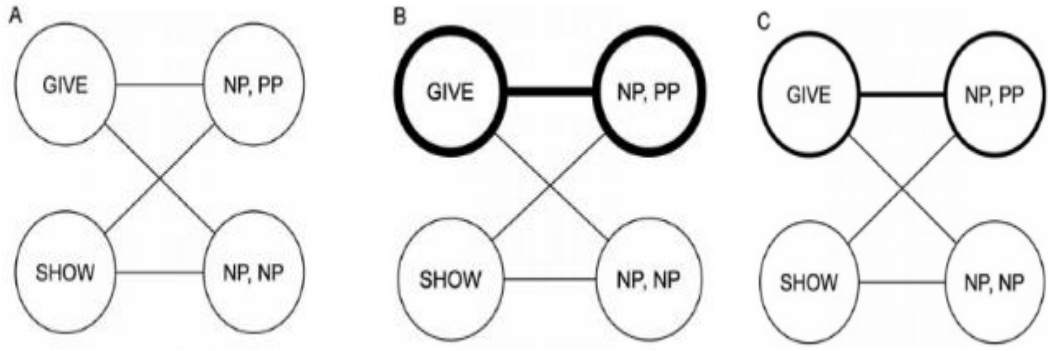

Figure 3. A structural priming model by Pickering et al. (2008) for the verbs GIVE and SHOW.

In this model, panel A shows pre-priming situation, panel B shows the moment of priming and C shows the time after prime. The thickness between the circles show the intensity of priming. Lemmas are connected to notes that show the compatibility of the structure. GIVE and SHOW are both connected to NP and PP. Therefore, priming is occurring as a result of the residual activation between the nodes of combinatorial and lemma. In fact, Levelt, Roelofs and Meyer (1999) postulated the syntactic information is embedded in the lemma level with the information of number, gender etc. This model is broadened by Pickering et al. (1998) in a way that lemmas and combinatorial nodes are linked, as well. The activation of GIVE is connected to NP, PP and NP, NP combinatorial nodes. This account can be applied to the lexical-syntactic representations in bilinguals.

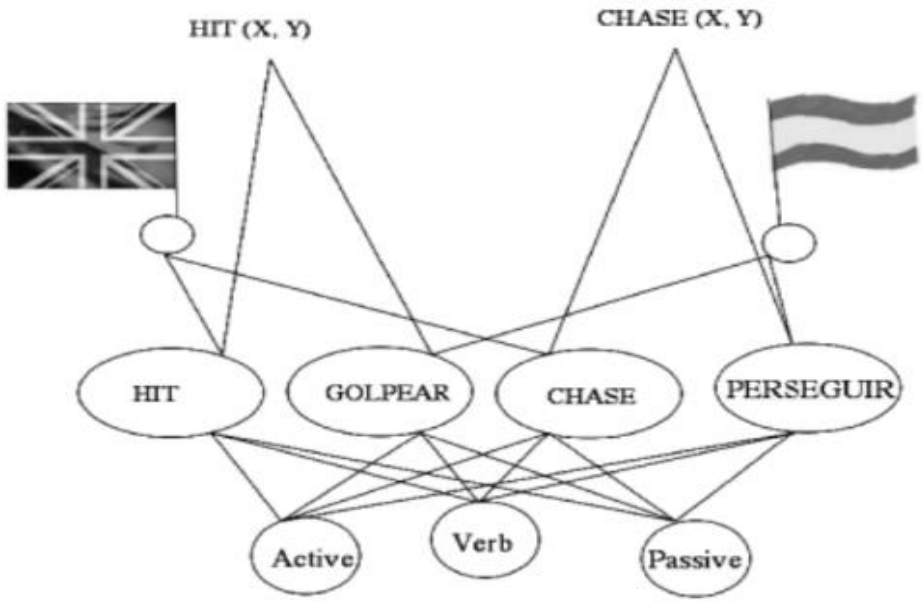

Figure 4. Example of lexical entries in Spanish-English bilinguals in a shared lexicon and syntax account. (Hartsuiker et. al, 2004)

In figure 4, it is seen that lemma nodes are connected to conceptual ones, which are indicated by X, Y, categories such as active or passive and the languages that are shown with the flag of the language. It means that conceptual nodes activate the verb lemma and such as "golpear" is also activated because of the combinatorial nodes. Even the study of Hartsuiker et. al., (2004) shows priming across languages suggesting shared syntax, there are few other studies that failed to show shared syntax. In the case of representation of syntax separately, there will be no activation effect in terms of syntactic structures across languages. The study of Loebell et al. (2003) showed that priming of passive sentences failed to produce reliable effects, so it did provide evidence for shared syntax.

Syntactic priming is also used in bilinguals to test the status of certain grammatical structures such as Mandarin *bei,* which is considered as either passive or biclausal structure (Travis & Koopman as cited in Stabile, Liu, Chen & Deen, 2015, p.223), so the status of it remains controversial. In the study, the cross linguistic priming effect in adult Mandarin-English bilinguals is observed and *bei* construction does prime English Passives and is primed by them, therefore, it can be taken as evidence that Mandarin and English Passives have the same underlying structures by making the bei as a true

passive. However, they have concluded that there may be other factors that lead to priming in the experiment such as thematic role ordering in a way that *bei* and English Passives have the same thematic role order OVS in passives. (Stabile et al., 2015). To illustrate that, topicalized sentences are used as prime;

(5) The elephant, the monkey poked

dà xiàng hóuzi chuō-le

elephant monkey poke-PERF

(Stabile et al., 2015: 230)

Even the topicalized sentence is an active, OSV order gives rise to more passive sentence use compared to active sentence, however; they were not able to give a plausible explanation for why topicalized ones did not prime a topicalized sentence.

2.3.1. Bilingualism

Since the present study aims to investigate the syntactic priming effects on Turkish-English adult late bilinguals, the definition of bilingualism is needed to understand the syntactic priming and representation in bilinguals.

Some English learners say they are truly bilinguals because they know two languages even, they are still in the process of learning English, whereas, some do not consider themselves as bilinguals because they are not able to speak and write as native English speakers. In fact, the former view of students is supported by Stern (1983) who postulates any level in the second language can be contributed to the bilingualism regardless of whether it is acquired or learned in contrast to the view that native like proficiency in two languages is required (Bloomfield, 1933). Grosjean (1989) warns the neurolinguists who may have tendency to think that the bilingualism is the composition of two monolingual minds, rather, he suggests bilingualism is the unique configuration of those languages so it is not fair to compare bilingual mind to monolingual such as the

comparison of Turkish use in Turkish-English bilinguals to Turkish monolinguals will not be valid. For categorizing the bilingualism types, age of acquisition and proficiency levels are used by most of the researchers. With regard to the present study, four types of bilingualism will be mentioned here.

2.3.2. Early and Late Bilingualism

Early and late bilingualism are closely related to terms *learn* and *acquire* in the target language. According to Krashen's (1982) acquisition-learning distinction, acquisition takes place in natural setting where the learner acquires the language in an implicit way without the formal instructions which are given in the schools, it is more like the way of how children learn their first language. On the other hand, learning is the consequence of formal instruction, which is explicit and about the language. Moreover, it is said that late bilinguals learn the language after the critical period that suggests language acquisition must take place before the puberty because of the cerebral lateralization whereas early bilinguals acquire the language before the puberty. (Hoffmann, 1991). Younger children are believed to have plasticity for neuro-muscular patterns that enable them to acquire any pronunciation features and become fluent than adults.

Within the scope of this study, participants will be considered as late bilinguals since they all have acquired the language after puberty with formal explicit instructions.

2.3.3. Balanced and Dominant Bilingualism

The classification of balanced and dominant bilingualism is mainly based on the proficiency level in these two languages, the degree of how they know the languages they speak is important for the definition. Stranzy (2005) concluded that the proficiency of one language to other is mostly observed in bilinguals and the dominant language is the native language in most cases. According to Grosjean (1982), native like proficiency in both languages is a rare phenomenon. Therefore, it is quite hard to find someone who has exactly the same level in language skills such as reading, listening, speaking and

writing. It should not be forgotten that bilingualism is neither linear nor static situation. Bilinguals are able to continue to improve the language skills that they have in a way of the instructions on certain skills or training in which some skills are focused on such as pronunciation. In the context of the present research, instructors of English in the foundation university, where the study takes place use mostly English in classrooms, however, in other contexts such as at home, social life they prefer using Turkish. Their dominant language seems to be Turkish in terms of the frequency of use, and how they define their relative proficiency level in each language even they are highly proficient in English. (In their CV for the website, Turkish is indicated as native language while English is written as C1-C2 level).

2.4. Passives in Turkish and English

2.4.1. Passives in Turkish

The passive morpheme in Turkish is placed between the verbal root and tense markers by making the transitive verbs into intransitives and intransitives to a subjectless predicate. Three forms of the Turkish passive morpheme are mentioned as *–n, -In, -Il*, the distribution of *-Il* which is the passive suffix is phonologically conditioned as *–il, -ıl, -ül, -ul, -ın, -n* (Taylan, 2015).

As a rule, the allomorph *–n* comes after a vowel, verb stem.

Active verb stem	Passive
6.) anla- (understand)	anla-*n*-ır (it(is understood))
7.) söyle- (tell)	söyle-*n*-ir (it(is told))

After the stem that ends with [l], *-In* is needed for the passivization. By blocking the double sequence of lateral consonant, *-Il* is nasalized.

Active verb stem	Passive
8.) al- (get, buy)	al-ın-ır (it (is bought))
Active verb stem	Passive
9.) it- (push)	it-*il*-ir (it(is pushed))
döv- (beat)	döv-*ül*-ür (it(is beaten))

The passivization in Turkish can be analyzed under passives with a direct object, an oblique object, intransitive verbs, and double passives. (Erguvanlı- Taylan, 2015: 154)

Passives with a direct object: The active sentence that includes a direct object can be passivized by the movement of a direct object NP to the subject position leaving its case marking and the agent of the sentence is introduced with "by" phrase (tarafından) or gets pressed.

10) Çocuklar kitabı okudular.

Child-Pl book-Acc read-Pst-3rdPl.

"*The children read the book*."

11) Kitap oku-*n*-du.

Book read-Pass-Pst.

"*The book was read*."

The agent of the sentence, children (çocuklar) can be introduced with a "by" phrase (tarafından) if it is pragmatically significant. –CA is also used for marking the doer of the action in passives if the agent is an institution such as *haber bakanlıkça yalanlandı*, "*the news was denied by the ministry."* (Erguvanlı- Taylan, 2015: 155)

Passives with an oblique object: Oblique objects, which are known as the object of a preposition are the complements of verbs. With the existence of an oblique object in a sentence, in contrast to the accusative object, which loses its case marking, the oblique object keeps its case marking. The fact that, in Turkish, the subject of a main clause is a nominative, the oblique object cannot be a subject of the sentence; therefore, pseudo-passive interpretation is observed.

11) Çocuklar arkadaşlarına güvenir.

Child-Pl friend-Pl-Gen-Obl trust-Pres.

"*The children rely on their friends*"

Arkadaşlarına güven-*il*-ir.

Friend-Pl-Obl trust-Pass-Pres.

" Their friends are relied on"

According to Erguvanlı-Taylan (2015), the sentence examples including oblique object with the agent in these passive constructions are not felicitous such as *arkadaşlarına çocuklar tarafından güvenilir.*

Passives with intransitives: Intransitives in Turkish are subject of a discussion throughout the literature that yields to have a different categorization of them as unergatives or unaccusatives. (Göksel, 1990; Kornfilt 1997; Nakipoğlu-Demiralp, 2002). Nakipoğlu-Demiralp (2002) postulated a continuum approach, which demonstrates the intransitive verbs in a scale where one edge is marked with unergative and another is unaccusative and the verbs are distributed based on their tendencies in impersonal passivization. For instance, atla "jump" is categorized under the stage 1 which is passivized whatever the temporal context is because the verbs in here are "instigated" as internally whereas the verb çürü "decay" is mentioned as the stage 5 verb which is placed at the edge of the unaccusatives since their argument which can be instigated does not exist. To give an example; *Elma çürüdü* (The apple decayed) is a

grammatically correct sentence but **Elma çüründü* (The apple is decayed) is an ill-form. In short, she argues that "verbs describing externally instigated situations never passivize in Turkish, verbs describing internally instigated and/or experienced situations can always be found in such constructions" (p.130)

It is possible to passivize intransitive verb clauses with the interpretation of generic or indefinite meaning, and "by" phrase tarafından is not allowed in this construction. (Erguvanlı- Taylan, 2015: 155)

12) Ben serin yerde güzel uyurum.

I-Nom cold place- loc. well sleep-Pres.-1st Sing.

" I sleep well in a cold place"

*Serin yerde herkes tarafından iyi uyu-n-ur.

* Cold place- loc everyone by well sleep-Pres.

" It is slept well in cold place by everyone"

Double Passives: It is possible to use double passive morphemes in Turkish with a restricted usage.

13) Yemek bu masada ye-n-il-ir. (Double Passive)

Meal this table-loc. eat-Pass-Pass- Pres.

" The meal is eaten on this table"

Yemek bu masada ye-n-ir. (Passive Form)

Meal this table-loc. eat-Pass-Pres.

" The meal is eaten on this table"

Reflexives in Turkish: It is generally accepted that -(I) l is a passive morpheme whereas -(I)n is a reflexive in Turkish as in the example 14 (Lewis 1967, Göksel & Kerslake 2005). Moreover, they are considered as homophonies in a way that according to Göksel (1993), (I)n can be used in both passives and reflexives.

14) 14) yıka-n

wash-REF

Nakipoğlu-Demiralp (1998) notes that through reflexivization and passivization, a transitive verb can be detransitivized. Furthermore, it is suggested that due to very common features of passive morphemes and reflexives such as not having external arguments in syntax etc., they are considered as similar constructions even they have different processes (Gündoğdu, 2017). Because of the fact that this issue is open to discussion, passives with -(I)n morpheme are not included in experiment lists.

2.4.2. Passives in English

In English, it is possible to turn an active sentence structure including the object into passives in the unmarked cases. The object NP goes to a subject position and the subject lands in the object of a preposition for the passivization. Syntactic mechanism takes place for the production of passives through movements, and the example is given here;

15) She ate the cake.

16) The cakei was eatenti by her.

In here, t is for the trace that shows the movement of the object of a sentence “cake” to the subject position. In Minimalist Program, (Chomsky 1993) a trace is viewed as a copy of the moved element, the copy is deleted at PF but appears on LF.

Haegeman (1991), within the GB theory, mentions the features of passivization; the verb is morphologically inflected, NP that is assigned the theta role of passive moves a position in which it will take case assignment, NP is given licence to move because of the case filter and otherwise the subject position will be empty.

According to Wang (2010) the difference between active and passive can be observed in both verb phrase and clause levels. For example; passives in English are formulated as copula be + past participle, this structure is considered as unmarked, the auxiliary and past participle forms are seen on the verbs therefore it is considered as verb phrase difference. On the other hand, in a clause level distinction, the components of the sentences are arranged again in a way that the subject of the active sentence is now passive agent which is introduced with "by" phrase and the object of a passive sentence is now a passive subject. (p.450). According to Quirk et al., (1972) in his Grammar of Contemporary English, passive structures can be analyzed under verbal passives, adjectival passives, mixed passives and pseudo-passives.

Quirk's another Passive scale can be shown as; (Quirk, et al, 1972, 266-231)

Table 8. Quirk's passive scale

<table>
<tr><td colspan="5">Quirk's Passive scale</td></tr>
<tr><td colspan="2">Central passive or true Passive</td><td rowspan="2">semi-passive or mixed passive</td><td colspan="2">Pseudo-passive</td></tr>
<tr><td>With agentive phrase</td><td>Without agentive phrase</td><td>With current copula verbs, e.g., be, feel, look</td><td>With resulting copula verbs, e.g., get, become, grow</td></tr>
</table>

Even different classifications exist they are very parallel in general terms. Semantically and syntactically analysis are the two traditional ways among them.

2.4.3. Differences Between English and Turkish Passives

Firstly, Turkish is not in the same family of languages as English. As Comrie (2010) indicated Turkish has an SOV order being a member of Altaic language family. However, the word order can be changed due to pragmatic reasons (Sağın, 2006). On the other hand, English word order is rigidly SVO and other variations from that are acceptable under certain conditions. The word order for the passives also change accordingly, it is OVS in English and OSV in Turkish. The passivization takes place through the morphemes in Turkish as mentioned in previous chapters, whereas, auxiliary and past participle together play roles for the passive forms in English.

Including Turkish, Dutch, German, Latin, Classical Greek, North Russian dialects, Shona (Bantu) are considered as to have basic passives that use the similar syntactic and morphological rules to get impersonal passives from the intransitive verbs. (Keenan and S. Dryer, 2007). However, English does not permit passives on intransitives. In Turkish passives are not restricted only to transitive verbs. Turkish allows the passivization of certain intransitive verbs. Most of these intransitives are action verbs (Göksel and Kerslake, 2005).

> "In such constructions there is no particular person or group of persons that is understood as performing the action denoted by the verb, hence such sentences cannot have agent phrases. The closest English equivalents are active sentences with 'people', 'one' or the impersonal 'you' as subject." (Göksel et al.: 136)

Another difference is "tarafından" phrase, the agent acts as the complement of the postposition. These phrases are equivalent to 'by' phrases in English but used less frequently. Agentless passive sentences are much more common in Turkish than those containing a tarafından phrase (Göksel and Kerslake. :135). Additionally, in many cases the passive alternative of the active construction is quite marginal in Turkish.

In light of these, the typological difference between Turkish and English will value to study since most of the priming studies have been conducted with the typologically

similar languages, and the strong effect of same word order on priming has been studied by the researchers (Stabile et al., 2015). When the participants are primed in Turkish and produce in another language or vice versa, the percentage of Turkish and English passive use after the prime, if there is any, will be guiding for the analysis of the passive structures from the perspective of syntactic priming while the research also tries to answer the question of shared vs separate syntax.

CHAPTER III: DATA ANALYSIS AND DISCUSSION

This section reports the findings of the study gathered from Turkish-English speakers via elicitation in picture description task in order to investigate potential priming effects in Turkish-English speakers' productions.

As mentioned in scoring section, the frequency of passives after each prime type was calculated and target ratio scores were received in similar to Bock's analysis (1986). Then, IBM SPSS Statistics Package 24.0 was used to examine the effect of prime type that is either active or passive and priming direction that is English-Turkish or Turkish-English. In other words, dependent variable was the passive proportion score while independent variables were the direction of the priming and prime type. Statistical significance level was accepted as 0.05 and effects were accepted as significant when they are less or equal to that value was used to test research questions statistically. At total, there were 270 utterances of subjects and 270 of the researcher. Responses that were coded as "other" was limited to three. After active primes in each language condition, responses were never passive, instead they were almost all actives apart from one answer that was coded as "other".

The difference in the frequency of passive use in English and Turkish may have an effect on the production of passives in a way that participants can produce passives less in Turkish than English since passive form is more restricted in Turkish for an oral description of events or spontaneous speech. Language dominance is also another important factor in this paradigm. The influence of dominant language on weaker has been studied and shown that dominant one affects the weaker more compared to opposite way (Yip & Matthews, 2000). In other words, language dominance plays a primary role for the directionality of cross-linguistic influence. Given that the syntactic configuration of passives in both languages are similar, the priming effect is expected, but one must be careful about the fact that the priming effect, the activation of the target structure may not be enough by itself for the production of target structure. The syntactic decision of the speaker depends on numerous factors (Brooks & Tomasello, 1999).

3.1. TURKISH TO ENGLISH PRIMING IN ACTIVE AND PASSIVE CONDITION

When priming sentences were given to subjects in Turkish, they understood that they would describe their pictures using English since the instruction was given before the experiment starts and "Eng." abbreviation also appears in their box.

Table 9. The response of Turkish-English bilinguals by Turkish active prime.

Experimental Condition	Active	Passive	Other
Turkish to English Priming (English Responses)			
Active Primes (n=7) x9 items	62	0	1

Table 9 shows the total number of utterances in terms of active, passive or another category. When the prime language was Turkish, and the condition was Active. The occurrence of passives was not observed when the sentences were declarative, in other words, active primes never yielded to passive utterances. Out of 63 utterances, 62 ones were active.

In fact, the lack of passive after active primes shows similar results in the study of Bock (1986), Vasilyeva et al. (2010) in a way that the passive occurrence ratio after actives have been found 0.14 and 0 respectively. However, Hartsuiker et al. (2004) have found the ratio 0.37 after passive primes whereas 0.56 has been found for the passives after passive primes. In the study, Hartsuiker (2004) gave the sentence "*A coin is being attracted by an iman* (magnet)" (p. 413) as a code-switching example of a participant, Turkish translation is "Bozuk para magnet tarafından çekiliyor" which is more likely to be infelicitious in Turkish. In that study, they manipulated the animacy of agent as inanimate and showed the agent on the right side of the picture to increase the likelihood of passive responses leading more use of passives after actives compared to other studies.

3.1.1. Item Analysis in Turkish Active Primes

Pair 3 that consists of “açmak-build” (open- inşa etmek) verbs and Pair 4 including “fırlatmak-water” (throw- sulamak) were not responded by passives from the subjects. Randomly selected sample can be shown in Figure 5 and 6.

Figure 5. Pair 3: Prime -Target (Açmak – Build)

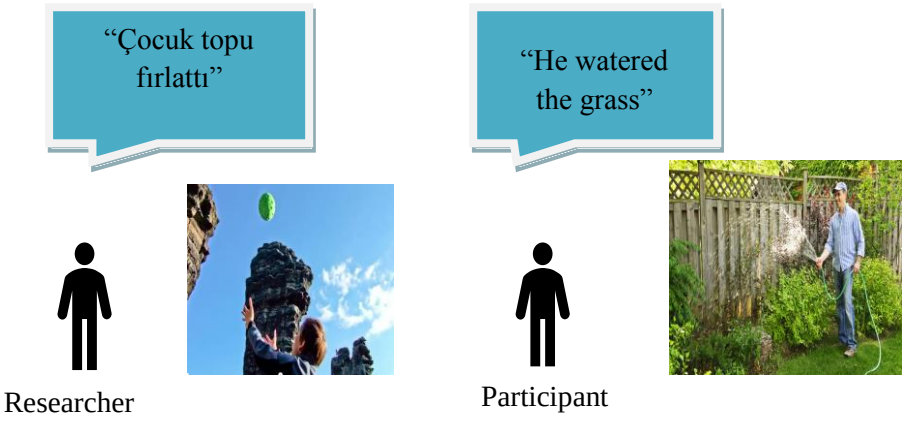

Figure 6. Pair 4: Prime-Target (Fırlatmak- Water)

3.1.2. Item Analysis in Turkish Passive Primes

Turkish passive structures were provided to subjects by the researcher and whether they would respond in passives was investigated.

Table 10. The response of Turkish-English bilinguals by Turkish passive prime

Experimental Condition	Active	Passive	Other
Turkish to English priming (*English Responses*)			
Passive primes (*n=8*) x 9 items	58	13	1

Table 10 demonstrates the number of words uttered after Turkish passive primes. Out of 72 utterances by the subject, 13 were coded as passive and 1 utterance was coded as other. Contrary to active prime condition, there were occurrences of passives after passive condition.

Figure 7. Pair 5: Prime-Target (Yapmak- Paint)

Pair 5 is the second most received passive utterances with the item 8. As it can be seen agents are animate and patients are inanimate. According to Dahl and Fraurud (1996), certain grammatical structures are closely related to certain animacy features in a way that animate agents and inanimate patients are mostly associated with active sentences whereas animate patients are mostly associated with passive sentences. The animacy factor has not been studied in this research, but one of the reasons regarding overall less use of passives can be rooted in the choices of pictures that include animate agents with inanimate patients. When the animacy effect is combined with structural priming, it has been found that there is no interaction between animacy and syntax in priming regardless of whether a prime sentence has animate/inanimate subjects or animate/inanimate objects (Bock, 1992). However, a study with children showed

animacy-syntax relation has played on the magnitude of priming. (Buckle, Lieven and Theakston, 2007).

Figure 8. Pair 8: Prime-Target (Değiştirmek- Prepare)

While some speakers prefer to use "by phrase" *tarafından*, some do not include it in their responses. The coding of "by phrase" has varied either "passive" or "other" among different studies. Hartsuiker et al., (2004) excluded sentences including "by phrase" from passives with the idea of prime and target sentences must have the same parallel structures. Kim et al., (2008) and Vasilyeva et al. (2010) have accepted both utterances with or without "by phrase" as passives. The coding decision in this study has been made in along with Göksel and Kerslake's (2005) study on Turkish stating "tarafından" and "by phrase" are equal on structure, but it is used less in Turkish, therefore; absence of "by phrase" in Turkish has not been coded as "other" .

3.2. ENGLISH TO TURKISH PRIMING IN ACTIVE AND PASSIVE CONDITIONS

In this condition, primes were given in English whereas the responses were Turkish. The similar study that has been conducted with bilingual Spanish-English children in both directions S-E and E-S by Vasilyeva et al. (2010) has shown that language dominance can be invoked in priming studies in a way that less dominant language affect the other less. In the present study, dominant language can be decided as Turkish which subjects are exposed to both at school and home and it is their first language. However, it must not mean that this causes asymmetry in priming since in the study, the

number of passive responses is very close to that of Turkish to English priming condition.

3.2.1. Item Analysis in English Active Primes

Table 11. The active response of Turkish-English bilinguals by English passive prime

Experimental Condition	Active	Passive	Other
English to Turkish priming (*Turkish Responses*)			
Active primes (*n=7*) x 9 items	63	0	0

Table 11 shows the responses of participants when the prime type was English. In fact, numbers were quite same with Turkish-English condition. Passive responses were not reported after active primes. Out of 63 utterances, all the responses were active.

Figure 9. Pair 9: Prime-Target (Clean-Kaldırmak)

Although the researcher has not uttered sentences including family relations, some participants has made inferences and used kinship terms as it can be shown in Figure 9.

3.2.2. Item Analysis in English Passive Primes

Table 12. The passive responses of Turkish-English bilinguals by English passive prime.

Experimental Condition	Active	Passive	Other
English to Turkish priming (*Turkish Responses*)			
Passive primes (*n=8*) x 9 items	59	12	1

Table 12 shows the responses of participants when the prime language was English and prime type was passive. Out of 72 utterances total, 59 sentences were categorized as active and 12 were passive. The number of passive utterances is again very close to that of English responses primed by passives.

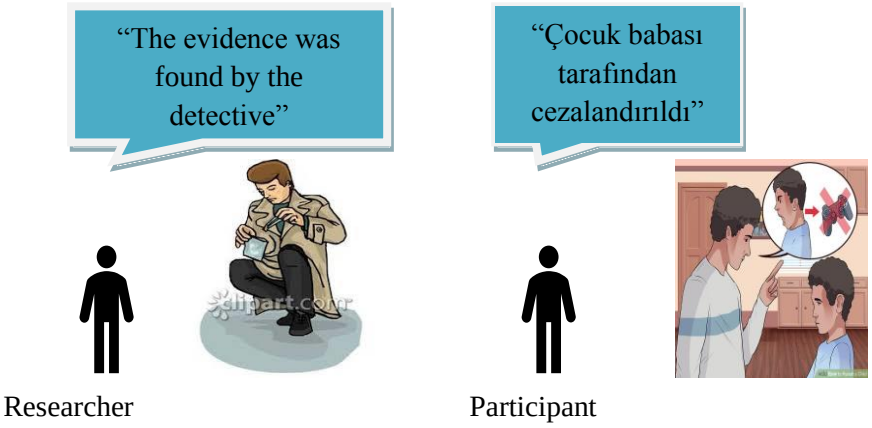

Figure 10. Pair 7: Prime-Target (Find-Cezalandırmak)

This pair shown in figure 10 received the most passive responses from participants. Similarly, a participant deduced about the kinship in the picture.

3.3. OVERALL PICTURE OF ALL CONDITIONS

In this section, all responses in each condition were shown through table in order to see results in a holistic way.

Table 13. The response of Turkish-English bilinguals by all conditions

Experimental Condition	Active	Passive	Other
Turkish to English priming (English *Responses*)			
Active primes (*n=7*) x 9 items	62	0	1
Passive primes (*n=8*) x 9 items	58	13	1
English to Turkish priming (*Turkish Responses*)			
Active primes (*n=7*) x 9 items	63	0	0
Passive primes (*n=8*) x 9 items	59	12	0

A total number of responses by each condition was shown in the table 13. The different use of tense apart from simple past and the use of verb that is not as same as in the box given were coded as other. Additionally, the filler sentences were not shown here and excluded from the total utterances.

Overall active responses were 242 whereas passive responses were only 25. When the prime type was active, there was no example of passive sentence as a response so there was a general tendency to use active structures than passive ones. The users of those languages clearly preferred to use active sentences across the conditions. This situation can be explained by the baseline use of active structure in a way that the use of active sentences is quite more common than passives especially in oral communication.

Table 14. Ratios across the conditions

Prime Type	Target Ratios	
	Active ratio	Passive ratio
Active (English)	1	0
Passive (English)	0,830	0,169
Active (Turkish)	1	0
Passive (Turkish)	0,816	0,183

As demonstrated in the table 13 and 14, subjects preferred to use active sentences regardless of the priming type and language, subjects mostly used active sentences for transitive verbs. Target ratios were close to each other in each condition. In fact, they were the same when the prime type was active, and the target ratio was either active or passive. The ratio of passives 0,169 and 0,183 after English and Turkish passive conditions respectively. The ratio for the passives after active primes was 0 in all conditions.

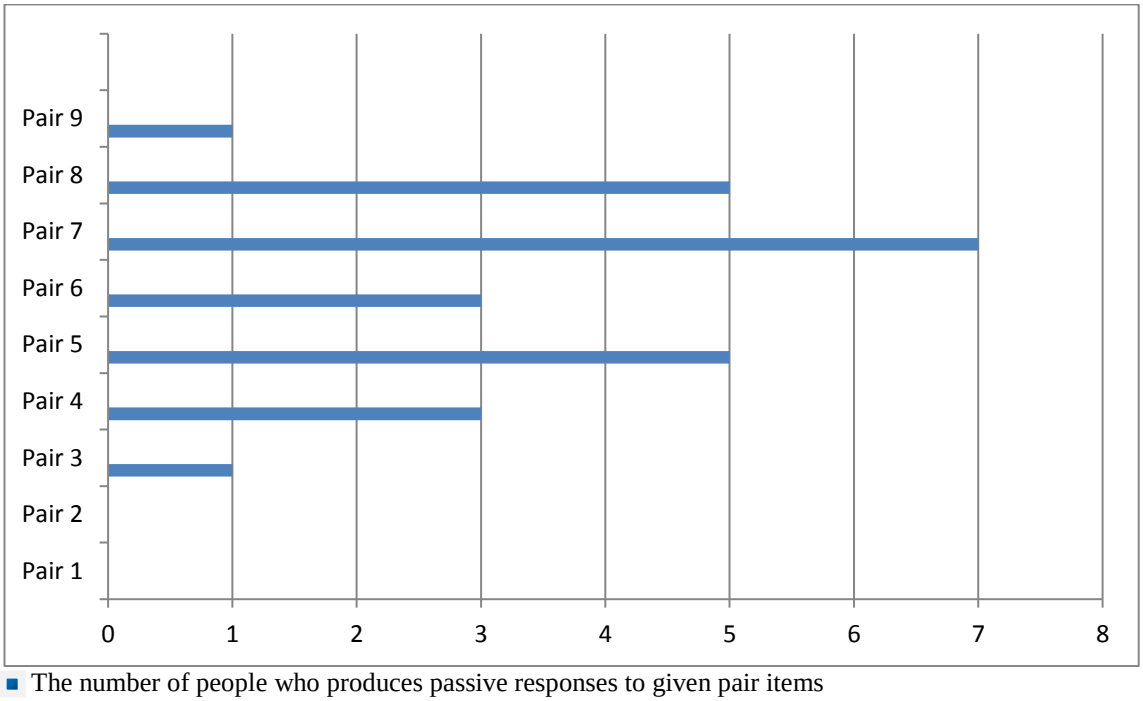

Figure 11. The number of passive responses to each item in all conditions

Figure 11 shows the number of people that gave passive responses regardless of the prime type and language. Each pair shows the prime and target verb sequence in the experiment. As it can be seen from the figure, Pair 7 (find – cezalandırmak *punish*) is the item that receives the most passive utterances among all. In this pair, prime verb was *find* and the target verb was cezalandırmak (*punish).* In fact, the target verb cezalandırmak (*punish)* was ranked as the second highest score from online appropriateness test. This pair was followed pair 5 and 8. First two pairs did not provide any passive responses while the rest of them show (See the table 7 to see pairs).

Although the figure shows the frequency of people who gave passive utterances by item, the study was not designed to investigate the priming effect of those items individually.

At first, two-way ANOVA was thought to analyze the data statistically because of the existence of two independent variables. As a pre-requisite of ANOVA that is a parametric test, Shapiro Wilk-W was conducted to determine whether the distribution is normal or not.

Table 15. The results of Shapiro Wilk-W Test that shows the distribution of priming effect

	Independent Variable	*N*	*P*
Eng-Turk	Priming effect	15	0.000
Turk-Eng	Priming effect	15	0.000

$p > 0{,}05$

The lack of passive sentences after active primes in both languages caused not normal distribution of data. Therefore, a nonparametric test which is Mann–Whitney U test has been used. It reports the most accurate estimates of significance when sample sizes are small (N<30) and/or when the data do not approximate a normal distribution as in this case.

Table 16. The results of priming effect based on prime type in English-Turkish condition

Varience	*Prime Type*	*N*	*Mean*	*SD*	*U*	*z*	*p*
Prime Type	Passive-passive	8	1.500	1.773	10.500	-2.414	.016
	Active-Passive	7	.000	.000			

Table 16 showed that when the prime type was passive, the mean of subjects who produce passive sentences was higher than (X=1.500) > (X=0.000) those who were primed by active sentences. The Mann-Whitney U test by subject demonstrated significant effect of prime type and (U=10.500, z=-2.414, p=0.016 < .05).

Table 17. The results of priming effect based on prime type in Turkish-English condition

Dependent Variable	Priming Condition	*N*	*Mean*	*SD*	*U*	*z*	*p*
Use of passive	Passive-passive	8	1.625	1.506	7.000	-2.757	.006
	Active-Passive	7	.000	.000			

Table 17 similarly reported the significant interaction between prime type and prime utterances in Turkish-English condition. (U=7.000, z=-2.757, *p*=0.006 < .05).

Table 18. The results of produced passive sentences by priming direction

	Variance	*N*	*Mean*	*SD*	*U*	*z*	*p*
Priming direction	English-Turkish	8	1.500	1.773	29.000	-0.326	0.745
	Turkish-English	8	1.625	1.506			

Table 18 showed the interaction between priming direction and priming effect in a way that the means of passive sentences were very close to each other (X=1.500) and (X=1625). Statistically, there was no difference between the passive use of the participants in the English-Turkish and Turkish-English groups (U=29.000, z=0.326, *p*=0.745 > .05). As a result, priming can manifest regardless of the primed language namely priming direction in this study.

3.4. DISCUSSION

After giving specific examples of syntactic priming in both directions, qualitative data have been presented. In this section, results will be discussed through current theories and related studies.

3.4.1. Evidence for Shared Syntax from Turkish-English Bilinguals

Given the fact that crosslinguistic priming effect has been reported in different languages including Persian, Spanish, Korean, Thai, Mandarin Chinese, Dutch (e.g., Ameri-Golestan et al., 2012; Hartsuiker et al., 2004; McDonough et al., 2008; Stabile et., 2015; Vasilyeva et al., 2010; Kim et al., 2008; Hartsuiker, Kolk, & Huiskamp, 1999), most of them have showed priming effect between languages in addition to within languages. One of the most prominent results of these studies is related to the representation of syntax in other words organization of syntactic information; shared or separate syntax. As mentioned in the literature review, shared syntax postulates one integrated representation of the similar syntactic structure instead of two different systems. In this study, the significant passive priming effect has been reported (p=0.006 < .05) by contributing to literature by providing evidence for shared syntax from Turkish-English bilinguals.

3.4.2. Symmetric Relation of Syntactic Priming

In the case of lack of priming in one of the directions then it is possible to mention about asymmetry of syntactic priming. There are some potential reasons behind this phenomenon; language dominance, proficiency level, baseline use of the target structure, pragmatic restrictions of the target structure and individual's stylistic preference for that target structure. Vasilyeva et al. (2010) depicted asymmetry of syntactic priming that is the absence of priming effect from English to Spanish. In the study, she reported less frequent use of Spanish *fue*-passives compared to English counterpart and furthermore it has been suggested that passives in Spanish are mostly used in literary context rather than oral description. Thereby, baseline use of the target structure and pragmatic restrictions together come into play to explain the lack of priming among Spanish-English bilinguals.

In the present study, passive priming effect has been observed from Turkish to English and vice versa regardless of the first language, baseline use of passives in Turkish and other reasons mentioned above by providing evidence for symmetric relation of

priming. Furthermore, the magnitude of passive priming effect does not depend on the primed language (p=0.745 > .05), in other words; there is no interaction between the effects of priming and priming direction in the study.

3.4.3. Evidence for Parallelism of Two Structures from Syntactic Priming

Syntactic priming has also been used to determine the situation of certain structure in a way that if there is priming effect between two structures, this means that these two structures are parallel. Within this scope, Stabile et al., (2015) have used syntactic priming as a tool and tried to investigate whether Mandarin *bei* has the same status with English passives. Although they have found passive priming effect, they were not able to draw a conclusion saying that *bei* is also genuine passive because of the thematic order. Both English and Mandarin share the same thematic orders that lead a *thematic priming.*

When Turkish and English are compared in terms of word and theme orders, while English exhibits SVO with and agentless passive, fixed word order, Turkish is a SOV with and agentless passive and flexible word order. (Slobin, 1990, p. 167). Therefore, word order cannot be the source of priming because there is a difference between two languages in terms of the place of “by phrase”. In terms of theme, in both languages, theme is followed by an agent.

(16) Turkish: Topa kız tarafından vuruldu.

Ball.DAT girl by hit.pass-PF

Theme Agent

(17) English: The ball was kicked by a girl.

Theme Agent

Because of the same thematic order, thematic priming may play a role for passive priming based on the assumptions of the study mentioned above. However; when it comes to word order, agent is followed by a verb in Turkish whereas verb is followed by an agent in English. However, word orders in Turkish and English are the same when “by phrase” is not overtly included in the sentence.

(18) Elma yendi

Theme eat. pass

(19) The apple was eaten

Theme eat. pass

CHAPTER IV: CONCLUSION

This study has reported cross-linguistic priming effect in picture description task with Turkish-English speakers. In other words, they have tendency to produce passive sentences after passive primes rather than following active primes regardless of the language. Direction of the priming (Turkish to English, English to Turkish) did not show any effect on the production of passives. Priming effect has been observed in both directions, so it is possible to mention about the symmetry of these two languages that is consistent with some findings (Pickering, Branigan & McLean, 2000; Bock & Griffin, 2002).

The summary of findings will be presented with the research questions of the study.

(1) Does structural priming result in increase in production of passive structures for adult L2 learners / bilinguals of English who have L1 Turkish?

Without statistical analysis to data, the target ratios demonstrate that in the presence of passive priming there are some instances of passive utterances, on the other hand, there is no example of passive utterances without passive priming. When Mann Whitney U test was carried, the significant priming effect was found. Therefore, the answer is yes. In fact, crosslinguistic priming effect has been observed in different languages including Persian, Spanish, Korean, Thai, Mandarin Chinese, Dutch (e.g., Ameri-Golestan et al., 2012; Hartsuiker et al., 2004; McDonough et al., 2008; Stabile et al., 2015; Vasilyeva, Waterfall, Gámez, Gómez, Bower, & Shimpi, 2010; Kim et al., 2008; Hartsuiker, Kolk, & Huiskamp, 1999) and thanks to this study, Turkish will be included in the list resulting in passive priming effect in both directions in addition to the study of Kutlu (2015) that demonstrates priming for PO and DO in Turkish suggesting a shared-syntax account.

Most studies in priming have been conducted with monolingual subjects even diverse language speakers have been studied in the past two decades. Thanks to this study, the

ecological validity of priming research is increased by adding different languages and population when it is though that most of the priming research was only limited to English. This study is also very significant to show that priming effect can be reported typologically different languages among bilinguals. In the study of Loebel and Bock (2003), fluent German-English bilinguals were the subjects and the target structure to be studied was selected as passive constructions. However, they could not observe priming effect contrary to results of most studies and they argued different word order caused the lack of priming effect. In the case of Turkish (16), "tarafından" comes before the verb and after the doer of action. In English, the place of "by" phrase is after the verb and it is followed by the doer of the action as shown in example (17). (Göksel and Kerslake 2005: p.135)

(18) En iyi oyun birinci sınıf öğrencileri **tarafından** hazırlanmış.

Most good play first grade student-Pl-POSS by prepare-Pass-EV/PF

(19) The best play was performed by the first-year students.

When these examples are taken into consideration, Turkish exhibits OSV whereas English preserves OVS order that make the orders for these two languages different. In German, the verb occurs at the end of the sentence and follows the agent that also create difference in terms of word order as indicated in the study of Loebel and Bock (2003). However, the present study has showed that word order similarity is not required for the priming effect and this result has been consistent with what Chen, Jia, Wang, Dunlap & Shin (2003) have found in their research showing priming effect between Chinese and English.

(2) Do Turkish-English bilinguals share syntactic information across the languages or have different syntactic stores?

Syntactic priming is widely used as a method to explore the shared abstract structures. A shared syntax account postulates that structural priming occurs across languages. In

the present study, it has been showed that bilinguals share the syntactic information across Turkish-English. Hartsuiker et al. (2004) suggest that similarity of the target structure in both languages is needed as a requirement of priming, but to what extent of the similarity is not explained in detail. The logic behind shared syntax is to reduce redundancy in a way that syntactic structures which are similar in two languages will be stored once and the use of target structure in any language should activate the similar target structure in another language. In fact, several studies provide evidence for shared-syntax in bilinguals with different languages (Hartsuiker et al. 2004; Desmet and Declercq 2006; Schoonbaert et al., 2007; Chen et al., 2003) apart from the study of German–English bilinguals in passives (Loebell & Bock, 2003).

(3) Are there any differences in the production of Turkish and English passives? In other words, is the priming between Turkish and English one way (asymmetrical) or bi-directional (symmetrical)?

In the study of Vasilyeva et al. (2010), crosslinguistic priming has been found only from Spanish to English direction in a way that subjects are from Spanish speaking parents and they only use English at home. The result was explained with asymmetric relation between two languages. This brings the situation of language dominance that dominant language affects the weaker one more thereby, one may predict to see more priming from Turkish to English than the other way around. However, in the present study, asymmetric relation has not been observed instead priming effect has existed in both directions with very similar magnitudes.

When the background information of this group is taken into consideration, it is clear that they are high proficient speakers in both languages. Although they use Turkish in their home, they teach and use English in classroom, so they have high metalinguistic awareness in both languages, and this situation may block the dominance of the language factor. More specifically, in our case, the characteristics of special bilingual groups may prevent the language dominance effect. In the study of Korean-English unbalanced bilinguals, no priming effect has been observed from L2 to L1 because of the relatively low proficiency in the second language (Shin, 2010). The presence of

priming from L2 to L1 in the present study can be attributed to high proficiency level in L2. Golestan (2003) indicated that more proficient subjects received higher scores compared to less proficient subjects in the utterance of passive structures. Therefore, it can be said the presence and magnitude of priming depends on the proficiency level.

Furthermore, the existence of priming between two different languages regardless of the word order has brought the issue of language production models. Two stage model postulates two parallel structures which are similar in hierarchical structure but not similar in terms of word order must prime each other because of the fact that syntactic representation begins at functional level and word order is not related at this stage (Chen et al., 2003).

This study demonstrated that effects of priming are not limited to typologically similar languages, the existence of priming in different languages and across languages may shed light on the universal systems in languages. Thanks to syntactic priming studies, the role of syntactic priming regarding the language acquisition, processing and mechanisms has been investigated and it is clear that these studies provide very valuable insight to assess syntactic representations.

4.1. PEDAGOGICAL IMPLICATIONS

This study was not designed to directly evaluate learning and teaching, but it presents some implications as a result of increase in the production of passives after passive priming given the fact that subjects have learnt English as a second language.

Griffin (2000) has reported that implicit learning and structural priming have certain similarities. For instance, they share very similar features such as the abstract representation, occurring without the consciousness and relative persistence. Given the fact that structural priming strengths the connections between nodes, it can take part in language learning. More specifically, the implicit learning of certain structures can be possible via structural priming. In classroom settings, a structure that is difficult to be

elicited from learners can be primed by the teacher. McDonough and Mackey (2008) showed that L2 learners are encouraged to utter developmentally advanced structures via syntactic priming. This situation demonstrates the capacity of structural priming studies, and to what extent relatively new structures can be learned by means of priming can be studied as well. Additionally, tasks used in priming studies can be transformed to classroom activities based on the previous studies that give information of which task type is more successful at elicitation the target structure. As Golestan (2003) suggested, tag questions, indirect questions and causatives which are less used by EFL learners can be analyzed within this scope. Furthermore, it has been suggested "if the syntactic knowledge could be stored and extracted by abstract syntactic structures, then the language teaching would have no need to distinguish the syntactic structures which are same in form but different in meaning"(Feng, Chen, Feng & Feng, 2014, p.646). As a result, integrating the results of priming into second language paves the way for teaching a foreign language in several ways; classroom activities, order of the activities and the type of instruction.

4.2. RECOMMENDATIONS FOR FURTHER RESEARCH

The current study presents some valuable recommendations for further research. Firstly, this study selected English verbs based on English corpus and previous studies in English, but Turkish corpus data could not be used to identify frequencies of verbs in Turkish passives. For further research, Turkish spoken linguistic corpora can be used to identify the frequencies of verbs to balance the frequencies more effectively. In this experimental study, Turkish translation equivalents were used that was much similar to other studies such as Vasilyeva et al. (2010) Loebell and Bock (2003). However, instead of corpus, Turkish appropriateness test was conducted to eliminate unnatural use of passives in Turkish. Thereby, another important area in priming studies is the assessment of reliability and validity issues especially for selecting and creating materials.

The results of the study were displayed with the help of proportion scores thereby, enriching the methodology adding eye-tracking system, event related potential (ERP)

can affect the validity of study in a positive way. Additionally, investigating more languages and different structures that have not been studied is needed. The role of proficiency, first exposure to language and priming effects more than two languages L1, L2 and L3 can be explored as well.

Most of the primary priming studies have been conducted with adults who are university students or university graduates and recently with children. Targeting different groups including people with SLI (Specific Language Impairment), Broca and Wernicke's aphasia and etc. can shed more light on language representation and processing and their relation with priming.

All in all, priming studies including syntactic priming is a very fertile area that can be studied from a wide range of spectrum and presents results that can be investigated through both applied and theoretical linguistics.

4.3. LIMITATIONS

The current study includes certain limitations to be considered. Firstly, the number of participants was limited to 30 Turkish-English bilinguals because of the time limitation and difficulty in finding participants who will form homogenous groups in terms of language background and proficiency. Increase in the number of people and items rises to statistical power, so this study can be re-conducted with larger groups and more items. When it comes to material and target verb selection, even selected pictures or images include the agent, action and patient, it can be hard to elicit passive descriptions since they are not frequently used for picture descriptions though picture description with confederate speaking or taking turns to describe pictures provides more authenticity to research. Certain pictures are more likely to be described as passives some are not by creating distributional bias. The study included test that measures the acceptability of Turkish passive sentences with given pictures and removed two of them based on the result of participants' rating. Therefore, pictures that are less likely to elicit passive utterances were not used in the experiment. Additionally, it was tough to balance the frequency of verbs used with passives in Turkish and English. In the

literature, translation of the verbs in one language to another has been widely used in crosslinguistic priming studies. (Hartsuiker, Pickering, & Veltkamp, 2004; Vasilyeva et al. 2010). A baseline phase could have been added in priming research to elicit the target forms from subjects without providing any prime in order to see participants' stylistic preference that cannot be attributed to priming effect.

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APPENDICES

APPENDIX 1. BACKGROUND QUESTIONNAIRE

Ana dili:

Cinsiyet:

Yaş:

Bildiğiniz Diller:

Meslek:

Eğitim seviyeniz? (Yüksek Lisans veya Doktora Programı varsa belirtiniz.):

Birinci Bölüm:

Lütfen aşağıdaki soruları cevaplayınız.

1. Kaç yıldır İngilizce öğreniyorsunuz?

2. Kaç yıldır İngilizce öğretiyorsunuz?

3. İngilizceyi ne sıklıkla kullanıyorsunuz?

4. İngilizceyi genelde nerede kullanıyorsunuz? (Ev, Okul, Sosyal Hayat…)

İkinci Bölüm:

5. TOEFL / IELTS ya da YDS / YÖKDİL sınavına girdiniz mi?

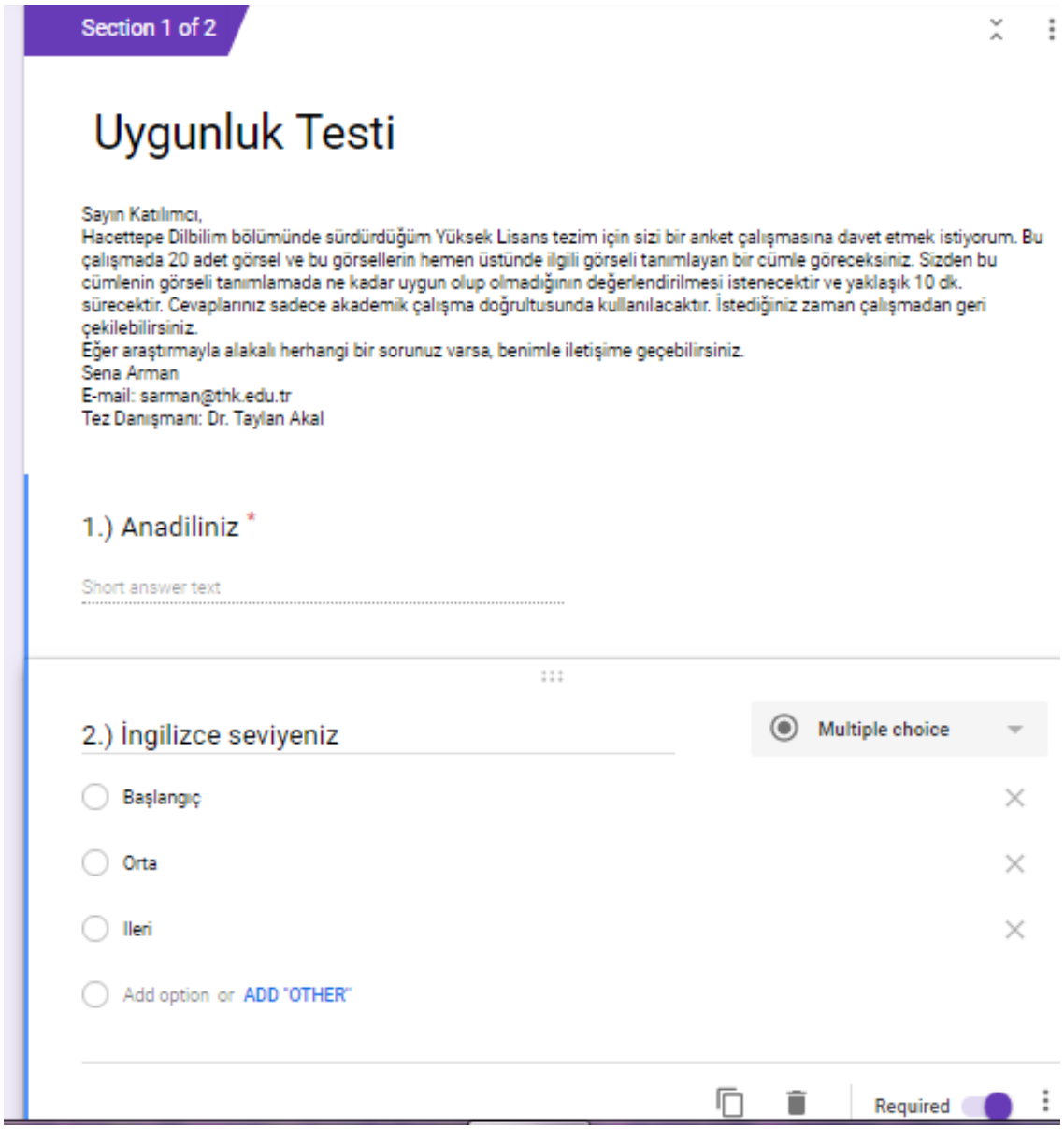
6. Türkçe yeterliliğinizi aşağıda verilen tabloya göre nasıl değerlendirirsiniz?

	Başlangıç	Orta Seviye	İleri Seviye	Anadili gibi
Okuma				
Yazma				
Konuşma				
Dinleme				
Genel Yeterlilik				

7. İngilizce yeterliliğinizi aşağıda verilen tabloya göre nasıl değerlendirirsiniz?

	Başlangıç	Orta Seviye	İleri Seviye	Anadili gibi
Okuma				
Yazma				
Konuşma				
Dinleme				
Genel Yeterlilik				

APPENDIX 2. ONLINE TEST



3.) Yaş *

Short answer text

4.) Meslek *

Short answer text

5.) Cinsiyet *

- Kadın
- Erkek
- Belirtmek isteniyorum.

CÜMLE UYGUNLUK TESTİ

Aşağıda 20 adet görsel ve her görselin üstünde ilgili görseli tanımlayan bir cümle göreceksiniz. Lütfen cümleleri ve görselleri cevap vermeden önce dikkatle inceleyin ve her cümlenin ilgili görseli tanımlamada ne kadar uygun olup olmadığını değerlendirin, cümlelerin hepsi dil bilgisi kurallarına uygundur. Yazım ve noktalamayla ilgili hataları göz ardı edin. Eğer cümlenin görseli tanımlamada uygun olmadığını düşünüyorsanız lütfen sebebini kısaca belirtin. Rakamlar aşağıdaki anlamlara gelir;
1: Cümlenin görseli tanımlamada kesinlikle uygun olmadığını gösterir.
2: Cümlenin görseli tanımlamada uygun olmadığını gösterir.
3: Cümlenin görseli tanımlamada uygun olduğunu gösterir.
4: Cümlenin görseli tanımlamada kesinlikle uygun olduğunu gösterir.

18.) Yemek aşçı tarafından hazırlandı.

Multiple choice

1. Kesinlikle uygun değil
2. Uygun değil
3. Uygun
4. Kesinlikle uygun

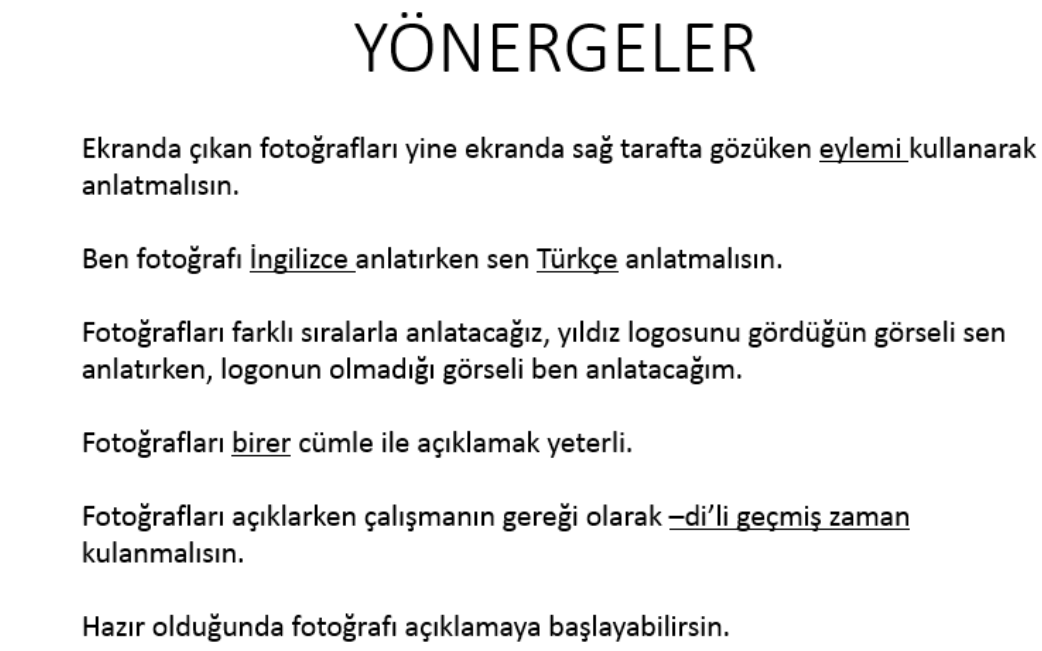
Add option or ADD "OTHER"

Required

18.) "Yemek aşçı tarafından hazırlandı" cümlesi görseli tanımlamada (kesinlikle) uygun değil çünkü...

Short answer text

APPENDIX 3. SCREENSHOT OF THE EXPERIMENT

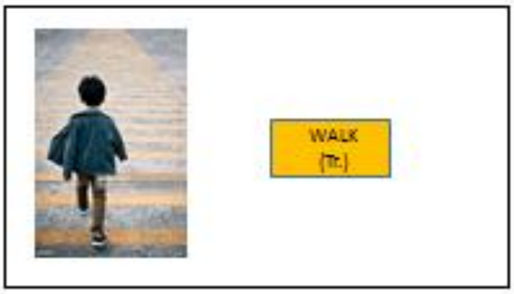



YÖNERGELER


DENEME


SCREAM
(Eng.)


BAKMAK
(Tr.)

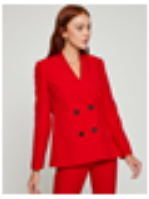

WALK
(Tr.)


OTURMAK
(Tr.)

BAŞLIYORUZ

CATCH
(Eng.)

VERMEK
(Tr.)



RED
(Eng.)

MAVİ
(Tr.)

BRING
(Eng.)

OKUMAK
(Tr.)

SARI
(Tr.)

BLACK
(Eng.)

OPEN
(Eng.)

İNŞA ETMEK
(Tr.)

ORANGE
(Eng.)

KIRMIZI (Tr.)

THROW (Eng.)

SULAMAK (Tr.)

YELLOW (Eng.)

PEMBE (Tr.)

MAKE (Eng.)

BOYAMAK
(Tr.)

BLACK
(Eng.)

YEŞİL
(Tr.)

STEAL
(Eng.)

SATMAK
(Tr.)

SİYAH
(Tr.)

BROWN
(Eng.)

FIND
(Eng.)

CEZALANDIRMAK
(Tr.)

GRİ
(Tr.)

WHITE
(Eng.)

PREPARE
(Eng.)

DEĞİŞTİRMEK (Tr.)

PINK (Eng.)

MAVİ (Tr.)

CLEAN (Eng.)

KALDIRMAK (Tr.)

SARI (Tr.)

BLUE (Eng.)

APPENDIX 4. MEMORY CHECKLIST

DOĞRU / YANLIŞ CÜMLE LİSTESİ

Aşağıdaki ifadelere 3 dakika boyunca bakınız. Araştırma bitiminde size bu listeyi tekrar vereceğim ve bu ifadelerden hangilerinin doğru hangilerinin yanlış olduğunu hatırlamanızı isteyeceğim.

Araştırma bitiminde doğru olan ifadelerin yanına D yanlış olan ifadelerin yanına Y koyabilirsiniz.

1.) Biber kırmızıydı.	
2.) Köpeğin rengi siyahtı.	
3.) Kalem turuncuydu.	
4.) Üçgen yeşildi.	
5.) Kapı pembeydi.	
6.) Balık sarıydı.	
7.) Spor ayakkabı siyahtı.	
8.) Elbise kırmızıydı.	
9.) Boncuklar maviydi.	
10.) Kedi beyazdı.	

APPENDIX 5. CONSENT FORM

GÖNÜLLÜ KATILIM FORMU

Sayın katılımcı,

Bu çalışma, "Sözdizimsel çağrıştırmanın İngilizce öğrenen öğrencilerin edilgen yapıları üretimine etkileri"(The effects of syntactic priming on English learner's production of passive sentences) adlı, anadili Türkçe, ikinci dili İngilizce olan yetişkinlerin İngilizce ve Türkçe tümce üretimiyle ilgili bir Yüksek Lisans Tez Çalışmasıdır. Çalışma, Hacettepe Üniversitesi İngiliz Dilbilimi Bölümü Yüksek Lisans programında, Dr. Öğr. Üyesi Taylan Akal danışmanlığında yürütülmektedir. Araştırmadan elde edilen bulgular, bahsi geçen tezde kullanılacaktır. Bu araştırma için Hacettepe Üniversitesi Etik Komisyonundan gerekli izinler alınmıştır.

Araştırma kapsamında bilgisayar ekranından çeşitli fotoğraflar gösterilip yaklaşık 20 adet fotoğrafı birer tümce ile İngilizce ya da Türkçe anlatmanız istenecektir. Çalışma yaklaşık 15 dakika sürecektir. Seçilen fotoğraflar size ekranda gösterilen eylemleri kullanarak tümce ürettirmeye yöneliktir. Fotoğraflar kişiye özel konuları kesinlikle içermemektedir. Yine de, cevaplamak istemeyeceğiniz, rahatsızlık hissedebileceğiniz, ya da özel olduğunu düşündüğünüz konulara ilişkin fotoğraflar olursa cevap vermeyebilirsiniz.

Araştırmaya katılım gönüllülük esasına dayanmaktadır. Araştırmadan istediğiniz zaman çekilebilirsiniz. Bu durum size hiçbir sorumluluk getirmeyecektir. Araştırmada vereceğiniz cevaplar, çalışmada yer alan araştırmacılar ve çalışmanın veri kısmında anonim şekilde kullanılmak dışında kimseyle paylaşılmayacaktır. Araştırma sonuçları tez ve bilimsel yayınlar için kullanılacaktır. Araştırmanın tüm süreçlerinde kişisel bilgileriniz ihtimamla korunacaktır. Bu Gönüllü Katılım Formuna adınızı ve soyadınızı yazmanıza gerek yoktur.

Araştırma sırasında fotoğraflara verdiğiniz yanıtları not almak zor olduğu için izin verdiğiniz takdirde ses kayıt cihazı kullanılacaktır.

Bu gönüllü katılım formunu imzalamadan önce veya daha sonra çalışmayla ilgili aklınıza gelebilecek olan soruları araştırmacılara sorabilirsiniz. Araştırmacıların iletişim bilgileri formun alt kısmında verilmiştir. Araştırmaya katılmayı tercih ediyorsanız, lütfen aşağıya imzanızı atınız. İmzaladıktan sonra size bu formun bir kopyası verilecektir. Katkınız için teşekkürler.

Bu çalışmaya tamamen gönüllü olarak katılıyorum ve istediğim zaman yarıda kesip çıkabileceğimi biliyorum. Verdiğim bilgilerin bilimsel amaçlı yayımlarda kullanılmasını kabul ediyorum (Formu doldurup imzaladıktan sonra uygulayıcıya geri veriniz).

Tarih:

Katılımcı:

Adı, soyadı:

Adres:

Tel:

İmza:

Sorumlu Araştırmacı

Adı, Soyadı: Taylan Akal

Adres: Hacettepe Üniversitesi Edebiyat Fakültesi, İngiliz Dilbilimi Anabilim Dalı Bölümü, Beytepe Kampüsü, Çankaya/ANKARA

Telefonu: 0312 297 85 25

E-posta: takal@hacettepe.edu.tr

İmza:

Yardımcı Araştırmacı

Adı, Soyadı: Sena Arman

Adres: Türk Hava Kurumu Üniversitesi, Yabanci Diller Bölümü, Altındağ/ANKARA

Telefonu: 0554 471 61 99

E-posta: sarman@thk.edu.tr

İmza:

APPENDIX 6. THE LIST OF SENTENCES

PASSIVE ENGLISH PRIMES	PASSIVE TURKISH PRIMES
The fish was caught by the man	Balık adam tarafından yakalandı
The flower was brought to girl by the boy.	Çiçek kıza çocuk tarafından getirildi
The box was opened by the woman	Kutu kız tarafından açıldı
The ball was thrown by the child	Top çocuk tarafından fırlatıldı
The bed was made by the woman	Yatk kadın tarafından yapıldı
Money was stolen by the man	Para adam tarafından çalındı
The evidence was found by the detective	Kanıt dedektif tarafından bulundu
The food was prepared by the cook	Yemek aşçı tarafından hazırlandı
The house was cleaned by the man	Ev adam tarafından temizlendi

ACTIVE ENGLISH PRIMES	ACTIVE TURKISH PRIMES
The man caught the fish	Adam balığı yakaladı
The boy brought flower to girl.	Oğlan çiçeği kıza getirdi
The woman opened the box	Kadın kutyu açtı
The child threw the ball	Çocuk topu fırlattı
The woman made the bed	Kadın yatağı yaptı
The man stole money	Adam parayı çaldı
The detective found the evidence	Dedektif kanıtı buldu
The food was prepared by the cook	Aşçı yemeği hazırladı
The man cleaned the house	Adam evi temizledi

PASSIVE ENGLISH TARGETS	PASSIVE TURKISH TARGETS
The present was given to the child by the man	Hediye adam tarafından çocuğa verildi
The books were read by the man	Kitaplar adam tarafından okundu
The house was built by the man	Ev adam tarafından inşa edildi
The garden was watered by the man	Bahçe adam tarafından sulandı
The wall was painted by the man	Duvar adam tarafından boyandı
The car was sold by the man	Araba adam tarafından satıldı
The kid was punished by the man	Çocuk adam tarafından cezalandırıldı
The tyre was changed by the man	Tekerlek adam tarafından değiştirildi
The kid was raised by the man	Çocuk adam tarafından kaldırıldı

ACTIVE ENGLISH TARGETS	ACTIVE TURKISH TARGETS
The man gave the present to the child	Adam hediyeyi çocuğa verdi
The man read the books	Adam kitapları okudu
The man built the house	Adam evi inşa etti
The man watered the garden	Adam bahçeyi suladı
The man painted the wall	Adam duvarı boyadı
The man sold the car	Adam arabayı sattı
The man punished the child	Adam çocuğu cezalandırdı
The man changed the tyre	Adam tekerleği değiştirdi
The man raised the kid	Adam çocuğu kaldırdı

ENGLISH FILLER SENTENCES BY RESEARCHER	TURKISH TARGET FILLER SENTENCES BY PARTICIPANTS
The suit was red	The beads were blue
The dog was black	The sport car was yellow
The triangle was orange	The apple was red
The flower was yellow	The door was pink
The T-shirt was black	The passport was green
The cat was brown	The high-heel shoes were black
The wolf was white	The sneaker was grey
The eraser was pink	The pencil was blue
The truck was blue	The pepper was yellow

TURKISH FILLER SENTENCES BY RESEARCHER	TURKISH TARGET BY PARTICIPANTS
Takım kırmızıydı	Boncuklar maviydi
Köpek siyahtı	Spor araba sarıydı
Üçgen turuncuydu	Elma kırmızıydı
Çiçek sarıydı	Kapı pembeydi
Tişört siyahtı	Pasaport yeşildi
Kedi kahverengiydi	Topuklu ayakkabılar siyahtı
Kurt beyazdı	Spor ayakkabılar griydi
Silgi pembeydi	Kalem maviydi
Traktör maviydi	Biber sarıydı

APPENDIX 7. ORİJİNALLİK RAPORU

HACETTEPE ÜNİVERSİTESİ
SOSYAL BİLİMLER ENSTİTÜSÜ
YÜKSEK LİSANS TEZ ÇALIŞMASI ORİJİNALLİK RAPORU

HACETTEPE ÜNİVERSİTESİ
SOSYAL BİLİMLER ENSTİTÜSÜ
İNGİLİZ DİLBİLİMİ ANABİLİM DALI BAŞKANLIĞI'NA

Tarih: 24/09/2019

Tez Başlığı : Türkçe İngilizce İki Dillilerin Edilgen Tümce Üretiminde Sözdizimsel Hazırlamanın Etkileri
Yukarıda başlığı gösterilen tez çalışmamın a) Kapak sayfası, b) Giriş, c) Ana bölümler ve d) Sonuç kısımlarından oluşan toplam 108 sayfalık kısmına ilişkin, 23/09/2019 tarihinde tez danışmanım tarafından Turnitin adlı intihal tespit programından aşağıda işaretlenmiş filtrelemeler uygulanarak alınmış olan orijinallik raporuna göre, tezimin benzerlik oranı %19 'dur.

Uygulanan filtrelemeler:
1- X Kabul/Onay ve Bildirim sayfaları hariç
2- ☐ Kaynakça hariç
3- ☐ Alıntılar hariç
4- X Alıntılar dâhil
5- ☐ 5 kelimeden daha az örtüşme içeren metin kısımları hariç

Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü Tez Çalışması Orijinallik Raporu Alınması ve Kullanılması Uygulama Esasları'nı inceledim ve bu Uygulama Esasları'nda belirtilen azami benzerlik oranlarına göre tez çalışmamın herhangi bir intihal içermediğini; aksinin tespit edileceği muhtemel durumda doğabilecek her türlü hukuki sorumluluğu kabul ettiğimi ve yukarıda vermiş olduğum bilgilerin doğru olduğunu beyan ederim.

Gereğini saygılarımla arz ederim.

24.09.2018
Tarih ve İmza

Adı Soyadı: Sena Arman Ergin
Öğrenci No: N15224344
Anabilim Dalı: İngiliz Dilbilimi
Programı: Yüksek Lisans

DANIŞMAN ONAYI

UYGUNDUR.

Dr. Taylan Akal
(Unvan, Ad Soyad, İmza)

APPENDIX 8. ORIGINALITY REPORT

HACETTEPE UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
MASTER'S THESIS ORIGINALITY REPORT

HACETTEPE UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
TO THE DEPARTMENT OF ENGLISH LINGUISTICS

Date: 24/09/2019

Thesis Title : The Effects of Syntactic Priming on Turkish English Bilinguals 'Production of Passive Sentences
According to the originality report obtained by myself/my thesis advisor by using the Turnitin plagiarism detection software and by applying the filtering options checked below on 23/09/2019 for the total of 108 pages including the a) Title Page, b) Introduction, c) Main Chapters, and d) Conclusion sections of my thesis entitled as above, the similarity index of my thesis is 19%.

Filtering options applied:

1. X Approval and Decleration sections excluded
2. ☐ Bibliography/Works Cited excluded
3. ☐ Quotes excluded
4. X Quotes included
5. ☐ Match size up to 5 words excluded

I declare that I have carefully read Hacettepe University Graduate School of Social Sciences Guidelines for Obtaining and Using Thesis Originality Reports; that according to the maximum similarity index values specified in the Guidelines, my thesis does not include any form of plagiarism; that in any future detection of possible infringement of the regulations I accept all legal responsibility; and that all the information I have provided is correct to the best of my knowledge.

I respectfully submit this for approval.

24.09.2019

Date and Signature

Name Surname: Sena Arman Ergin
Student No: N15224344
Department: English Linguistics
Program: Master

ADVISOR APPROVAL

APPROVED.

Dr. Taylan Akal
(Title, Name Surname, Signature)

APPENDIX 9. ETIK KURUL ONAYI

Tarih: 20.06.2019 13:59
Sayı: 35853172-300-E.00000638141

T.C.
HACETTEPE ÜNİVERSİTESİ
Rektörlük

Sayı : 35853172-300
Konu : Sena ARMAN Hk.

SOSYAL BİLİMLER ENSTİTÜSÜ MÜDÜRLÜĞÜNE

İlgi : 29.05.2019 tarihli ve 12908312-300/00000613122 sayılı yazınız.

Enstitünüz İngiliz Dilbilimi Anabilim Dalı Yüksek Tezli Yüksek Lisans Programı öğrencilerinden **Sena ARMAN**'ın **Dr. Öğr. Üyesi Taylan AKAL** danışmanlığında hazırladığı **"Sözdizimsel Çağrıştırmanın İngilizce Öğrenen Öğrencilerin Edilgen Yapıları Üretime Etkileri"** başlıklı tez çalışması Üniversitemiz Senatosu Etik Komisyonunun **11 Haziran 2019** tarihinde yapmış olduğu toplantıda incelenmiş olup, etik açıdan uygun bulunmuştur.

Bilgilerinizi ve gereğini saygılarımla rica ederim.

e-imzalıdır
Prof. Dr. Rahime Meral NOHUTCU
Rektör Yardımcısı

Evrakın elektronik imzalı suretine https://belgedogrulama.hacettepe.edu.tr adresinden 4cd61c7a-9a03-4da7-a525-884cfe6000c4 kodu ile erişebilirsiniz.
Bu belge 5070 sayılı Elektronik İmza Kanunu'na uygun olarak Güvenli Elektronik İmza ile imzalanmıştır.

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Tarih : 06.09.2019