PROCESSING FOCUS IN TURKISH AND ENGLISH: A STUDY ON MONOLINGUAL AND BILINGUAL LANGUAGE PROCESSING

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PROCESSING FOCUS IN TURKISH AND ENGLISH: A STUDY ON MONOLINGUAL AND BILINGUAL LANGUAGE PROCESSING

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DECLARATION OF ORIGINALITY

I, Didem Kurt, certify that

- I am the sole author of this thesis and that I have fully acknowledged and documented in my thesis all sources of ideas and words, including digital resources, which have been produced or published by another person or institution;
- this thesis contains no material that has been submitted or accepted for a degree or diploma in any other educational institution;
- this is a true copy of the thesis approved by my advisor and thesis committee at Boğaziçi University, including final revisions required by them.

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Date 02.09.2020

ABSTRACT

Processing Focus in Turkish and English:

A Study on Monolingual and Bilingual Language Processing

This study investigated how focus (broad and narrow) was processed in Turkish as a first language (L1) and English as a second language (L2). Two sentence completion tasks (Experiment 1 in Turkish, Experiment 3 in English) and two eye-tracking experiments (Experiment 2 in Turkish, Experiment 4 in English) were conducted to examine whether or not readers assign broad focus to the constituent receiving sentential stress and whether or not changes to word-order are taken as cues to mark narrow focus. The sentence completion data showed that, in sentences with ditransitive verbs, the immediately preverbal object in L1 Turkish and the rightmost object in L1 and L2 English received focus. The results of the eye-tracking experiments further supported this. Experiment 2 also showed that Turkish speakers were sensitive to word-order cues for broad/narrow focus; and processing and revision of the narrowly-focused constituent was costlier, which is attributed to its deeper encoding in memory. The results for Experiment 4 indicated that although Turkish L2 learners assigned sentential stress to the rightmost object, they were not sensitive to the word-order cues for broad and narrow focus. This could be due to the limited input for scrambling in the L2. Alternatively, the L2 learners could be unable to process information at the syntax-discourse interface which requires integration of syntactic (word-order) and discourse-level (given-before-new) information (Sorace & Filiaci, 2006).

ÖZET

Türkçede ve İngilizcede Odak İşlemleme

Tekdilli ve İkidillilerde Dil İşlemleme üzerine bir Çalışma

Bu çalışma, anadil olarak Türkçede ve ikinci dil olarak İngilizcede farklı odak yapılarının (geniş ve dar) nasıl işlemlendiğini incelemektedir. Okuyucuların bir cümle içerisinde geniş odağı tümce vurgusu alan öğeye yerleştirip yerleştirmediklerini ve sözcük dizilişine yapılan değişikleri dar odağı belirtmek için bir ipucu olarak alıp almadıklarını test etmek amacıyla iki cümle tamamlama görevi (Türkçede Deney 1, İngilizcede Deney 2) ve iki göz izleme deneyi (Türkçede Deney 3, İngilizcede Deney 4) yürütülmüştür. Cümle tamamlama görevinin sonuçları, çift nesneli fiil içeren cümlelerde Türkçede fiilden hemen önceki nesnenin, İngilizcede ise en sağdaki nesnenin odak pozisyonu olarak algılandığını göstermiştir. Göz izleme deneylerinin sonuçları da bu bulguları destekler niteliktedir. Ayrıca Deney 2'nin sonuçları, Türkçe konuşanların anadillerinde geniş/dar odak farkını gösteren söz dizilişi ipuçlarına karşı duyarlı olduğunu ve dar odak içeren öğelerin bellekte daha derin kodlandıkları için işlemlenmesinin ve yenilenmesinin daha zor olduğunu göstermiştir. Deney 4'ün bulgularına göre, İngilizce öğrenen Türklerin İngilizcede tümce vurgusunu en sağdaki nesneye yerleştirmelerine rağmen, söz dizilişini geniş/dar odak farkı için bir ipucu olarak algılamadıkları görülmüştür. Bu durum Türklerin ikinci dillerinde çalkalama içeren girdiye sınırlı miktarda maruz kalmasından kaynaklanabilir. Ayrıca, İngilizce öğrenen Türkler, sözdizimsel (söz dizilişi) ve söylem düzeyindeki (yeniden-önce-bilinen) bilginin bütünleşmesini gerektiren sözdizim-söylem arakesitindeki bilgiyi işlemleyememiş olabilir (Sorace & Filiaci, 2006).

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ABBREVIATIONS

1	first person
2	second person
3	third person
ACC	accusative case
DAT	dative case
NOM	nominative case
PAST	past tense
QTAG	question tag
SG	singular

CHAPTER 1

INTRODUCTION

1.1 Introduction

This study investigates how Turkish first language (L1) speakers, English L1 speakers, and Turkish speakers of English as a second language (L2) process sentential stress and focus (broad or narrow). Sentential stress is presumed to be placed on the highest element in a stress domain, which is argued to be determined by the Sentential Stress Rule (Kahnemuyipour, 2009) and is associated with broad focus in which the whole sentence presents new information. When a certain constituent, not the sentence, presents new or prominent information, that constituent receives narrow focus and its assignment is considered to be realized by the Focus Stress Rule (Kahnemuyipour, 2009). In neutral contexts in Turkish, an SOV (head-final) language, sentential stress (and broad focus) is usually, but not always, placed on the immediately preverbal constituent in sentences with canonical word-order (Göksel & Özsoy, 2000, 2003; İşsever, 2006). In English, an SVO (head-initial) language, sentential stress (and broad focus) is mostly placed on the rightmost stress-bearing constituent (Carlson et al., 2009). Narrow focus marking strategies also vary between Turkish and English. Turkish marks narrow focus by moving a constituent to the immediately preverbal position (Erguvanlı, 1984; İşsever, 2003; Kılıçaslan, 1994). It also uses prosodic strategies, more specifically pitch accenting in-situ, but that strategy is limited to preverbal constituents (Erguvanlı, 1984; Göksel & Özsoy, 2000). English mostly relies on pitch accentuation in-situ to mark narrow focus (Selkirk, 1984) and there are no positional limitations for it. But making changes to word-order is not a common strategy in English to mark narrow focus, presumably

because of its strict word-order. It is observed in limited contexts, such as sentences with a ditransitive verb, in which the focused constituent presenting new information (i.e., the direct object) is placed after the given information (i.e., the indirect object) (Brown, Savova & Gibson, 2012).

Focus is mostly defined as the indication of new or emphasized information presented to any kind of audience (Chomsky, 1971; Jackendoff, 1972). It is an essential part of spoken or written language comprehension because it contributes to the success of the communication between an addresser and their audience (Gussenhoven, 2007). This highlights the importance of our understanding of how focused information is processed not only in a native language but also in non-native languages.

Processing focus in the L1 has been examined in several studies and those studies have shown that focused constituents are processed deeper (Cutler & Fodor, 1979; Sanford, Sanford, Molle, & Emmott, 2006; Sturt, Sanford, Stewart &Dawydiak, 2004; Lowder & Gordon, 2015), their memory is enhanced (Birch, Albrecht, & Myers, 2000; Birch & Garnsey, 1995) and their sematic alternatives get evoked (Fraundorf, Watson, & Benjamin, 2010; Spalek, Gotzner, & Wartenburger, 2014). It has also been reported that the language users' perceptions of a default focus position in a sentence influences their expectations for upcoming information (e.g., Carlson et al., 2009; Clifton & Frazier, 2016; Frazier & Clifton, 1998; Stolterfoht, Friederici, Alter, & Steube, 2007).

Most of the experimental work conducted for English has presented empirical evidence that there is a tendency to mark focus on the rightmost stress-bearing constituent (Carlson et al., 2009; Clifton & Frazier, 2016; Frazier & Clifton, 1998). Despite the rich literature on focus processing in English and other languages, studies

examining focus assignment in Turkish has been limited to theoretical work (Erguvanlı, 1979; Erkü, 1983; Göksel & Özsoy, 2000, 2003; İşsever, 2003, 2006 among others). One of the purposes of this study is to examine the theoretical claims for focus assignment in Turkish. Theoretical studies on Turkish focus have reported that when there are no other focus cues available in the context, the immediately preverbal position is the sentential stress/broad focus position in sentences with canonical word-order (Göksel & Özsoy, 2000; 2003; İşsever, 2006) and narrow focus position in sentences with non-canonical word-order (Erguvanlı, 1984; İşsever, 2003, 2006; Kılıçaslan, 1994). The present study tests these predictions empirically for Turkish. In addition, it has been argued that processing narrow focus requires operations that are different from those involved in processing broad focus. Compared to broad focus, narrow focus has been argued to be costlier as it requires deeper encoding of information and deeper integration of a word to the preceding context (Lowder & Gordon, 2015). Processing narrow focus may also convey a contrastive meaning and evoke a set of alternatives for the focused constituents. It may therefore cause heavier processing load on the memory (Reichle & Birdsong, 2014). Thus, the present study also examines if processing broad and narrow focus are different, both in Turkish and in English as L1. The sentential items also examine revisions to broad focus and narrow focus, which will inform on the revision operations by the parser for the two focus types.

Processing of focus is equally important in successful communication in the L2, but it has not received as much attention as other questions, such as the role of syntax in L2 sentence comprehension (Clahsen & Felser, 2006; Cunnings, 2017; McDonald, 2006; Hopp, 2006, 2010; Sorace &Filiaci, 2006; Ullman, 2001 among many others). The few studies on L2 focus processing have been inconclusive as

some have reported native-like focus processing behavior with increased proficiency (Hertel, 2003; Hopp, 2009; Marefat, 2005; Reichle and Birdsong, 2014) while others have reported non-native-like behavior even with high proficiency (Belleti et al., 2007; Lozano, 2006; Rijswijk et al., 2017). Understanding how L2 speakers assign and process focus in their target language is important because it can inform on the potential reasons for communication failure in the L2, which is not an uncommon phenomenon. But more importantly, successful processing of focus requires integration of both syntactic and discourse-related information. The Interface Hypothesis (Sorace & Filiaci, 2006; Sorace &Serratrice, 2009; Sorace, 2011; Tsimpli & Sorace, 2006) maintains that L2 speakers face difficulty when they need to integrate information from language-internal domains (such as syntax) and language-external domains (such as discourse). Understanding how L2 speakers assign/process focus in their target language would be informative on the operations of the L2 parser at the interfaces, more specifically at the syntax-discourse interface. Therefore, the present study examines L2 processing of focus, in addition to L1 (particularly Turkish) processing of focus.

The present study employed sentences with ditransitive verbs as experimental items. Although broad versus narrow focus processing in L1 and L2 has been examined before, the previous studies used either background information (Benatar & Clifton, 2014; Reichle & Birdsong, 2014), it-cleft/pseudo-cleft sentences such as "What the secretary typed was the official memo" (Lowder & Gordon, 2015) or other overt focus particles such as "only" (Paterson et al., 2007) to manipulate focus structure. However, no previous study used ditransitive verbs which enable us to examine whether or not word-order cues are used for assigning focus (broad or narrow) in a sentence when there is no background information or overt focus

markers. Although scrambling is a common focus marking strategy in Turkish (see above), it is not that common in English. But it has been reported for English that scrambling in sentences with a ditransitive verb is used to mark focus. That is, a dative construction in English is considered as the canonical word-order (Brown et al. 2012; Clifton & Frazier, 2004) where the whole sentence provides new information. But when the direct object itself carries new information, it is moved to the rightmost object position, which results in a double-object construction as the non-canonical word-order (Brown et al., 2012). Thus, the present study tests how word-order cues are used in English for focus marking. But more importantly, use of ditransitive verbs and word-order manipulation allow for comparable Turkish and English sentences, which is an important control especially in testing the L2 speakers' processing behavior.

Two sentence completion tasks and two eye tracking experiments (one in each language) were conducted. The sentence completion tasks (Experiment 1 in Turkish and Experiment 3 in English) were conducted to test the theoretical predictions for focus position in both languages. The eye-tracking experiments (Experiment 2 in Turkish and Experiment 4 in English) tested whether the default focus position was perceived as broad focus in sentences with canonical order and as narrow focus in sentences with non-canonical order. The eye-tracking experiments also tested how language users (L1 or L2) revised focus structure. In auditory or written language processing, language users usually rely on the regularities of their languages to interpret the information conveyed. If the incoming information indicates that the intended message is not in line with their current analysis, they need to reanalyze the structure. The recovery from misinterpretation is important for successful communication and it informs on how language parsing mechanisms work

during sentence processing. Thus, the present study also examines whether revising from broad focus assignment to narrow focus assignment and revising from narrow focus assignment to narrow focus assignment require different operations by the L1 and L2 parsers.

1.2 The organization of the thesis

The remainder of the thesis is organized around five chapters. Chapter 2 presents sentential stress theories and focus marking in Turkish and English. Chapter 3 provides a comprehensive review of the previous experimental studies investigating focus processing in the first language and second language. It also presents the theoretical models of non-native language processing, particularly those that are related to the syntax-discourse interface in the L2. Chapter 4 presents the present study and reports on the results of two sentence completion tasks and two eye-tracking experiments. Finally, Chapter 5 concludes the thesis with a discussion of the findings and their relation to the literature on focus processing in the L1 and L2.

CHAPTER 2

FOCUS MARKING IN ENGLISH AND TURKISH

Languages use several different strategies (prosodic, syntactic or morphological) to mark focus (Büring, 2010). English, for instance, mainly uses prosody (e.g., increased pitch accent) for focus marking (Gussenhoven, 1983; Selkirk, 1984, 1995; Schwarzschild 1999), Turkish uses both syntactic (changing word-order) and prosodic strategies (Erguvanlı, 1984; İşsever, 2003; Kılıçaslan, 1994) and Chickasaw (a Western Muskogean language) uses affixation to signal focused information (Gordon, 2006). Focus marking also varies in spoken and written language. It is possible to mark focus via prosody in spoken language with increased pitch accent. But in written language, where prosodic means are unavailable, a variety of other linguistic or non-linguistic devices are used. Changes to the word-order, e.g., it-cleft constructions as in "It was the old woman that called you" or there-insertions as in "There was this man who stole my bag", using focus particles such as only, manipulations to the discourse context or even manipulating writing fonts using italicization or capitalization are to name a few. Regardless of the strategy used to mark focus or the modality of the language, the crucial outcome is that the focused information is always maximally prominent (Büring, 2010).

An important question which sparked the motivation for the current study is how a language user knows where the focused information is in a sentence if none of the abovementioned focus markers are used. Especially in the written language, a reader does not hear any increased pitch accent on a specific constituent, and if there are no other focus cues (e.g., changes to the word-order, background context, focus particles or font changes) available, it may be challenging for the language user to

identify the maximally prominent constituent. At this point, the connection between focus and sentential stress has been argued to be what informs a perceiver about focus in a neutral discourse, where the addresser highlights the prominence of the whole proposition (Kahnemuyipour, 2009).

Kahnemuyipour (2009) proposes a system where two rules interact in the placement of focus: Sentential Stress Rule (SSR) which determines the position of focus in neutral contexts and Focus Stress Rule (FSR) which is responsible for the assignment of focus in non-neutral contexts.

(1) Sentential Stress Rule

Sentential Stress is assigned at the phase to the highest element (i.e. the phonological border) of the spelled-out constituent or the SPELLEE.

[HP XP [H YP]]: if HP is a phase, YP = SPELLEE.

(Kahnemuyipour, 2009, p.68)

Although SSR will be explained in more detail in Section 2.1, it basically governs the sentential stress assignment in a sentence with neutral discourse. Kahnemuyipour argues that in a neutral context where none of the constituents is more important than others, a certain constituent is assigned sentential stress by SSR. That constituent then projects its focus to the whole proposition and the whole proposition carries new information. This corresponds to broad focus which will be discussed in detail later in this chapter. However, SSR cannot explain the stress patterns in a context where a specific constituent carries more important information than others. In such a scenario, FSR applies:

(2) Focus Stress Rule

> At the phase HP, mark a focused sub-constituent C to receive focus stress. At PF, the constituent marked for focus stress receives the highest prominence of the sentence.

(Kahnemuyipour, 2009, p.129)

With basic terms, FSR is at work in explaining the stress patterns in a context where a certain constituent is more prominent. Such a constituent is narrow focused and it cannot project its focus to the whole proposition. Kahnemuyipour (2009) suggests that when SSR and FSR conflict with each other as to what constituent to assign stress, FSR overrides the SSR. Thus, whenever FSR is available, i.e., in non-neutral contexts, it assigns primary stress, not the SSR.

This study follows Kahnemuyipour's (2009) arguments in its discussion of the interplay between sentential stress and focus marking. It specifically investigates whether the position for sentential stress is perceived as the default focus position in a neutral discourse in English and Turkish and how this affects perceivers' processing of the upcoming information which requires them to revise their interpretations of the whole sentence focused towards a non-neutral discourse interpretation where only a certain constituent is focused (see further details in Ch. 4). In this line, this chapter presents theoretical background for sentential stress and focus. The following sections review three well-known accounts of sentential stress and present how focus is marked in English and Turkish.

2.1 Sentential stress in English and Turkish

As stated in Kahnemuyipour's (2009) account of SSR, the position of sentential stress is claimed to be the position of focus in neutral contexts where all constituents have equal importance for the addresser and the perceiver, so sentential stress plays a crucial role in the information structure of a language. Several theoretical studies investigated on how sentential stress is placed (Chomksy &Halle, 1968; Cinque, 1993; Halle &Vergnaud, 1987; Kahnemuyipour, 2009; Zubizarreta, 1998). Earlier studies on sentential stress (e.g., Chomksy &Halle, 1968; Halle &Vergnaud, 1987) include rules that are rather language-specific and do not apply cross-linguistically. Those studies are not reviewed here. This section will review only the studies presenting cross-linguistic accounts for sentential stress. These accounts include Cinque's (1993) work which proposes that sentential stress is placed on the innermost constituent in a clause, Zubizarreta's (1998) study which argues for a modularized Nuclear Stress Theory and, Kahnemuyipour's (2009) study which provides a phase-based account for the position of sentential stress.

Before moving onto the details of such work, please note that the present study employs ditransitive structures in its investigation of sentential stress and focus processing in English and Turkish. Thus, in my review of previous accounts on sentential stress accounts, I will discuss their specific predictions for stress in ditransitive structures.

Building on Halle and Vergnaud's (1987) Metrical Grid Theory, Cinque (1993) presents an account of sentential stress that is dependent on the surface syntactic structure of a sentence. In his model, Cinque (1993) predicts sentential stress to fall on the most embedded constituent in a sentence.

(3) Cinque's Null Theory of Stress:

a. Interpret boundaries of syntactic constituents as metrical boundaries.

b. Locate the heads of line N constituents on line N + 1.

c. Each rule applies to a maximal string containing no internal boundaries.

d. An asterisk on line N must correspond to an asterisk on line N - 1.

(Cinque, 1993, p. 244)

The grids in (4a) and (4b) below represent how this would apply to a right branching and left branching language, respectively.

(4)

	a.		b.	
	*		*	$line_6$
	(. . *)		(* . .)	$line_5$
	(. (. *))		((* .) .)	$line_4$
	(* (* (*)))		(((*) *) *)	$line_3$

(Cinque, 1993, p. 245)

The rule in (3a) requires the boundaries of syntactic constituents bearing a stressed word to become metrical boundaries and each constituent between metrical boundaries are given an asterisk on $line_3$. The rule (3c) requires the most embedded constituent to be the first computed element: the rightmost one in (4a) and the leftmost one in (4b). Then, according to the rule (3b), only the asterisks of a head should be located on the higher line. Application of this rule results in placing only the asterisk of the most embedded constituent to the higher lines in $line_4$ and $line_5$. Lastly, the rule (3d) requires that there should not be any gaps in an asterisk column downward and this rule determines the position of the stress on the rightmost and leftmost elements of the structures on $line_6$ in (4a) and (4b), respectively.

Cinque's Null Theory of Stress yield correct results in most structures. One is exemplified in (5). In (5) the NP *Judea* is the most embedded constituent (has the most brackets around it) and it receives sentential stress as predicted.

(5) [[$_{NP}$ Jesus] [$_{VP}$ preached [$_{PP}$ to [$_{NP}$ the people [$_{PP}$ of [$_{NP}$ *Judea*]]]]]]

(Cinque, 1993, p. 246)

Cinque's Null Theory of Stress also predicts sentential stress correctly in both English and Turkish ditransitive structures. Following Larson (1988), Cinque (1993) argues that "The first object of the double object construction in English (the "dative") asymmetrically c-commands (is higher than) the second, then the fact that the second object bears greatest prominence in the VP is expected under the null theory, since it is more deeply embedded. Analogously, if direct objects asymmetrically c-command prepositional objects, it is no longer surprising that prominence will fall on the latter." (p. 265). Thus, both in dative structure and double-object construction, Cinque' Null Theory of Stress assign the sentential stress to the second, syntactically innermost, object.

In the sentence with dative structure in (6), which is presumed to be the canonical word-order[1] (Brown et al.,2012), Cinque (1993) predicts that the constituent with the sentential stress is the indirect object, *the director*, since it is the innermost constituent in the S-Structure as can be seen in the syntactic tree below in Figure 1.

[1] Since this thesis study follows Kahnemuyipour's (2009) SSR which accounts for sentential stress only in canonical word order sentences, which have neutral-context, the stress assignment for ditransitives with non-canonical word order (IO-DO) in both English and Turkish will be explained in Chapter 4 (the present study) under the light of narrow focus/focal stress assignment by FSR.

(6) The presenter gave the flowers to the director.

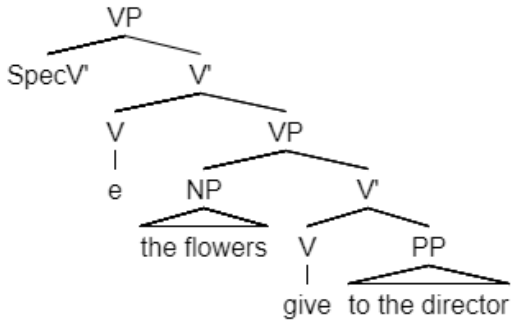


Figure 1 Syntactic tree for a dative structure in English

Similarly in Turkish, in a sentence with canonical word-order where the indirect object follows the direct object as in (7), the constituent with the sentential stress is the indirect object, *yönetmene* (director-DAT), since it is the innermost constituent as can be seen by the number of brackets around it.

(7) [Sunucu [çiçeğ-i [[yönetmen-e] ver-di.]]]
presenter-NOM flowers-ACC director-DAT give PAST.3SG
'The presenter gave the flowers to the director.'

This example demonstrates that Cinque's (1993) proposal for sentential stress is also applicable for ditransitive sentences in Turkish.

Although Cinque's (1993) Null Theory of Stress correctly predict the assignment of sentential stress in ditransitive sentences, his assumptions do not correctly predict the stress patterns in other structures. In (8), for instance, Cinque (1993) would predict that the NP, *senescence*, the most deeply embedded constituent, to carry sentential stress. But the VP *died* instead carries the sentential stress.

(8) [[The author [of many popular articles [on the effects [of senescence]]]] [[*died*]].

(Cinque, 1993, p. 262)

Cinque (1993) argues that the most embedded constituent within each cycle of subject NP and predicate VP gets the highest prominence until a stage where one of them will be assigned sentential stress. At that point, the factor determining whether stress is on the most embedded constituent of the subject or the predicate will be determined by the sentence's information structure and the constituent carrying new information will receive sentential stress. Note that this explanation diverts Cinque's (1993) theory from being purely syntactic to being dependent on the information structure.

Another problematic case for Cinque's (1993) proposal is related to the stress behavior of adverbials. In the sentence in (9) the stress falls on the adverbial phrase, *attentively*. In an X-bar representation, *attentively* would be right-adjoined to the $\bar{V}$ and not be the innermost constituent.

(9) They are following the lecture attentively.

Cinque argues that adverbial phrases as in (9) are indeed not right-adjoined to the $\overline{V}$; in fact, they are right-branched to the V head, which makes them the innermost element as in the S-Structure in Figure 2.

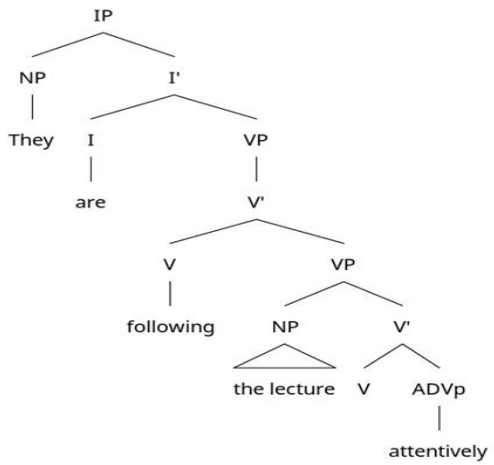


Figure 2 Syntactic tree of Cinque's (1993) adverb attachment account

Although right-branching of adverbs to the V-head explains stress behavior for manner adverbials, it is not applicable to some temporal adverbials as in (10). In Cinque's account, the temporal adverbial, *yesterday* in (10) is predicted to receive stress, but it does not. Zubizaretta (1998) argues that temporal adverbials such as *yesterday* in (10) have a deictic nature and avoid carrying stress. (This account will be explained in more detail in Chapter 4). Contrary to Cinque's (1993) stress pattern prediction in (10b), the stress is on the indirect object, *the director* as in (10a).

(10) a. The presenter gave the flowers to <u>the director</u> yesterday.

b. *The presenter gave the flowers to the director <u>yesterday.</u>

Zubizarreta (1998) argues that relying only on hierarchical constituent structure as in Cinque's (1993) Null Theory of Stress cannot account for all sentential stress assignments, in English and cross-linguistically. Thus, in addition to the role of hierarchical constituent structure, she proposes selectional ordering of constituents in sentential stress assignment. Her proposal consists of two rules: (i) constituent-driven Nuclear Stress Rule (C-NSR) based on asymmetric c-commanding (ii) selection-driven Nuclear Stress Rule (S-NSR) addressing selectional ordering of constituents.

(11) C-NSR:

Given two nodes C_i and C_j that are metrical sisters, the one lower in the syntactic asymmetric c-command ordering is more prominent.

(Zubizarreta, 1998, p.19)

There are two crucial points in Zubizarreta's sentential stress rules. First, in her C-NSR, Zubizarreta takes the weaker version of asymmetric c-command (see Kayne, 1994 for more details) and suggests a new principle as in (12) which establishes a strong connection between asymmetric c-command and linear ordering.

(12) Given two constituents A and B, if A asymmetrically c-commands B, then every terminal that A dominates precedes every terminal that B dominates.

(Zubizarreta, 1998, p.34)

With this approach, the surface structure of a sentence would be sufficient to decide which constituent is lower irrespective of the deep structure of the sentence. In addition to her differential approach to asymmetric c-commanding, Zubizarreta's theory also uses the term metrical sisterhood instead of syntactic sisterhood. Metrical sisterhood mentioned in both C-NSR and S-NSR is a freer version of syntactic sisterhood and it overlooks metrically invisible syntactic constituents that may intervene in the application of C-NSR. Metrical sisterhood ignores metrically invisible syntactic structures such as functional categories (e.g., determiners), light lexical categories (e.g., auxiliaries) or phonologically null elements (e.g., traces). This helps C-NSR work irrespective of the deep structure and apply sentential stress based on the surface structure. With the application of the new asymmetric c-command and the idea of metrical sisterhood, C-NSR can assign stress to the lower asymmetric c-command ordering.

For an XP such as [$_{XP}$ X YP], the head X and its complement YP are syntactic sisters. Syntactically, the constituents X and YP symmetrically c-command each other, so there is normally no asymmetric c-commanding relationship. But metrically, they look like [$_{XP}$ X [$_{ZP}$ e YP]. Thus, C-NSR would assign prominence to the lower phrase, YP which is metrical sister of X and which is also asymmetrically c-commanded by X. That is, in a sentence such as in (13) even though the preposition *near* and its complement NP *Mary* are syntactic sisters, the invisible metrical elements make them metrical sisters, so they can go through C-NSR stress assignment and Mary gets stress since it is the lower constituent in the asymmetrical c-command relationship.

(13) [John [talked near [$_{DP}$ [D e[$_{NP}$ Mary]]]]].

(Zubizarreta, 1998, p.171)

Zubizarreta argues that C-NSR is not capable of explaining sentential stress patterns in some structures in German and English. Thus, she proposes another rule which is related to the selectional ordering of constituents.

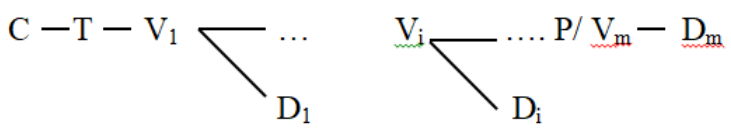
(14) S-NSR:

Given two nodes C_i and C_j that are metrical sisters, the one lower in t he selectional ordering is more important.

(Zubizarreta, 1998, p.19)

According to Zubizarreta's system of selectional ordering illustrated in (15), the functional category C selects T which in turn selects V_1. In this system, all the heads are selectors and no selectional ordering can be considered between co-arguments. In this ordering, S-NSR is applied to the lower constituents that are selected by the head selectors.

(15)



(Zubizarreta, 1998, p.53)

For instance, S-NSR cannot apply to a subject NP and a predicate VP because these constituents are not selectionally ordered. But for a VP and its object NP, there is selectional ordering where the head V selects the lower constituent, the object NP. Thus, the lower NP gets sentential stress which is assigned by S-NSR. The ditransitive structure in German in (16) illustrates how C-NSR and S-NSR work.

(16) [$_{CP}$ Karl$_1$ [*hat* [e_1 [v_1 [ein Buch$_2$ [e_2 [ins [Regal]$_3$]]$_4$ [v_2 gestellt [e_4]]]]]]]

(Zubizarreta, 1998, p.57)

In (16), the metrical sisters the NP_1 (*Karl*) and [NP_2 [[P NP_3]$_4$ V_2]] (*ein Buch ins Regal gestellt*) are not selectionally ordered, yet the NP_1 *Karl* asymmetrically c-commands the constituent [NP_2 [[P NP_3]$_4$ V_2]], therefore, C-NSR applies and the lower phrase *ein Buch ins Regal gestellt*, gets prominence. Within that phrase, the metrical sisters NP_2 (*ein Buch*) and [[P NP_3]$_4$ V_2] (*ins Regal gestellt*) are not selectionally ordered again. Thus, the lower constituent [[P NP_3]$_4$ V_2] (*ins Regal gestellt*) due to the asymmetric c-command relation is assigned prominence by the rule C-NSR. Next, metrical sisters [P NP_3]$_4$ (*ins Regal*) and V_2 (*gestellt*) are selectionally ordered, so [P NP_3]$_4$ as the lower constituent in the selectional ordering takes prominence by S-NSR. Lastly, within the constituent [P NP_3]$_4$ (*ins Regal*), NP_3 is lower than P in the selectional ordering. Thus, the NP_3 (Regal) is assigned prominence by S-NSR and gets the sentential stress of the sentence.

For a sentence with dative ditransitive structure in English such as (17), C-NSR and S-NSR predict the rightmost constituent (i.e., the indirect object) to receive prominence and sentential stress.

(17) The presenter gave the flowers to the director.

In (17), the metrical sisters NP (*the presenter*) and [[V NP] [P NP]] (*gave the flowers to the director*) are not selectionally ordered and S-NSR cannot apply, so the lower [[V NP] [P NP]] in asymmetric c-commanding is assigned prominence by C-NSR. Inside [[V NP] [P NP]], [P NP] (*to the director*) is lower than the [V NP] (*gave the flowers*) in the asymmetric c-commanding. Thus, C-NSR assigns prominence to that constituent. Lastly, in [P NP], NP *(the director)* is lower in selectional ordering, so it receives prominence through S-NSR.

Zubizarreta (1998) proposes her modular stress assignment rules for Germanic languages such as German and English, but İşsever (2006) reports that her rules of stress assignment yield also compatible results for Turkish. See examples (18) and (19) below.

(18) $[_{AgrSP}$ Volkan$_1$ $[_{AgrS}$ … $[_{vP}$ $[_{DP}$ $t_1]$ $[_{v'}$ $[_{v1}$ e] $[_{VP}$ $[_{V'}$ $[_{DP}$ ISTANBUL'A$_2$]
$[_{V2}$ $t_v]$ … gitti$_v$]]]]]]

(İşsever, 2006, p. 5)

For the sentence in (18), the metrical sisters the NP_1 (*Volkan*) and [VP] ([Istanbul'a$_2$] ... [V_2 gitti]) are not selectionally ordered, the lower constituent [VP] in the asymmetrical c-command relation is assigned prominence by C-NSR. Next, since DP_2 and V_2 are selectionally ordered, the lower constituent DP_2 (*İstanbul'a*) receives prominence through S-NSR.

For a ditransitive structure in Turkish as in (19), Zubizarreta's (1998) proposal predicts that sentential stress will be on the indirect object, *yönetmen-e* (director-DAT), which is in the immediately preverbal position.

(19) Sunucu çiçeğ-i yönetmen-e ver-di.
presenter-NOM flowers-ACC director-DAT give-PAST.3SG
'The presenter gave the flowers to the director.'

The procedure for stress assignment will not be repeated here again since it would be exactly the same as the German example in (16). As can be seen, Zubizarreta's modular model for sentential stress assignment can correctly predict the position of stress both in English and Turkish ditransitive structures used in this study.

Kahnemuyipour (2009) criticizes Zubizarreta's (1998) account for stress assignment. He argues that S-NSR is redundant for Romance languages and most Germanic languages and maintains that two rules for only a few irregularities (e.g., German V-final sentences) would lead to unnecessary confusion. He instead addresses sentential stress phenomena with a phase-based account.

Before moving on to Kahnemuyipour's (2009) account, I will briefly present the notion of a phase and spell-out in the Minimalist Program. In the Minimalist Program (Chomsky, 1995), in a language, linguistic expressions get their phonological interpretations at PF (Phonetic Form) and semantic interpretation at LF (Logical Form). In his revisions of the Minimalist Program, Chomsky (2001) argues that the derivation process of a syntactic structure proceeds in a phase-by-phase manner. He argues that a phase is composed of either a verb phrase (VP) in which all constituents have their theta roles or a full clause (CP). When the derivation of a syntactic structure reaches the phase of a CP or a VP, the complement of the phase head is sent to PF to get its phonological interpretation. Following Chomsky (2000),

Kahnemuyipour (2009) claims that the complement of the phase head, i.e., the spelled-out constituent, forms the stress domain; or SPELLEE. See Figure 3 below for SPELLEE or Stress Domain.

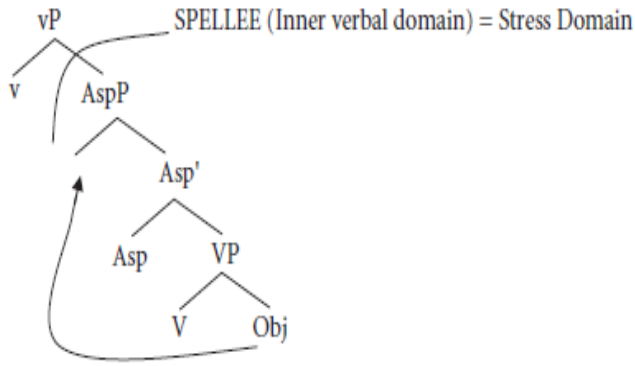


Figure 3 SPELLEE= Stress domain (Kahnemuyipour, 2009, p.70)

Kahnemuyipour (2009) argues that sentential stress is assigned to the highest element in the spell-out (i.e., in the stress domain) shown in Figure 3.

(20) Sentential Stress Rule:

Sentential stress is assigned at the phase to the highest phonologically non-null element (i.e., the phonological border) of the spelled out constituent or the SPELLEE.

$[_{HP}$ XP [H YP]]: if HP is a phase YP= SPELLEE.

(Kahnemuyipour, 2009, p.68)

He argues that in a focus neutral transitive sentence in SVO and SOV languages, sentential stress would be assigned to the object as in (21). The reason for this is that the object moves to the Spec position of AspP (Aspect Phrase) as shown in Figure 3, and there it gets the primary sentential stress as the highest element of the SPELLEE.

(21) a. John bought a book. (English as an SVO language)

b. Ali ye ketaab xarid. (Persian as an SOV language)

Ali a book bought

'Ali bought a book.'

(Kahnemuyipour, 2009, p. 69)

For English ditransitive constructions, Kahnemuyipour argues that, in the deep syntactic structure, the PP argument is right branched to the V head but, for syntactic reasons (see Kahnemuyipour, 2009 for details), it moves out of the vP and stays out of the stress domain as in (22).

(22) Adv_{Man} [$_{IOP}$PP [$_{vP}$ V DP_{obj} t_{PP}]

(Kahnemuyipour, 2009, p.99)

He proposes the base order in (22) to explain the cases where adverbial phrases are used with ditransitives as in (23). When the surface structure in (23) is examined, where the V and DP precede the adverbial phrase and the PP, Kahnemuyipour argues that the whole vP including V and DP is moved to the position above the adverbial phrase and the PP. With this proposed movement, the spell-out region would stay empty and the next phonologically non-null element, i.e., the argument of PP, *Bill*, would receive the sentential stress.

(23) John gave the ball slowly to Bill.

(Kahnemuyipour, 2009, p.100)

Üntak-Tarhan (2006) examines how Kahnemuyipour's (2004, 2009) theory applies to Turkish. In a simple Turkish SOV sentence, the object would receive the sentential stress as it is the highest element in the stress domain. In the deep structure, there is a position called AspP where the direct object gets its accusative case marking as shown in Figure 4 below.

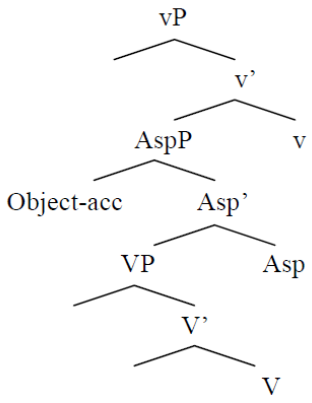


Figure 4 vP structure (Taken from Üntak-Tarhan, 2006, p. 44)

Accordingly, in the sentence in (24), the direct object is assigned accusative case in the [Spec, AspP] and it moves to the [Spec, vP] position in order to have the surface structure in (24) where the direct object occurs before the adverbial clause. Since this position is out of the stress domain, the direct object, *kitab-ı* (book-ACC) cannot be assigned stress. The highest element in the stress domain is the time adverb, *dün* (yesterday), so it gets the sentential stress.

(24) Ali *kitab-ı* dün oku-du.
Ali *book-ACC* yesterday read-3SG.PAST
'Ali read the book yesterday'

(Üntak-Tarhan, 2006, p.45)

When Kahnemuyipour's (2009) SSR is applied to a Turkish sentence including a ditransitive verb as in (25), the direct object, *çiçeğ-i* (flower-ACC), gets its case in [Spec AspP] and then moves to [Spec vP] (25) where it precedes the indirect object, and is now out of the stress domain. As a consequence, the highest element in the stress domain is the indirect object, *yönetmen-e* (director-DAT), and it gets the sentential stress.

(25) Sunucu çiçeğ-i yönetmen-e ver-di.
presenter-NOM flowers-ACC director-DAT givePAST.3SG
'The presenter gave the flowers to the director.'

Overall, although the three models presented above (Cinque, 1993; Kahnemuyipour, 2009; Zubizarreta, 1998) approach sentential stress assignment from different perspectives (Cinque attributes it to the embeddedness of a constituent, Zubizarreta attributes it to hierarchical and selectional ordering and Kahnemuyipour attributes it to stress domains in phases), they all predict that in an English sentence with a ditransitive verb, sentential stress is mostly projected on the rightmost constituent; while in Turkish the constituent in the immediately preverbal position usually receives sentential stress. Since Kahnemuyipour's (2009) account of sentential stress is more recent and yield in accurate predictions for sentential stress assignment in more cases compared to Cinque' s (1993) and Zubizarreta's (1998) accounts, this thesis study will follow Kahnemuyipour's account for sentential stress assignment.

The following section presents a review of the studies investigating focus placement (broad and narrow focus) in English and Turkish and discusses how focus placement interacts with sentential stress.

2.2 Focus in English and Turkish

Focus has been described as the indication of new or emphasized constituent (Chomsky, 1971; Jackendoff, 1972) and the most prominent information in a context (Halliday, 1967). The function of focus changes depending on the context it is available. This section will inform on different types of focus by referring to Gussenhoven's (2007) bifurcation of focus regarding its scope and its meaning. The strategies to mark focus also vary across languages. The following sections report on

the theoretical studies of English and Turkish, respectively, regarding how focus is marked in these languages.

Gussenhoven (2007) distinguishes focus types with respect to its scope and meaning. The scope (or size) aspect of focus is related to its capacity of projection, and it has two levels: broad and narrow. When a constituent can project its focus to higher level phrases, it carries broad focus; however, when a focused constituent can only project its focus to itself, it corresponds to narrow focus (see Kahnemuyipour, 2009 for a similar argument). Thus, when a constituent in a sentence carries broad focus, the whole sentence conveys prominence; when there is narrow focus on a constituent, only that certain constituent carries prominence.

Regarding the meaning aspect of focus, Gussenhoven states that focus can have several different meanings such as corrective, informational, presentational or contrastive. He explains that when the focused constituent conveys new information, it carries presentational focus. On the other hand, contrastive focus evokes alternatives in a perceiver's mind which can potentially replace the focused constituent semantically and grammatically (see Rooth's (1992) Alternative Semantics Theory for more details) and emphasize the truth value of the focused constituent among its alternatives by rejecting those alternatives.

Presentational and contrastive focus is mostly used interchangeably with broad and narrow focus, respectively. However, as discussed by Gussenhoven, one should keep in mind that broad/narrow focus and contrastive/presentational focus represent different aspects of focus. That is, it is possible for a constituent carrying narrow focus to also carry either contrastive or presentational focus. In the example in (26a), for instance, if the sentence is a response to the question in (26b), the underlined constituent carries narrow focus and presentational focus. On the other

hand, if the sentence in (26a) is a response to the question in (26c), it presents narrow focus and contrastive focus.

(26) a. I bought a T-shirt.

b. What did you buy?

c. Did you buy a skirt?

Similarly, Brunetti (2003) argues that contrastive focus can be placed not only on a narrowly focused constituent but also on a sentence with broad focus. For example, in (27b) the response of Speaker B contrasts with the whole proposition in Speaker A's question in (27a). Thus, not only a certain constituent, but the whole sentence can also carry contrastive focus as in (27b). The answer in (27b) carries both contrastive focus and broad focus.

(27) a. Speaker A: Did someone knock the door?

b. Speaker B: No, they are driving a nail.

(Brunetti, 2003, p.82)

If Speaker B answered the question in (27a) as "No, someone knocked *the window*.", then that answer would still carry contrastive focus, but it would have narrow focus since as the emphasis is on a certain constituent, not the whole clause.

As can be understood from the discussion above, it is crucial to take both the scope and the meaning aspects of focus into consideration while identifying focus type, since the use of the terms broad/narrow focus and presentational/contrastive focus interchangeably may cause confusion. In this study, I will be using the term broad focus to describe focus where the whole sentence presents new information and narrow focus to describe focus where only a certain constituent provides new information. The constituents carrying narrow focus in the experimental items of the present study may also carry contrastive focus and may evoke alternatives in the

perceivers' mind. But to prevent confusion, I will use the term narrow focus since the scope aspect of focus is more essential to the questions addressed in this study.

The following sections present theoretical work on how focus is marked in English and Turkish.

2.2.1 Focus marking in English

It has been widely recognized that English uses prosodic strategies, more specifically pitch accent placement, to mark focus (Gussenhoven, 1983; Selkirk, 1984, 1995; Schwarzschild, 1999). This can occur in the form of H* for presentational focus and L+H* accent for contrastive focus (Pierrehumbert & Hirschberg, 1990)[2]. Note that there is disagreement on the accentuation of contrastive and presentational focus in English, but that debate is beyond the scope of this thesis and will not be discussed here. In the remainder of this section I will review the accounts by Selkirk (1984, 1995), Gussenhoven (1983) and Schwarzchild (1999) on the theoretical motives for pitch accent assignment to the focused constituents in English.

Selkirk (1984, 1995) argues that focus is licensed by pitch accent placement in intonational languages such as English, German and Dutch. That process is called F-marking and is governed by the Basic Focus Rule as follows:

(28) Basic Focus Rule

An accented word is F-marked.

(Selkirk, 1984, p. 207)

According to Selkirk (1995), an F-marked constituent is the focus of a sentence (FOC) providing that any other F-marked constituent does not dominate FOC

[2] Note that H* and L+H* accents are used in the way they are labeled in the ToBI framework of prosodic transcription for American English (Pitrelli, Beckman, & Hirschberg, 1994; Silverman et al., 1992). In ToBI system, H* accent represents maximum high pitch in fundamental frequency (F_0) and L + H* accent consists of an initial low pitch in F_0 and a following sharp rise to a high target (Watson, Tanenhaus & Gunlogson, 2008).

syntactically. In addition, an F-marked constituent can project its focus to higher phrases when the rules in (29) are followed.

(29) Focus Projection

a. F-marking of the *head* of a phrase licenses F-marking of the entire phrase.

b. F-marking of an *internal argument* of a head licenses the F-marking of the head.

(Selkirk, 1995, p. 555)

In the sentence in (30), the NP *bats* is the FOC as it is F-marked. The Focus Projection principle in (29b) allows *bats* to project its focus to the *head* PP (*about bats*). Since no other F-marked constituent dominates the FOC PP, it can project its focus to the higher NP (*a book about bats*) or the whole VP (*bought a book about bats*).

(30) Mary bought a book about BATS.

Selkirk (1995) points out that the level of projection is determined by the givenness of the constituents in a sentence. For example, in the above example, as an answer to a question such as "What did Mary do?", focus can be projected to the VP since all the information VP carries is new. However, as an answer to a question such as "What was the book about that Mary bought?", FOC is only *bats* since the rest of the information the sentence carries is already given.

Gussenhoven (1983) also proposes that focus is marked by pitch accent placement in English, however, his Sentence Accent Assignment Rule (SAAR) is stricter than Selkirk's (1984) pitch accent account in that it takes into account semantic roles of constituents as well as their syntactic roles. According to SAAR, sentences are separated into three focus domains: arguments (A), predicates (P) and

modifiers (M), and when any of these domains are focused; they need to be accented. However, when As and Ps are adjacent or when there is only one non-focused constituent between them, they can form a single focus domain where the pitch accent is placed on As. An example context is given in (31) to illustrate how SAAR works.

(31) a. Who made the cake?

b. $[\text{JOHN}]_F$ made the cake.

The focus domains in (31b) are *John* and *the cake* as As, and *made* as a P, and these domains are candidates for accent placement. In order to be focused by a pitch accent, a constituent should mark "the speaker's declared contribution to the conversation" (Gussenhoven, 1983, p.383). Since in (31b) the focus domain *John* provides new information to the discourse as an answer to the question in (31a) it gets pitch accent and gets focused. This is an example for a narrow focus context where only one constituent is focused. The example in (32) provides a broader focus context.

(32) a. What did John do?

b. John $[\text{made a CAKE}]_{F.}$

In the dialog above, although the candidate focus domains are the same as in (32), the contribution of the speaker to the context is not the subject, but the predicate (P) and the object argument (A). Since P and A are adjacent to each other, they can be combined and form a single focus domain where A gets the pitch accent. Therefore, while the accent is on *a cake*, the whole VP is perceived to be focused.

Schwarzschild (1999) argues that F-marking is licensed by semantics rather than prosodic prominence. Schwarzschild argues that every constituent in a sentence could be F-marked on the condition that there should not be any antecedent in the

context which entails that constituent. That is, when a constituent provides given information in a discourse, it cannot be F-marked. Thus, Schwarzschild (1999) claims that the determining factor that make a constituent F-marked is the lack of givenness. Providing that a constituent is non-given, it can be F-marked.

In (33b) all of the constituents have an antecedent in the previous context except for the constituent *a cake,* therefore, all the other constituents lose their chance of being F-marked because of their givenness. As a constituent being non-given, *a cake* gets F-marked and prosodically prominent later. Here, Schwarzschild (1999) departs from Selkirk's (1984, 1995) focus rule which maintains that prosodic prominence licenses focus marking. Schwarzschild argues that semantics licenses focus marking and focus marking then licenses prosodic prominence.

(33) a. What did John make?

b. John made [*A CAKE*]$_F$.

To sum up, the accounts presented above argue for different theoretical motivations, either syntactic or semantic, for the pitch accent placement in English. Yet they all agree that a focused constituent is prosodically more prominent than others in a sentence, and it is marked through pitch accenting in English.

The accounts reviewed here also concur that the pitch-accented constituents or phrases always provide new/prominent information and their accenting is determined within a context. But within these accounts it is not clear how one can determine the constituent to be pitch accented when there is no context provided; i.e., when all information is new in an out-of-the-blue context. In such contexts, it has been reported that pitch accent is mostly placed on the rightmost constituent in English (Birner & Ward, 1998; Carlson, Dickey, Frazier &Clifton, 2009; Cinque, 1993). The reason why the rightmost constituents mostly attract focus in brand-new

contexts in English is related to the position of sentential stress as discussed at the beginning of this chapter. As determined by Kahnemuyipour's (2009) SSR, when all the constituents in a sentence present new information, it is the constituent, the rightmost one in most cases, with sentential stress which is accented in English and that constituent receives focus.

To sum up, it can be argued that in English, when a certain constituent carries new information, it is F-marked and is assigned pitch accent to indicate its prominence as predicted by FSR (Kahnemuyipour, 2009), and that constituent carries focus. This type of focus is narrow focus. But in a neutral context where the whole proposition carries new information, the constituent with sentential stress as predicted by SSR (Kahnemuyipour, 2009) carries focus. In this case the focus is broad.

The discussion above shows that in non-neutral contexts, narrow focus is marked by pitch accenting and syntactic strategies (e.g., scrambling) are not used as a means of focus marking in English. However, the Argument Structure Hypothesis by Brown, et al. (2012) suggests that some syntactic representations may encode some information structural-constraints. That is, although movement of a constituent into a certain position to mark focus is not a strategy to be used freely in every context in English, some structures appear to be exceptions. Brown et al. (2012) examine this hypothesis in ditransitive structures where two post-verbal arguments can be ordered in two different ways: dative sentences where direct object precedes a prepositional phrase (NP-PP) as in (34a) or double-object constructions where the indirect object precedes the direct object (NP-NP) as in (34b).

(34) a. The queen brought [a sword]$_{theme}$ to [the knight]$_{goal}$.

b. The queen brought [the knight]$_{goal}$ [a sword]$_{theme.}$

(Brown et al., 2012, p. 194)

Brown et al. claim that the preference for dative or double-object construction is determined by information structure. According to the given-before-new principle, (Halliday, 1967; Clark & Haviland, 1977; Givon, 1983; Lambrecht, 1994), there is a tendency to place the new information after given information in natural languages. And in ditransitives in English, dative alternation makes it possible to follow this given-before-new principle. Given the experimental findings of previous studies (Clifton & Frazier, 2004) and their own findings, Brown et al. argue that in English, the dative structure (NP-PP) has the unmarked (canonical) order and the double object construction (NP-NP) has marked (non-canonical) order. Thus, when a sentence has a dative structure where the direct object precedes the indirect object in a neutral context, the sentence carries broad focus and the whole proposition conveys new information. But when a sentence has a double-object construction where the indirect object precedes the direct object, the direct object is predicted to carry new information, not the whole sentence, due to the non-canonical word-order. That is, in the non-canonical double-object construction, the direct object is moved to the end of the sentence to meet the given-before-new principle and this movement implies that there is an information-structural concern that is to emphasize the direct object as the new information, which makes the context non-neutral.

As was mentioned before, Experiment 2 of the present study employs ditransitive constructions (alternating between dative and double-object structures) as its experimental sentences. Given the findings and the arguments in Brown et al.'s (2012) study, it will be assumed that the sentences with a dative structure in English

present a canonical word-order and therefore are associated with broad focus. The sentences with double-object construction will be assumed to present a non-canonical word-order and are therefore associated with narrow focus (See further details in the Present Study Chapter).

2.2.2 Focus marking in Turkish

Although it is widely accepted that focus is marked by prosodic strategies in English, focus marking in Turkish has been more controversial due to a disagreement on whether it is accomplished via syntactic means and/or prosodic means. Some researchers argue that both syntactic and prosodic focus marking are possible in Turkish but each strategy serves a different pragmatic function (Erguvanlı, 1984; İşsever, 2003; Kılıçaslan, 1994). These researchers claim that a constituent can be focused either in-situ through pitch accenting or it moves to the immediately preverbal focus position, but both strategies cannot be used at the same time. Others claim that focus in Turkish can be marked via prosody without any need for syntactic means (e.g., Göksel & Özsoy, 2000; Özge, 2003). In addition to the strategies used for focus marking, there are also studies examining focus types in Turkish (Erguvanlı, 1984; Göksel & Özsoy, 2003; İşsever, 2003). This section provides an overview of these proposals.

It has been proposed for Turkish (Erguvanlı, 1984; İşsever, 2003; Kılıçaslan, 1994) that both syntactic means and prosodic means are available for focus marking in Turkish. That is, a constituent can be moved to the immediately preverbal position for focus marking; or it can be marked focus in situ via pitch accent assignment. But these researchers claim that these two strategies are distinct and cannot be used at the same time. In the examples below in (35) syntactic focus marking is shown via italics

in (35a) and pitch accenting is indicated by underlining in (35b). The example in (35c) indicates that focusing a constituent in situ (*kapıyı*) when another constituent is moved to the immediately preverbal position (*Ayşe*) results in ungrammaticality.

(35) a. Kapıyı *Ayşe* açtı.

b. Ayşe kapıyı açtı.

c. # Kapıyı Ayşe açtı.

Göksel and Özsoy (2000), on the other hand, argue that there is no designated focus position in Turkish and focus can be indicated only by stress prominence and in any preverbal position in any word-order. The focus field in Turkish is illustrated in (36) and it represents that any constituent before verb (V), not necessarily immediately preverbal, can be focused prosodically.

(36) ..... {XP'.....V}..... Focus Field

(Göksel & Özsoy, 2000, p.2)

Similarly, Özge (2003) states that it is not necessary to move a constituent to the immediately preverbal position to mark focus in Turkish; it can be focused in-situ by pitch accenting. He further argues that when a constituent is moved to the immediately preverbal position, it does not have to carry focus. For example, the sentence in (37b) has non-canonical word-order where the subject *ben* (I) is moved to the immediately preverbal position. But the direct object *pırasay-ı* (leek-ACC), not the immediately preverbal subject, carries focus.

(37) a. Kereviz-i sen mi yap-tı-n? Çok güzel ol-muş.

Celery-ACC you QTAG cook-PAST. 2SG much delicious become-3SG.PAST

'Was that you that cooked the celery? That was delicious.'

b. Hayır, [PIRASAY-I]$_F$ ben yap-tı-m. O nasıl ol-muş?

No, leek-ACC I cook-PAST.1SG that how become-3SG.PAST

'No, I cooked the LEEK. What about that?'

(Özge, 2003, p. 27)

There are also different approaches to the type of focus in Turkish (Erguvanlı, 1984; Göksel & Özsoy, 2003; İşsever, 2003). Erguvanlı (1984), for instance, claims that the immediately preverbal constituents in sentences with unmarked and marked word-order in Turkish represent two distinct focus types: neutral focus and contrastive focus. That is, when a sentence has canonical word-order (SOV), the focus is on the constituent in the immediately preverbal position and it has neutral focus. However, when a sentence has a marked/ non-canonical word-order due to scrambling, the constituent in the immediately preverbal position carries contrastive focus. Note that this bifurcation of focus by Erguvanlı (1984) is similar to Gussenhoven's (2007) and Kahnemuyipour's (2009) broad vs. narrow focus distinction. Erguvanlı' s (1984) neutral focus can project its focus as in broad focus, while her contrastive focus makes only a certain constituent more prominent as in narrow focus.

Göksel and Özsoy (2003) also distinguish between two types of focus, presentational focus and contrastive focus. Phonologically, they are both signaled by high pitch accent on the focused constituent; and semantically, they both convey new information. However, they differ in the scope of the information they can provide and in their syntactic position. According to Göksel and Özsoy (2003), presentational focus projects a full proposition in an out-of-the-blue context where the whole sentence (i.e., all of its constituents) introduces new information. Contrastive focus, on the other hand, represents the non-givenness of a sub-constituent of a proposition while the rest of the sentence contains given information. That is, only the focused

constituent provides new information. Thus, the scope of presentational focus in providing new information is larger than the contrastive focus.

Göksel and Özsoy (2003) also argue that these two types of focus differ in their dependency on a certain syntactic position. That is, while contrastive focus can occur in any preverbal position, presentational focus needs to be on the immediately preverbal position, which they claim as the position of sentential stress in canonical word-order sentences. This can result in an ambiguity especially when the sentence is presented without a context as in (38). If the sentence in (38) is a response to the question *What happened*, it has presentational focus as the whole sentence projects new information, but if it answers the question *Who did Ahmet see?*, it has contrastive focus since only the direct object, *Semra'yı* (Semra-ACC), carries new information.

(38) Bugün Ahmet [SEMRA-YI]$_F$ gör-müş.
today Ahmet-NOM Semra-ACC see-PAST-3SG.
'Ahmet saw Semra today.'

(Göksel and Özsoy, 2003, p. 1153)

Göksel and Özsoy argue that the ambiguity in (38) is possible only when the constituent in the immediately preverbal position is a direct or indirect object (internal arguments of the verb) in a sentence with canonical word-order. But when the focused constituent in the immediately preverbal position belongs to a different grammatical category such as a subject or an adjunct or when the focused constituent is in another preverbal position rather than immediately preverbal one, that constituent non-ambiguously has contrastive focus and cannot project its focus to the whole sentence.

Note that Göksel and Özsoy's bifurcation of presentational/contrastive focus is very similar to what Gussenhoven (2007) and Kahnemuyipour (2009) propose for broad and narrow focus, respectively. For consistency in discussion across the two languages investigated in this thesis, I will use the terms broad and narrow focus.

İşsever (2003) also proposes that focus in Turkish can be categorized as p-focus and c-focus; marked by syntactic and prosodic strategies, respectively. Similar to Göksel and Özsoy (2003), İşsever (2003) distinguishes p-focus and c-focus in terms of their scope of projection and he claims that p-focus can project itselfto higher phrases while c-focus iterates. But, İşsever's p-focus/c-focus distinction diverges from Göksel and Özsoy in three ways.

İşsever argues that p-focus and c-focus are semantically different. While p-focus provides new information that is not available in the context, c-focused constituents are semantically accessible in a contextually evoked alternative set (cf., Rooth's (1992) Alternative Semantics). İşsever also proposes that any constituent in the immediately preverbal position can have p-focus and project its focus to higher level phrase. Lastly, İşsever states that presentational focus does not have the phonological prominence that contrastive focus has.

According to İşsever (2003), in the sentence in (39a), focus is marked via syntax, by moving the focused constituent, *bir hizmetçi* (a servant), to the immediately preverbal position. Since focus is marked via syntactic strategies there, the focused constituent projects p-focus and presents new information to the context. It can project its focus to higher phrases and therefore does not carry any prosodic prominence. But in (39b), the focused constituent, again *bir hizmetçi,* is in the subject position and there it receives focus by prosody in-situ, (i.e., pitch accent), so it carries c-focus. In this case, it has prosodic prominence and can only project its focus to

itself. This yields an exhaustive reading as it eliminates items in focused constituent's alternative set e.g., not a waitress or a cleaner. (See Kiss (1998) for a similar discussion for the informational/ identificational focus distinction in Hungarian)

(39) a. Yemek-ten önce masa-nın üzeri-ne not-u [bir HİZMETÇİ]$_F$ bırak-tı.
lunch-ABL before table-GEN on note-ACC a servant leave-PAST.3SG.

b. [Bir HİZMETÇİ] $_F$ yemekten önce masanın üzerine notu bıraktı.
a servant lunch-ABL before table-GEN on note-ACC leave PAST.3SG.

'A servant left the note on the table before lunch."

(İşsever, 2003, p.1033)

In another study, though, İşsever (2006) revises his proposal about p-focus above and argues that being immediately preverbal position i.e. being left-adjacent to the verb is not sufficient to project the focus to the whole sentence. He claims that only a constituent which does not go through a movement to the immediately preverbal position but is originally left-adjacent to verb, can project its focus to the whole sentence. Thus, the immediately preverbal constituents in canonical word-order sentences can project their focus to the whole proposition, and they carry wide-focus, which is similar to Gussenhoven's (2007) and Kahnemuyipour's (2009) broad focus.

To sum up, while some researchers argue that focus in Turkish is marked with both syntactic means and prosodic means as two distinct strategies (Erguvanlı, 1984; İşsever, 2003; Kılıçaslan, 1994), others claim that movement of a constituent to the immediately preverbal position is not necessary to mark focus; and focus can be solely marked via pitch accenting without any need for syntactic strategies (Göksel & Özsoy, 2000; Özge, 2003). And there are two types of focus in Turkish which are referred with different names (neutral/contrastive focus by Erguvanlı

(1984), presentational /contrastive focus by Göksel &Özsoy (2003), and p-focus/c-focus by İşsever (2003)).

As was discussed in Section 2.2, I will prefer to use the terms broad focus and narrow focus also for my Turkish experimental sentences as I am interested in the scope dimension of the focus as suggested by Gussenhoven (2007)(the use of the terms like presentational or contrastive is more related to the meaning dimension of focus). In Turkish sentences with a ditransitive verb, it is assumed that when indirect object follows direct object (DO-IO), the sentence will have canonical word-order (Erguvanli, 1984; Erkü, 1983; Kornfilt, 1997). To this end, following Kahnemuyipour' s (2009) SSR, I will assume that in the canonical word-order ditransitives (DO-IO) in Turkish, which have neutral-context, the immediately preverbal constituent, which is the indirect object, is the position of sentential stress and it carries broad focus. On the other hand, in the non-canonical word-order sentences, since the context is not neutral, the immediately preverbal constituent cannot carry sentential stress; in turn, broad focus (Kahnemuyipour, 2009; Göksel & Özsoy, 2003). To this end, in non-canonical word-order ditransitives (IO-DO), immediately preverbal direct object is assumed to carry focal stress and narrow focus since there is no other cue which may indicate focus on another constituent.

CHAPTER 3

PROCESSING FOCUS IN THE FIRST AND SECOND LANGUAGE

Focus signals the most prominent information in a context (Halliday, 1967) and hence has an important role in language comprehension. One of the earliest studies on the role of focus (and information structure) in language comprehension is Erickson and Matteson's (1981) Moses illusion study. In Erickson and Matteson's study, the participants were asked "How many animals of each kind did Moses take on the ark?". Although the participants knew (based on their general knowledge) that Noah, but not Moses, took the animals on the ark, they answered "two". The reason for the illusion was that the number of animals, not the subject, *Moses*, was given prominence via wh-question structure, so it received more attention.

The Moses illusion highlights how linguistic focus can affect comprehension of written or spoken language as understanding a context depends on how information structure is identified, and focus is a strong cue for that. In language processing, the focused materials can attract the perceiver's attention (Cutler & Fodor, 1979) and lead to deeper encoding (Sanford, Sanford, Molle, & Emmott, 2006; Sturt, Sanford, Stewart & Dawydiak, 2004). In addition, focus can regulate the language processing mechanisms during comprehension (Benatar and Clifton, 2014). For instance, while presentational focus simply entails a new representation to be formed; contrastive focus requires an update of the previously established representation of an entity, guiding the language processing mechanism towards which resources to employ. Thus, focus processing is rather crucial for effective comprehension.

The role of focus is expected to be similar for second language (L2) comprehension but given the vast literature on the divergence of L2 speakers in their language processing from first language (L1) speakers (Clahsen & Felser, 2006; Cunnings, 2017; Hopp, 2006; Sorace & Filiaci, 2006 among others) it is likely that attention to focus may not be the same in the L2 as it is in the L1. Thus, examining how L2 speakers process focus in their non-native language can inform on whether L2 learners use attentional resources in their language comprehension in a fashion to similar L1 speakers. Investigating focus processing in the L2 would also inform on how L2 speakers process several other domains of language, in addition to their processing of prosodic information because successful comprehension or production of focus marking involves competence in/computation of other domains of language such as syntax and discourse. And such domains and their interaction with focus marking are usually determined by language-specifics constraints (Lambrecht, 1994). Therefore, the way that L2 speakers process focus marking can inform much on how L2 processing mechanisms work.

As was mentioned in Chapter 1, this thesis investigates how L1 speakers of Turkish and Turkish L2 learners of English process focus structures and whether or not they create expectations for a default focus position in their L1 and L2. This chapter presents the previous literature on focus processing in the first and second language (Sections 3.1 and 3.2 respectively) and second language processing models (Section 3.3).

3.1 Studies on focus processing in the L1

There has been much research that investigated focus prominence in first language processing. Focus processing has been examined from the perspectives of deep versus shallow processing (e.g., Cutler & Fodor, 1979; Sanford, Sanford, Molle, & Emmott, 2006; Sturt, Sanford, Stewart & Dawydiak, 2004), memory enhancement (e.g., Birch, Albrecht, & Myers, 2000; Birch & Garnsey, 1995), evoking of semantic alternative sets (e.g. Fraundorf, Watson, & Benjamin, 2010; Spalek, Gotzner, & Wartenburger, 2014), the impact of focus on real time processing (e.g. Benatar & Clifton,2014; Birch & Rayner, 1997, 2010; Lowder & Gordon, 2015) and the influence of information structure expectations promoted by focus on comprehension (Carlson et al., 2009; Clifton & Frazier,2016; Frazier & Clifton, 1998; Paterson et al., 2007, Stolterfoht et al., 2007). The following sections will provide the details about these studies.

3.1.1 Focus and processing depth

One of the earliest studies that investigated focus with respect to processing depth was Cutler and Fodor's (1979) phoneme detection study. Cutler and Fodor found for English sentences such as in (1a) that a phoneme such as /b/ was detected faster when it occurred in a focused constituent. The focused constituent in the sentence (1a) was modulated through a question, (1b) or (1c), that preceded the sentence.

(1) a. The man on the corner was wearing the blue hat.

b. Which man was wearing the hat?

c. What hat was the man wearing?

(Cutler & Fodor, 1979, p.51)

Cutler and Fodor observed that the participants detected a target phoneme, e.g., /b/ in *blue hat* in (1a) much easier when the target sentence was preceded by a question which made the constituent including the target phoneme more prominent, e.g., (1c) as opposed to (1b). The findings of this study revealed that a focused constituent received more attention and thus presumably was processed more deeply than a non-focused constituent, which made the detection of the phoneme easier.

Sturt et al. (2004) argue that focus can influence the depth of processing as it increases attention on the focused constituents. In their experiments in English, they manipulated focus either through cleft structures (Experiment 1) or a background discourse context (Experiment 2). Both experiments employed a change detection task where the participants were asked to detect changed words in two successive displays of short contexts. When the participants correctly identified changed words, their responses were counted as correct.

In their Experiment 1, the participants were presented with cleft sentences as in (2a-b). Clefting placed focus either on the target word, *the cider*, as in (2a) or on another constituent, *Jamie*, as in (2b). In both conditions, after the participants read the first sentence on the first display, they were given another sentence in the second display, where the target word *the cider* in (2a-b) was replaced either with a semantically related element (e.g., *beer*) or an unrelated one (e.g., *music*) as in (3a-b), respectively.

(2) Everyone had a good time at the pub. A group of friends had met up there for a stag night.

a. What Jamie really liked was the cider, apparently.

b. It was Jamie who really liked the cider, apparently.

(3) Everyone had a good time at the pub. A group of friends had met up there for a stag night.

a. What Jamie really liked was *the beer/music,* apparently.

b. It was Jamie who really liked *the beer/ music,* apparently.

(Sturt et al., 2004, p. 884)

In their Experiment 2, a background context was presented to the readers as in (4a-b) before a target sentence as in (4c). The context focused either the target constituent (e.g., *hat*) as in (4a) or no constituent as in (4b). As in Experiment 1, in both conditions, the target sentence was followed by another sentence in the second display where the target constituent *hat* was replaced either with a semantically related word (e.g., *cap*) or an unrelated word (e.g., *dog*).

(4) a. Everybody was wondering which man got into trouble.

b. Everybody was wondering what was going on that night.

c. In fact, the man with the hat was arrested.

(Sturt et al., 2004, p. 885)

In both experiments, the results showed that the participants detected change more easily when the target word was replaced with an unrelated word than when it was replaced with a related word in both focused and unfocused conditions. But the changes with a semantically related word were detected more easily in the focused conditions than in the unfocused conditions. That is, manipulating focus by syntax and context both influenced the degree of specification for semantically related words. Sturt et al. (2004) argue that when a constituent is focused, its level of detail increases, therefore that constituent is processed deeper and it can be differentiated from its semantically related associates.

Sanford et al. (2006) also suggest that focus can grab and turn listeners' or readers' attention to some specific information, so it can lead to deeper processing of the focused constituent. To test this assumption, they conducted one written and one auditory change detection task. Only the written task (Experiment 1) is reported here as the present study also examines focus processing in written context. Similar to Sturt et al., in their Experiment 1 in English, Sanford et al. used a change-detection task, but they manipulated focus through italicization, not clefting or background context, as they were interested in the assumption that italicization as a typographical convention can also emphasize a word and it can be used as an attention modulator (Sanford et al., 2006). Therefore, the target constituent, *interviewed* in (5), was either italicized or not. After the participants read the target sentence as in (5) at their own pace, they pressed the return key and read a second sentence in which only the focused constituent of the first sentence (*interviewed*) was replaced with either a semantically related, e.g., *questioned*, or a semantically unrelated word, e.g., *checked*.

(5) Takeovers of organizations are increasingly common and require careful negotiation. The chairman who we had previously *interviewed* about the company was knowledgeable, but very resistant to changes in the structure of his company.

(Sanford et al. 2006, p.117)

The participants were asked if they noticed any change in the second sentence. Results were similar to Sturt et al.'s (2004) findings. In the unrelated word condition, detection of change was easy regardless of focus prominence. But in the related word condition, the participants detected change more easily when the focused constituent was highlighted with italicization. Similar to Sturt et al., Sanford et al. concluded that

focus can increase the depth of processing. In addition, they indicated that italicization can be used as an effective tool to increase focus prominence in written work like clefting or background context.

3.1.2 Focus and constituent memory enhancement

Studies investigating focus and its role in enhancing memory for the focused constituents found that focus can facilitate the accessibility of a certain constituent and enhance the memory for it (Birch, Albrecht, & Myers, 2000; Birch & Garnsey, 1995). This subsection presents those studies.

Birch and Garnsey (1995) investigated, through three experiments in English, whether or not focused constituents are activated and remembered better than defocused constituents. In all three experiments, their experimental sentences manipulated focus via it-cleft structures as in (6a). The target word, *lion,* was either focused as in (6a) or defocused as in (6b).

(6) a. It was the lion that really stole the show at the circus this year.

b. The giraffe that the lion attacked could not run away fast enough.

(Birch & Garnsey, 1995, p. 259)

Experiments 1 and 2 employed a probe recall task and Experiment 3 employed a probe naming task. In the probe recall task, the participants were presented with one of the sentences in (6). Then, they were presented with a probe word such as *the lion* which was either focused as in (6a) or defocused as in (6b). The participants were to state whether they had seen the probe word in the previous sentence or not. The difference between Experiment 1 and 2 was that the probes were presented right after the target sentence in Experiment 1 but with a 35 seconds-delay in Experiment 2 in order to investigate delayed effects of focus. In the probe naming task in Experiment

3, the only difference was that the participants did not have to remember the availability of the probe word in the previous sentence; they were asked to name the probe word they saw on the screen. As in the Experiment 1 and 2, the probe on the screen was either focused or defocused in the target sentence (6).

The results of all three experiments showed that the participants could better identify and remember the probes when the target word was in a focused condition as in (6a). The study showed that focus does not only ease the identification of the focused constituent, but it also eases the recall of that constituent, even after a 35-second delay.

Birch et al. (2000) speculated that Birch and Garnsey's (1995) defocused conditions may have influenced their results in favor of the focused conditions. Therefore, in their experiments, Birch et al. introduced a target word either in a syntactically focused position as in (7a) or in a neutral sentence as in (7b). The sentences were presented in brief stories as in (7).

(7) As Joan walked home from the subway, she saw a crowd of people near her apartment building.

a. There was this mugger who had attacked an elderly lady.

b. A mugger had attacked an elderly lady.

(Birch et al., 2000, p. 288)

In their Experiment 1, the participants were asked to read the given stories and write an end to these stories using their own sentences. The participants referred to the focused constituent more when they were given focus conditions such as (7a) than neutral sentences such as (7b). This was taken as evidence for the facilitating effect of focused structures on the accessibility of target constituents.

In their Experiment 2, Birch et al. (2000) explored if focus structure would lead to longer activation of the target constituent. The materials were the same as in Experiment 1. The task was a probe recognition task in which a probe such as *mugger* appeared on the screen for 10 seconds after the participants read the target sentences as in (7a) or (7b). The participants' task was to indicate if they saw the probe in the previous sentence. The findings demonstrated that the participants recognized probes faster when they were in a syntactically focused condition as in (7a) compared to when they were in a neutral condition as in (7b). The finding that the participants could identify the probes in the focused condition despite the time lag between the probe and the target sentence supports the claim that focusing a constituent strengthens its memory trace.

3.1.3 Focus and evoking of contrastive sets

Memory enhancement of the focused constituents has also been explored with respect to focus's effect on the memory of a constituent's contrastive alternatives. Contrastive alternatives are alternative expressions that can semantically and grammatically replace the focused constituent (Rooth, 1985). It has been found that not only the focused items but also the members of their alternative sets evoked by focus are processed and remembered better (Fraundorf, Watson, & Benjamin, 2010; Spalek, Gotzner, & Wartenburger, 2014).

Fraundorf, Watson, & Benjamin (2010) investigated whether or not pitch accenting influenced memory for contrastive sets. In their study, the participants were presented with a short context containing two contrastive sets as in (8a) in which *The British* and *The French biologists* are the subjects and *Malaysia* and *Indonesia* are the objects. In the critical sentence as in (8b-c), one item from each

contrastive set of subjects and objects was presented with different pitch accenting. Either one element of subject contrastive set (e.g., British) received a contrastive (L+H*) accent and one element of object contrastive set received a non-contrastive accent (H*) as in (8b) or vice versa as in (8c).

(8) a. Both the British and the French biologists had been searching Malaysia and Indonesia for the endangered monkeys.

b. Finally, the British biologists (L+H*) spotted one of the monkeys in Malaysia (H*) and planted a radio tag on it.

c. Finally, the British biologists (H*) spotted one of the monkeys in Malaysia (L+H*) and planted a radio tag on it.

(Fraundorf et al., 2010, p. 371)

The participants were to listen to experimental contexts as in (8a) and one of the critical sentences as in (8b or 8c). After 24 hours, they were presented with one of the statements below and were asked to indicate if the statement was true or false. They were presented with a correct statement as in (9a), or with a statement that included a false but mentioned alternative as in (9b) or with a statement that included a false and unmentioned alternative as in (9c). (The same conditions were also created for the object alternative sets, e.g., *Malaysia* and *Indonesia*.)

(9) a. The British scientists spotted the endangered monkey and tagged it.

b. The French scientists spotted the endangered monkey and tagged it.

c. The Portuguese scientists spotted the endangered monkey and tagged it.

(Fraundorf et al., 2010, p. 375)

The results showed that the participants more easily identified the target words *The British* as in (9a) when it was focused with L+H* accent as in (8b). In addition, they rejected the mentioned alternatives as *The French* in (9b) more easily than the

unmentioned alternatives as *The Portuguese* in (9c) when there was L+H* accent on the target word, *the British*. These findings showed that focus could enhance memory not only for the focused elements in a sentence, but also for the other elements in the focused constituent's semantic alternatives set. The findings further showed that memory enhancement for the focused constituent and its alternatives could extend to long periods of time, to 24 hours to be specific.

Similar to Fraundorf et al., Spalek, Gotzner and Wartenburger (2014) investigated the effect of focus prominence via pitch accenting on the memory performance in German but Spalek et al.'s study also included the role of focus particles *nur* (only) and *sogar* (even) in the recall of the alternative sets of the focused constituents. Their study included two delayed recall experiments. In Experiment 1, the participants were presented with short dialogues as in (10) and were asked to recall the constituents in an alternative set (*peaches, cherries* and *bananas* in (10a)) presented in the given context. The conditions had either a focus particle, as *nur* or *sogar,* or no particle. In all the conditions, the focused element in critical sentence, *peaches* in (10b), was read with a contrastive pitch accent.

(10) a. In der Obstschüssel liegen Pfirsiche, Kirschen und Bananen. Ich wette, Carsten hat Kirschen und Bananen gegessen.
'In the fruit bowl, there are peaches, cherries, and bananas. I bet Carsten ate cherries and bananas.'
b. Nein, er hat *nur*/ *sogar*/ __ Pfirsiche gegessen.
'No, he *only*/ *even*/ _ ate peaches.'

(Spalek et al., 2014, p. 70)

The participants listened to ten blocks of items such as (10) and their task was to recall which semantic alternatives were presented in the context (10a). The results

revealed that the participants remembered the focus alternatives such as *peaches, cherries* and *bananas* better in the focus particle conditions (*nur* and *sogar*) compared to the no particle condition. There were no significant differences between the two focus particle conditions. The results demonstrated that pitch accenting and use of a focus particle could enhance the memory performance for semantic alternatives in a given context. But in Experiment 1, the critical sentences were introduced with a correction (i.e., *No*) which may have made the critical sentence contrastive in all conditions and triggered better memory for the alternatives. Thus, Spalek et al. conducted a second experiment with the same procedure but the sentences in Experiment 2 did not start with a correction.

In their Experiment 2, a narrative context was used. There were three sentences as in (11) in the task. The first sentence introduced a person and an alternative set with three constituents, *shirts*, *trousers* and *jackets*, the second sentence provided a transition as in (11a), the third sentence (11b) was the critical sentence. The critical sentence placed focus on one of three constituents in the first sentence with pitch accenting. The focused item was preceded either by a focus particle (*nur* or *sogar*) or not.

(11) a. Matthias erhält ein Paket mit Hemden, Hosen und Jacken. Er guckte, was ihm gefiel.

‘Matthias receives a package with shirts, trousers and jackets. He considered what he liked.’

b. Er hat *nur*/ *sogar*/ __ die Hemden behalten.

He kept only/ even/ _ the shirts.

(Spalek et al., 2014, p. 75)

The results were similar to those in the first experiment. They showed that the participants recalled the semantic alternatives better in focus particle conditions than those in the no particle condition. The results for two focus particle conditions were also not different. Overall, both experiments presented evidence that prosodic and lexical focus marking could enhance the memory for the semantic alternatives of a focused constituent.

3.1.4 Real-time processing of focus

The studied reviewed so far have examined effects of focus on sentence comprehension or recall either at the end of sentences or after some delay (10 seconds to 24 hours) upon reading experimental sentences. Previous research has also examined how soon focus affected sentence comprehension. These studies found that focus information also influences online processing and it differs from the unfocused information either in being processed slower (Benatar & Clifton, 2014; Birch & Rayner, 1997; Lowder & Gordon, 2015) or faster (Birch & Rayner, 2010).

Birch and Rayner (1997) investigated real-time processing of focus in English via two eye-tracking experiments. Their experimental sentences manipulated the focused constituent through either syntactic structure or prior context.

In their Experiment 1 focus was manipulated through syntactic structure. There were two conditions: the target word (*suburb*) was focused in an it-cleft structure as in (12a) or the target word (*suburb*) was defocused in a regular declarative sentence as in (12b) where the target word was used in a position where it lost its prominence due to its syntactic position (being the object of a prepositional phrase). The pipes indicate the target word in (12).

(12) a. It was the |suburb| that received the most damage from the ice storm.

b. Workers in the |suburb| hurried to restore power after the ice storm.

(Birch & Rayner, 1997, p.655)

The results showed that when a constituent was in the focused condition, it caused longer reading times in their second-pass reading time. (Second-pass reading is the duration of fixations in a target region while re-reading that region. Detailed information on eye-tracking fixation measures will be presented in the Present Study Chapter.) That is, the participants spent longer time in re-reading the focused constituent. Birch and Rayner took this observation as evidence that processing focus involves higher level processes during reading such as integration of information into the context rather than simply retrieving words.

In their Experiment 2, focus was manipulated via context. The experimental sentences were answers to questions in dialogues. The questions would place focus either on a phrase, e.g., *the poisonous gases* as in (13a), or a single constituent, e.g., *laboratory* as in (13b).

(13) a. What was the danger from?

b. What might catch fire?

The danger from the poisonous gases was that the laboratory might catch fire.

(Birch & Rayner, 1997, p.657)

The results for the second-pass reading time showed that when the focused constituent included a single word like *laboratory,* the participants took longer to read it in the focused condition as in (13b) compared to the condition where it is de-focused as in (13a). The results for the first-pass fixations/gaze durations (which both

indicate earlier effects) showed that when the focused constituent included a phrase such as *the poisonous gases*, it took longer to read when it was focused as in (13a) compared to when it was de-focused as in (13b). While the effect of focus on reading was observed in the later measures i.e. second-pass reading time for the single words, it was observed in the earlier measures i.e. first-pass fixation for the phrases. Birch and Rayner attribute this difference to the length of the critical region. That is, they argue that the readers had enough time to identify focus before they moved to the next interest area when the critical region was a phrase, that's why, focus effect was observed earlier.

Overall, the results of both experiments showed that when the target constituents were in a focused position, it took longer to read them compared to the conditions where they were de-focused. Birch and Rayner argue that the influence of focus on processing is not simply related to lexical access, but focus can affect how certain information is encoded and interpreted during sentence comprehension.

Although Birch and Rayners' (1997) study showed longer reading times for focused constituents, they found in a later study (Birch & Rayner, 2010) shorter reading time for focused constituents compared to non-focused constituents. Birch and Rayner (2010) manipulated focus syntactically using either it-cleft structures as in (14a) or there-insertion as in (15a) to make the focused item (e.g., *landlady*) more prominent. Unlike Birch and Rayner (1997), Birch and Rayner (2010) included neutral (not de-focusing) contexts as in (14b) and (15b). More specifically, in Birch and Rayner's (1997) study, in non-focused conditions, the target word was de-emphasized either syntactically or by focusing another constituent in the sentence. But in Birch and Rayner's (2010) study, the non-focused conditions were neutral in

which the target word was non-focused because of not being used in it-cleft or there-insertion.

(14) The tenants at the complex were sick and tired of all the noise coming from #204.

a. It-cleft: It was the landlady who confronted the woman who lived there.

b. Neutral: The landlady confronted the woman who lived there. She evicted the woman finally, to everyone's relief.

(15) A couple was having a romantic anniversary dinner. Unfortunately, the staff at restaurant were rude and clumsy.

a. There-insertion: There was this waitress who spilled wine on the wife's dress.

b. Neutral: A waitress spilled wine on the wife's dress. She complained loudly and asked for the manager.

(Birch & Rayner, 2010, p.747)

Several eye-movement measures were analyzed in the study. These were first fixation and gaze duration, which inform on earlier processes such as lexical access or encoding, and total duration and total number of fixations, which indicate later processes such as integrating a word to the previous discourse in the sentence. (Further details of these measures will be presented in the Present Study chapter.) The results showed that the target words (e.g., *landlady* or *waitress*) in focus conditions (it cleft and there insertion sentences) as in (14a, 15a) were read faster than those in the neutral sentences as in (14b, 15b). Birch and Rayner (2010) argued that shorter reading times and fewer fixations on focused constituents were due to increased attentional resources which facilitated encoding, lexical access and

sentence integration processes. Birch and Rayner (2010) explained that the differences between their findings and Birch and Rayner's (1997) study may be due to the difference in creating the non-focused conditions; in Birch and Rayner's (1997) study, de-focusing the target word and focusing another word could have resulted in shorter RTs for the target word in the de-focused condition and this may have increased the difference between the RTs for the target items in the focused and the de-focused condition. That would suggest that focusing a constituent per se would not cause longer RTs; instead de-focusing a constituent would cause shorter RTs.

Lowder and Gordon (2015) also claim that the conflicting results from the two Birch and Rayner studies (1997, 2010) could be due to their materials design. As explained above, for their non-focus conditions, Birch and Rayner (1997) syntactically de-emphasized the target word by focusing another word but Birch and Rayner (2010) used neutral sentences. Lowder and Gordon included both a neutral and de-focused condition as comparison conditions for focused condition. Data from such a design would be more conclusive on whether focusing a constituent would result in longer or shorter reading time. Furthermore, the target word, *memo* in (16a-c) appeared in the same linear position in all three conditions and was preceded and followed by the same words to prevent any potential oculomotor differences.

(16) a. Focused: What the secretary typed was the official memo about the new office policy.

b. Neutral: Yesterday the secretary typed the official memo about the new office policy.

c. Defocused: It was the secretary that typed the official memo about the new office policy.

(Lowder & Gordon, 2015, p.1736)

The participants read one of the experimental sentences as in (16) and answered a comprehension question after each sentence. Several measures of eye-movements, namely first fixation duration, gaze duration, first-pass regression rate, regression-path duration and re-reading duration, were examined. The results for the given measures (except for rereading duration) showed that as the focusing level of the target words increased (defocused<neutral<focused), reading time for the target word also increased. Lowder and Gordon attributed the longer reading times for focused constituents to deeper encoding of the focused information and its deeper integration to the preceding context.

Benatar and Clifton (2014) also conducted an eye-movement study and they examined reading times for given, new or corrective information in two experiments in English. Experiment 1 compared the reading times for given information to those for new information and Experiment 2 examined the reading times for new and corrective information.

Experiment 1 included dialogues between Speaker A and Speaker B. In (17a), Speaker A asks a question which makes the target word, *the doctor,* in Speaker B's response given information. In (17b), Speaker A's question does not provide any background information (*somewhere*) which makes the target word, *the doctor,* in Speaker B's response new information. In both conditions, Speaker B's response to Speaker A's question is the same. In (17a) the target word *the doctor* in (17a) provides given information, so it is the non-focused condition. In (17b) the target word *the doctor* in (17b) provides new information, so it is the focused condition.

(17) a. Speaker A: Tell me, when did Caitlin leave to go to the cardiologist?

Speaker B: I believe she left to go to the doctor just a little while before this morning.

b. Speaker A: Tell me, when did Caitlin leave to go somewhere?

Speaker B: I believe she left to go to the doctor just a little while before this morning.

(Benatar and Clifton, 2014, p.7)

The analysis of first fixation duration, gaze duration, total duration and go-past time showed that when the target information was given and was not focused as in (17a), it took shorter time to read it compared to the condition where it provided new information and was focused as in (17b).

Experiment 2 examined how focus was processed when the context provided new information versus corrective information. Although both new information and corrective information conditions put the target word in focus, the sentences with corrective information would be stronger and more complex because corrective information would require both addition of new information and deletion of old information. As in Experiment 1, there were dialogues between Speaker A and B. In (18a), Speaker A asks a question which makes the target word, *John,* in Speaker B's response new information. In (18b), Speaker A asks a question which makes the target word, *John,* corrective information. In both conditions, Speaker B gave the same response to the Speaker A's question, but Benatar and Clifton argue that the focus on *John* in (18b) is stronger and more complex since new information only requires additions to the discourse while the corrective information requires both

addition of new information and deletion of old information, thus it causes stronger changes in discourse.

(18) a. Speaker A: Did you tell someone to go home early?

Speaker B: I told John, but I don't know if it was a good idea.

b. Speaker A: Did you tell Mary to go home early?

Speaker B: I told John, but I don't know if it was a good idea.

(Benatar and Clifton, 2014, p.8)

The results showed that the corrective information in (18b) took longer to read than the new information in (18a). The findings of Experiment 1 and 2 together showed that processing focus causes longer reading times. In addition, Benatar and Clifton claims that the influence of focus may depend on the type of focus. That is, adding new information to a discourse is costlier than repeating given information and changing existing information with new information is even costlier than adding new information.

3.1.5 Focus expectations and sentence comprehension

Some studies investigating online and offline processing of focus tested how the expectations for the focus position in a sentence influences sentence comprehension. These studies had some inconclusive findings. While some found that there is not any certain position to place focus in English (Paterson et al., 2007), other studies presented evidence for the availability of a default focus position in English (Carlson et al., 2009; Clifton and Frazier, 2016; Frazier & Clifton, 1998) and German (Stolterfoht et al., 2007). This thesis study also examines whether the pre-assumed focus position in neutral contexts in Turkish and English affect the expectations for upcoming information and how readers react when their expectations do not match

with the information in the upcoming context. Thus, the studies presented in this section are of particular importance as they underpin the research questions of the present study.

Paterson et al. (2007) investigated how focus information affected processing during reading and whether or not readers had any preferences to place focus on a certain constituent. There were three eye-movement experiments. Experiments 1 and 2 included dative and double-object sentences with the focus particle only. The results of these experiments showed that when a constituent was focused through the preceding focus particle only, it took longer to read than when it was not preceded by only. Since the findings of these experiments were similar to some of the previously reviewed eye-movement studies (Benatar & Clifton, 2014; Birch & Rayner, 1997; Lowder and Gordon, 2015), their results will not be presented in detail.

In their Experiment 3 though, Paterson et al. examined if there was a default focus preference in English ditransitive structures. The materials were the same as those in Experiments 1 and 2 but without the focus particle only. They used dative structures and double-object constructions to test whether the readers prefer a certain surface order (e.g., first or second object) or a grammatical function (e.g., direct object or indirect object) to place focus.

The sentences with ditransitive verbs were followed by a continuation phrase (*but not….*) which presented a contrast to one of the objects in the main clause. If there was a default focus preference (depending on the surface position or the grammatical category), the readers would perceive that constituent as revealing the prominent information and they would expect the upcoming information in the continuation phrase (*but not….*) to contrast with that constituent.

(19) a. Dative: Jane past the salt to her mother, but not her father as well because she couldn't reach.

b. Dative: Jane past the salt to her mother, but not the pepper as well because she couldn't reach.

c. Double-object: Jane past her mother the salt, but not the pepper as well because she couldn't reach.

d. Double-object: Jane past her mother the salt, but not her father as well because she couldn't reach.

(Paterson, et al., 2007, p. 5)

It was predicted that if the readers placed focus on the second object, *her mother* in (19a-b) and *the salt* in (19c-d), they would spend shorter time in reading (19a) and (19c) conditions because those conditions have a constituent in the continuation phrase that is congruous with the second object. If the readers preferred to place focus on the first object, though, *the salt* in (19a-b) and *her mother* in (19c-d), they would read (19b) and (19d) conditions faster because those conditions have a constituent in the continuation phrase congruous with the first object. But if the readers relied on the grammatical function to assign focus and if theypreferred to assign focus to the indirect object regardless of its surface order, then they would read (19a) and (19d) conditions faster because in those conditions the continuation phrase includes the indirect object. But, if they preferred the direct object to mark focus on, they would read (19b) and (19c) in a shorter time since in those conditions the continuation phrase includes the direct object.

There were not any congruency effects for surface order or grammatical function. Paterson et al. (2007) concluded that there was no default focus preference in English that could affect online processing of sentences in reading.

Frazier and Clifton (1998), Carlson et al. (2009) and Clifton and Frazier (2016), however, found results that contradicted with Paterson et al.'s (2007) findings. Frazier and Clifton (1998) investigated, in an eye-tracking study, how ambiguous sluicing constituents as in (20) are interpreted in English and if there is a connection between interpreting sluicing ambiguity and a default focus placement in English. Sluicing is a type of ellipsis construction where a perceiver needs to make inference from a previous sentence to understand what a *wh*- word in a sluicing phrase refers to. In (20a), there were two candidates that may be the antecedent of the wh-word *who* in the sluicing phrase: the subject *somebody* or the object *someone*. In (20b), there is only one possible antecedent of *who* in the sluicing phrase; the subject *somebody*, because it is the only indefinite constituent.

(20) a. Somebody claimed that the president fired someone, but nobody knows who.

b. Somebody claimed that the president fired Fred, but nobody knows who.

(Frazier and Clifton, 1998, p.511)

Frazier and Clifton argued that in English the subject mostly provides given information while a constituent in the VP, mostly being sentence final, is the default focus position; and in the above examples that constituent would be the embedded object in the VP, *someone* in (20a) and *Fred* in (20b) as per Cinque's (1993) work. It was predicted that the participants would spend shorter time to read *who* in the sluicing phrase, when its antecedent was *someone* as in (20a) than when it is antecedent is *Fred* as in (20b) as *Fred* cannot be an antecedent for *who.* This would be specifically the case if readers place focus on a constituent in the VP, i.e., the embedded object, *someone* in (20a) or *Fred* in (20b). That is, in (20b) the readers

would need to change their interpretation of *who* from the object to the subject leading to longer reading times compared to (20a).

The analysis of first-pass time and total reading time measures supported their predictions that the readers experienced more difficulty in processing the sluicing phrase in (20b) than that in (20a). Frazier and Clifton (1998) argued that this finding presented evidence for their claim that the default focus position is in the VP and mostly sentence-final in English.

Carlson et al. (2009) also investigated if there was a default focus position in English through sluicing structures as in Frazier and Clifton's (1998) study and whether or not such a default focus position would affect how sluicing structures are interpreted. There were four experiments examining the effect of expected focus position on the interpretation of written or auditory sentences including sluicing.

Experiment 1 employed a written questionnaire task. The experimental sentences included the sluicing phrase, *who else,* as in (21). In the short conditions as in (21a), the object *the witness*, where the focus is predicted to be placed, is rather close to the sluicing phrase. Thus, in order to control for the recency of the object to the sluicing phrase, the authors also used long conditions as in (21b-c) and included *in the aftermath of the trial* either after the earlier clause as in (21b) or the later elided clause as in (21c). In addition, to prevent any lexical bias to the verbs, they also used these conditions with the reverse order of the subject and object as in *The witness insulted the lawyer*. The participants were asked to read the sentences on paper and choose either the subject or the object as the antecedent of *who* in the sluicing phrase.

(21) a. Short: The lawyer insulted the witness, but I don't remember who else.

b. Longer main clause: The lawyer insulted the witness in the aftermath of the trial, but I don't remember who else.

c. Longer elided clause: The lawyer insulted the witness, but in the aftermath of the trial I don't remember who else.

(Carlson et al., 2009, p. 118)

The results showed that in all conditions, the participants had a strong bias to choose the object as the antecedent of *who* in the sluicing phrase. Carlson et al. interpreted this finding that the object position can be the default focus position in English.

Experiment 2 was similar to Experiment 1 in that it also asked the participants to choose the best antecedent of *who* in the sluicing phrase; but the input was spoken in Experiment 2. In Experiment 2, focus position was manipulated via pitch accenting. There were four prosodic conditions for each sentence where L+H* contrastive pitch accent was placed on the subject (*the captain* in (22)), the object (*the co-pilot* in (22), the verb (*talked* in (22)) or both the subject and the object.

(22) The captain talked with the co-pilot, but we couldn't find out who else.

(Carlson et al., 2009, p. 120)

The experiment examined how focus via pitch accenting and expectations for a default focus position would interact. The prediction was that verb accent condition would present similar findings to the written task in Experiment 1 since in this condition none of the potential antecedents for *who* in the elided clause is accented. Regarding both subject and object accent condition, if focus marking was determined by pitch accenting and by default focus expectations simultaneously, the listeners might prefer the object constituent as the focus in object accent condition and both subject and object accent condition since the object would be accented in either way

and this would be enough for the listeners to continue with object-focus analysis. However, if the listeners' preferences were only driven by pitch accenting, they wouldn't have any preference for a certain antecedent for *who* in the elided phrase in verb accent condition and in both subject and object accent condition. And, they would have more object preferences in object-accented conditions and more subject preferences in subject-accented conditions compared to the other three conditions.

The results showed that when the accent was placed on the subject, the listeners preferred subject antecedent. But in the other three accent conditions (object, verb and both subject and object), they preferred object antecedent. In addition, the preference for the subject antecedent in subject-accented condition was not as strong as the preference for the object antecedent in object-accented condition. Carlson et al. (2009) argue that these findings indicate that prosodic focus marking can affect how listeners interpret focus information, but there is also a default focus position in English, the object position, which also influences listeners' perception of prominence in an English sentence.

In their Experiment 3, Carlson et al. (2009) investigated the interaction of default focus expectations and syntactic focus marking. Focus was marked using it-cleft structures and it was either on the subject (e.g., *Patty*) as in (23a) or on the object (e.g., *Lisa*) as in (23b).

(23) a. It was Lisa who Patty praised at the ceremony, but I don't know who else.

b. It was Patty who praised Lisa at the ceremony, but I don't know who else.

(Carlson et al., 2009, p. 125)

The participants read one of the sentences in (23) in two parts in a self-paced reading experiment. In the first part, they read the first clause; after that, at a key-press, they were presented with the "*but* _____" clause with the sluicing phrase. After reading the whole sentence, they were presented with two options for the interpretation of *who* in the sluicing phrase, either providing a subject-antecedent resolution (*praised Lisa*) or an object-antecedent resolution (*Patty praised*) and they were asked to choose one of these options.

The reading time data indicated that object-clefted sentences as in (23a) took longer to read than (23b). This was predicted because object-clefted sentences are more difficult to process due to the longer-distance filler-gap dependency compared to subject-clefted sentences. The antecedent preference data showed that the participants chose the object antecedent to complete the sluicing phrase in (23a) and they chose the subject antecedent for (23b). However, the object antecedent preference in (23a) was much stronger than the subject antecedent preference in (23b). This showed, in line with Experiments 1 and 2, that the default focus position expectations interact with focus marking strategies such as it-cleft constructions.

Although both prosodic and syntactic focus marking affected the processing of focus in English, there was a strong bias to place focus on the object. However, it was not clear whether this bias stemmed from the object's grammatical/semantic category or from its syntactic position. In Experiment 4, Carlson et al. (2009) examined this by using a spoken questionnaire as in Experiment 2. The experimental sentences in Experiment 4 included two VP-internal arguments: a direct object such as *some present* and a prepositional phrase such as *for some occasion* as in (24).

(24) Lucy bought some present for some occasion, but I don't know what.

(Carlson et al., 2009, p. 125)

As in Experiment 2, prosodic focus was manipulated by L+H* placement on the subject, the direct object, the prepositional phrase or the verb. The participants were asked to choose either the direct object, *some present*, or prepositional phrase, *for some occasion*, as the antecedent of *who* in the sluicing phrase. The findings showed that although the participants chose the object antecedent when the object was accented, there was a strong tendency to choose the prepositional phrase both in the prepositional phrase-accent condition and in the verb-accent condition. The findings of this experiment indicated that the default focus position is not specifically the object position; rather, it is the sentence-final position.

Given these results and the results of the other three experiments, Carlson et al. (2009) concluded that the default focus position in English can be the final argument in a sentence. And the listeners' or the readers' expectations for this default focus position affect how they comprehend sentences.

Clifton and Frazier (2016) also investigated whether there is a default focus position in English and if any how that affects sentence processing routines. There were two experiments, one with a written acceptability judgment task (Experiment 1) and the other with an auditory acceptability judgment task (Experiment 2). In their Experiment 1, Clifton and Frazier examined how default focus position interacts with sentence parallelism. The experimental sentences appeared in dialogues where Speaker B provides a correction to what Speaker A says. The correction is done either for the subject or the object as in (25). The conditions manipulated the parallelism of syntactic structure in the dialogues (e.g., active-active/active-passive) and the position of the focused element (e.g., the subject or the object). In (25a) and (25c), Speaker B provides a response with a parallel structure to what Speaker A says.(active-active) while in (25b) and (25d), Speaker B's response is not parallel

(active-passive). In addition, in (25a-b), the focused constituent is object, while in (25c-d) the focus is on the subject. The participants were to read one of the dialogs in (25a-d) and judged their naturalness. Clifton and Frazier had two assumptions: when there is a parallel response and when the focused information appears on the object, it is more natural.

(25) a. Object Focus/ Parallel: A: Mary brought the pie.
B: No, Mary brought the pasta.

b. Object Focus/ NonParallel: A: Sam brought the pasta.
B. No, the pasta was brought by Mary.

c. Subject Focus/ Parallel: A: Sam brought the pasta.
B: No, Mary brought the pasta.

d. Subject Focus/NonParallel: A: Mary brought the pie.
B: No, the pasta was brought by Mary.

(Clifton and Frazier, 2016, p. 548)

Syntactic parallelism between speakers A and B as in (25a) and (25c) was predicted to be perceived as more natural than non-parallel sentences as in (25b) and (25d). But the syntactic position of focus was also predicted to affect the participants' ratings for naturalness. That is, if the focus was on the object (e.g., *Mary* in (25b)) then the dialogues which have the focused information on the object in (25b) would also be accepted as natural. The results confirmed the predictions: Although the participants found syntactically parallel conditions such as (25a) and (25c) more natural, the condition where focused information corresponded to the rightmost constituent in a non-parallel structure as in (25b) was also found natural.

Experiment 2 was an auditory acceptability judgment task. In this task, Clifton and Frazier examined the effect of the default focus position and pitch

accenting on the naturalness of sentences. In Experiment 1, the only condition found unnatural was the condition (25d) where a non-parallel and subject focus sentence was used. Clifton and Frazier speculated that the unnaturalness of this sentence may be eliminated by pitch accenting on the subject. To test this, they used conditions where all the sentences by Speaker B were passive. The position of the corrected constituent in Speaker B's response (the object of the by phrase, *Mary* in (26a,b), or the subject, *pasta* in (26c,d)), and the constituent receiving pitch accent (the subject or the object) was manipulated.

(26) a. Object Accented: A: Sam brought the pasta.
B: No, the pasta was brought by MARY.

b. Object Non-Accented: A: Sam brought the pasta.
B: No, the PASTA was brought by Mary.

c. Subject Accented: A: Mary brought the pie.
B: No, the PASTA was brought by Mary.

d. Subject Non-Accented: A: Mary brought the pie.
B: No, the pasta was brought by MARY.

(Clifton and Frazier, 2016, p. 550)

Clifton and Frazier predicted that if pitch accent was the only indicator of focus, then, when corrected constituents were accented as in (26a,c), the sentences would be judged as natural regardless of the syntactic position of the corrected constituent. If syntactic position also informed on focus, the listeners would find (26a) more acceptable than (26c) since in the former the corrected constituent is the object. In addition, in non-accented conditions (26b,d), although the corrected constituent was non-accented, the sentence would be found more natural when the corrected constituent was the object as in (26b) than when it is the subject as in (26a). As was

predicted, when the corrected constituent was accented as in (26a) and (26c) it was perceived to be more natural than those in the non-accented conditions. But the syntactic position of the focused element also contributed to the acceptance of the sentences (26b,d). When the accented constituent was the object as in (26a), it was considered more natural than when it was the subject as in (26c). Similarly, when the accent was on the wrong (non-corrected) constituent as in (26b,d), object corrections as in (26b) were rated as more natural than subject corrections as in (26d).

Clifton and Frazier (2016) conclude that the results of both experiments provide evidence for a default syntactic position (i.e., object position) for focus placement in English. Although pitch accenting is the main (acoustic) strategy to mark focus in English, syntactic positions of constituents also matter.

Lastly, Stolterfoht et al. (2007) examined structural and implicit prosody on focus placement and sentence processing through an event-related potentials (ERP) study in German. In all conditions, they used replacive phrases, which provide a contrast to the focused constituent in the main clause. Since they used the focus particle *nur* (only) in the main clause in (27c,d), these conditions did not require any revision in stress assignment, because with the help of this focus particle, the readers were already aware of the position of stress, the object *den Schüler* (the pupils) in (27c) and the subject *der Direktor* (the principal) in (27d). In addition, since these conditions had narrow focus where only the object or the subject was focused through the use of focus particle in the main clause, the replacive phrase did not require any focus revision to narrow focus, too. However, since no focus particles were used in (27a,b), the readers needed to rely on their default focus position expectations. That is, they needed to assign focus to the default focus position in German, which was considered as the object by following Cinque (1993) since it is

the most embedded constituent. And the main clauses in (27a,b) were considered to have broad focus where not the stressed constituent itself, but the whole sentence provides new information. Thus, since the stress would be assumed to be on the object *den Schüler* by default, there would be a need to make a revision to focus structure (from broad to narrow) in (27a) compared to (27c), where the main clause already had narrow focus. However, in (27b), since the stress would be assumed to be on the object *den Schüler*, when the readers encountered the replacive phrase which contrasted with the subject *der Direktor*, the readers would need to make a revision to both focus structure (from broad to narrow) and prosodic structure (from the object to the subject) compared to (27d) where the main clause already had narrow focus and the stress was already on the subject.

Stolterfoht et al. predicted both focus revision and prosodic revision cause processing difficulty but based on previous ERP studies related to focus processing; focus structural revision was predicted to result in positive-going waveform as it would require revision to semantic structure of a context. And prosodic revision to focus was predicted to elicit negative-going waveform as it would require revisions to prosodic structure of (i.e., position of pitch accent) the target sentence. The capital letters in (27) indicates the focused constituent which needs to get pitch accent during silent reading. The sentences with quotation marks in (27a-d) represent the overall meaning, not the exact translations.

(27) a. Object-replacive with no focus particle: Am Dienstag hat der Direktor [den SCHÜler]$_F$ getadelt, und nicht [den LEHrer]$_F$

On Tuesday has the principal$_{nom}$ the pupil$_{acc}$ criticized, and not the teacher$_{acc}$

"On Tuesday, the principal criticized the pupil, and the principal did not criticize the teacher."

b. Subject-replacive with no focus particle: Am Dienstag hat [der DiREKtor]$_F$ den Schüler getadelt, und nicht [der LEHrer]$_F$

On Tuesday has the principal$_{nom}$ the pupil$_{acc}$ criticized, and not the teacher$_{nom}$

"On Tuesday, the principal criticized the pupil, and the teacher did not criticize the pupil."

c. Object-replacive with focus particle: Am Dienstag hat der Direktor nur [den SCHÜler]$_F$ getadelt, und nicht [den LEHrer]$_F$

On Tuesday has the principal$_{nom}$ only the pupil$_{acc}$ criticized, and not the teacher$_{acc}$

"On Tuesday, the principal criticized only the pupil, and the principal did not criticize the teacher."

d. Subject-replacive with focus particle: Am Dienstag hat nur [der DiREKtor]$_F$ den Schüler getadelt, und nicht [der LEHrer]$_F$

On Tuesday has only the principal$_{nom}$ the pupil$_{acc}$ criticized, and not the teacher$_{nom}$

"On Tuesday, only the principal criticized the pupil, and the teacher did not criticize the pupil."

(Stolterfoht, 2007, p.574)

As predicted, the results revealed different ERP responses for revisions: a bilateral sustained positivity (350–1100ms) for focus revision and a widely distributed negativity (450–650ms) for implicit prosodic accent placement revision, providing electro physical evidence that the two types of revisions have distinct neurophysiological correlates. A bilateral sustained positivity (350–1100ms) was observed in the condition (27a) compared to (27c) where no focus revision was required. And both a bilateral sustained positivity (350–1100ms) and a widely distributed negativity (450–650ms) were observed in (27b) compared to (27d) where neither focus revision nor prosodic revision were required. In addition to the evidence of the different impacts of focus revision and prosodic revision, Stolterfoht et al. interpreted that similar to focus assignment in reading, pitch accent placement is also a compulsory process during silent reading and it has a crucial role in language comprehension.

All the studies presented in this section except for one (Paterson et al.'s Experiment 3, 2007) demonstrate that focus (marked by background context, pitch accent or syntax) can influence language processing in various ways. The studies reviewed here provided evidence for deeper processing and enhanced memory for focused constituents (Birch et al., 2000; Birch & Garnsey, 1995; Cutler & Fodor, 1979; Sanford et al. 2006; Sturt et al., 2004). The studies also showed that when a constituent is focused, its semantic alternatives are also evoked (Fraundorf et al., 2010; Spalek et al., 2014). The studies that investigated the real-time processing of focus showed that focus placement is associated either with shorter (Birch & Rayner, 2010) or longer times of processing (Benatar & Clifton, 2014; Birch & Rayner, 1997; Lowder & Gordon, 2015). Given the meticulous control over experimental items in the later studies of such (e.g., Lowder & Gordon, 2015) it is reasonable to associate

focused information with longer reading times. This is presumably due to deeper encoding of the focused information. The previous studies also showed evidence that both readers and listeners create expectations for a default focus position in a sentence which influences how perceiver process the upcoming context (Carlson et al., 2009; Frazier & Clifton, 1998; Stolterfoht et al., 2007). All these studies highlight the importance of the role focus marking plays in sentence/discourse processing in the first language.

Examining focus processing in the second language is also important. Firstly, focus information provides perceivers the most important information in a context, so L2 learners' successful comprehension (during listening and reading) and production (during writing and speaking) in the target language depends on native-like processing of focus. In addition, studying focus processing can inform researchers on the resources of possible problems that L2 parsers may experience. For instance, it can help us to understand whether nonnative-like behavior in L2 results from cross-linguistic differences, the types of information (e.g., at syntax-semantics interface or at syntax-discourse interface), representational or computational problems, or inefficient allocation of cognitive resources resulting more reliance on certain cues than others. Thus, the present study also investigates focus processing in the L2. The following section presents a review of the previous literature on L2 processing of focus.

3.2 Studies on focus processing in the L2

Interpretation of focus and its role in sentence processing has much been studied in the L1. Studies examining focus and its role in L2 sentence processing have been comparably fewer but informative. Some studies present evidence that there is a

discrepancy between L1 and L2 speakers in their processing of focus information, which may result from L1 properties of focus marking, (e.g., Belleti et al., 2007; Rijswijk et al., 2017), difficulty of integration of syntax and discourse information (e.g., Belleti et al., 2007; Lozano, 2006), or proficiency in the L2 (e.g., Hertel, 2003; Hopp, 2009; Marefat, 2005; Reichle & Birdsong, 2014). Studies that relate differential processing of focus marking in the L2 to L1 focus marking properties (Belleti et al., 2007; Rijswijk et al., 2017) found that L2 learners used the word-order properties of their L1 without paying attention to the focus structure in L2 (Belleti et al., 2007); and L2 learners followed the focus assignment constraints of their L1, so they marked focus on a different constituent compared to the native speakers of the target language (Rijswijk et al., 2017). Other studies attributing the differences between L1speakers and L2 learners of a language to the difficulties in integration of syntax and discourse information in the L2 found that even when the L1 and TL properties regarding focus marking were the same, L2 learners still showed non-native-like behavior (Lozano, 2006). It has also been reported that with increased proficiency in the L2, L2 speakers can process focus structure in the same way as native speakers do (Hertel, 2003; Hopp, 2009; Marefat, 2005; Reichle & Birdsong, 2014). Some of these studies examined focus processing in L2 in tasks that would inform on participants' sentence-final decisions whereas others investigated real-time processing of L2 focus. The following two sections; offline processing of focus and online processing of focus, present the L2 studies on focus production and processing.

3.2.1 Offline processing of focus in the L2

In some languages, but not all, word-order can inform on a sentence's information structure. For example, in German, focused (i.e., new) information is always presented after given information but English allows for new information to appear before given information (while marking prominence via pitch-accenting). If the L1 and L2 of an L2 speaker differ with respect to the use of word-order in focus marking non-native-like production and processing of L2 focus may occur. Several studies (Belleti et al., 2007; Hertel, 2003; Hopp, 2009; Lozano 2006; Marefat, 2005) investigated L2 processing of focus in such contexts.

Marefat (2005), for instance, examined how Persian learners of English marked and perceived focus in English dative alternations such as *I gave the book to Mary* as the dative form and *I gave Mary the book* as the double-object form. As discussed before, in English, although some ditransitive verbs (e.g., give, grant) allow for word-order alternation of direct and indirect object, the ordering of these arguments is constrained by discourse factors. Halliday (1967), for instance, argues that dative alternation exists because of information structural concerns and Lambrecht (1994) proposes that in a sentence, topic (given) should come before focus (new). English abides by these observations because in English ditransitive structures, when the indirect object such as *Mary* carries new information, it follows the direct object as in the dative version "*I gave the book to Mary",* but when the direct object such as *the book* carries new information, it follows the indirect object as in the double-object version "*I gave Mary the book"*. But in Persian, only the dative structure is available in which the indirect object follows the direct object (DO-IO), so marking focus via word-order in Persian is not possible; and regardless of the givenness or newness of the information is conveyed, Persian speakers always

use the dative (DO-IO) version in their L1. Given the availability of dative alternation in English and the use of only dative (DO-IO) order in Persian, Marefat examined how Persian L2 learners of English produce ditransitive structures in English depending on the focus structure. Her study also included an L2 proficiency component.

There were four groups of Persian L2 learners of English based on their L2 proficiency as elementary, low-intermediate, high-intermediate, and advanced learners and a control group consisting of English native speakers. The participants took part in a written-production task and an acceptability judgment task. In the production task, the participants were presented with questions such as in (28) and they were to answer the questions in 10 seconds without using any pronoun. In the acceptability judgment task, the participants listened to some question-answer pairs in which the answers included either new-given (28a-1) or given-new order (28a-2). Their task was to judge the acceptability of the answers they heard.

(28) a. What did you give to Mary?

1. New- Given: I gave a book to Mary.

2. Given- New: I gave Mary a book.

b. Whom did you give the book to?

c. What did you tell Mary?

d. Whom did Mary tell the secret?

(Marefat, 2005, p. 68)

The word-order used in the production task showed that the answers by neither native speakers of English nor any proficiency group of Persian L2 learners were influenced by the information structure of English sentences. That is, they did not show any sensitivity to the new information, and they produced dative version or

double-object version randomly. Only the elementary L2 learners persistently used dative structure (DO-IO).

Marefat (2005) attributed the results (except for those for the elementary group) to echoicity (i.e., potential priming). That is, the participants were inclined to repeat the structure in the question (28a) in their answers (28a-1). The elementary group's behavior was attributed to the effect of the L1 of the participants in which only dative structure is available. On the other hand, echoicity (or priming) effect was not observed in the acceptability judgment task. In the acceptability judgment task, the participants' proficiency in the L2 was the determining factor in their judgments. Whereas high-intermediate and advanced proficiency L2 learners behaved native-like and rated the sentences with given-new order higher than those with new-given order, low-intermediate and elementary level L2 groups' ratings were not affected by a given-before-new preference. While the elementary group mostly rated the dative structure highest, which is the only possible word-order in their L1, the low-intermediate learners judged the answers more acceptable that had the same structure as the questions. Marefat adds that in Persian schools, the students are instructed for English to follow the pattern in the construction of a question in their answers, which could explain the behavior of the low-intermediate students. Marefat interpreted her findings as an indication of a developmental process in the acquisition of the focus structure properties in the target language. As the proficiency level increased, the influence of L1 or the instructional methods for the L2 disappeared and the language learners became more native-like.

Hertel (2003) examined how the lexical verb properties (e.g., unaccusative or unergative as two types of intransitive verbs) and focus structure affected L2 acquisition of Spanish word-order. The participants were native speakers of Spanish

and English learners of Spanish who had elementary, low intermediate, high intermediate or advanced proficiency in Spanish. There are two types of intransitive verbs in Spanish: unaccusatives and unergatives. Unaccusative verbs such as *Llego* (arrive) have subjects that are patient-like. Sentences including these verbs follow the verb-subject (VS) order as in *Llegó mi nieto.*(arrived my grandson) in discourse neutral contexts. Unergative verbs such as *Grito* have agent-like subjects and sentences including these verbs follow subject-verb (SV) order as in *Mi nieto gritó (*My grandson yelled) in discourse neutral contexts. But the word-order of intransitive verbs in Spanish also depends on focus structure. In Spanish, regardless of the verb used in the sentence, when the subject introduces new information, it carries presentational focus and appears post-verbally (VS). For example, in a discourse neutral condition, when the unergative verb *Llamo* (call), which normally requires an SV order, is used with a subject introducing new information as in (29), it appears in a VS order. The subject in (29b) needs to be both pitch-accented and moved syntactically to have presentational focus.

(29) a. Who called when I was gone?"

b. "Llamó *lu hermana*"

called your sister

(Hertel, 2003, p. 275)

In English though, changing the word-order is not a common strategy to mark focus (except for ditransitive structures). An English speaker would mark focus via pitch accenting in-situ. Thus, an English learner of Spanish may face difficulty in deciding which word-order (SV or VS) to use in Spanish sentences including intransitive verbs because the correct use of word-order in Spanish requires mastery of the verb types and the focus marking strategies in the language.

Hertel's study employed a written production task in which focus structure was manipulated. In the written-production task, the participants were provided with stories with two characters and there was some information gap between them. That is, in each story, two characters dosomething e.g., talking at a party, and one character leaves for a short time. The other character, the participant, was asked to provide information to the other character about what happened in his/her absence. The question asked to the participant by the other character required either a discourse neutral answer as in (30a) or a presentational focused answer as in (30b). In the neutral context as in (30a), the participants were expected to use the VS word-order for unaccusative verbs and SV order for unergative verbs in their written response. In the presentational focus context as in (30b), the answer to the question needed to occur in VS order regardless of the verb type.

(30) a. Que paso?

'What happened?'

b. Quien llego?

'Who arrived?'

(Hertel, 2003, p. 286)

The word-order of the answers in the neutral contexts showed that the L2 learners of Spanish with elementary level proficiency overwhelmingly used SV order even when there was an unaccusative verb requiring VS order; presumably due to the SV order in their L1 English. Although low and high intermediate learners produced more VS order for the unaccusative verbs than elementary group, the number was significantly low compared to the L1 speakers' answers. Only the advanced learners used VS structure for the unaccusative verbs significantly higher than three other learner groups and as much as native speakers. However, it was also observed that the

advanced L2 learners were significantly inclined to overgeneralize the use of VS order even in inappropriate contexts i.e., with unergative verbs which normally require SV order.

The analyses for focus conditions (neutral versus presentational) revealed that while the elementary and low-intermediate level learners did not show any sensitivity to the focus structure in their L2 and preferred the word-order SV even for the presentational focus contexts, the high-intermediate and advanced level learners exhibited a high sensitivity to the focus structure and used VS word-order in presentational focus contexts similar to the native Spanish speakers.

Hertel (2003) concluded that there was a developmental path for L2 learners in their acquisition of L2 word-order. And although even the advanced group could not be completely native-like in their syntax-semantic (lexical verb) mapping due to overgeneralization of VS word-order of unaccusatives for unergative verbs, they were native-like in their sensitivity to the focus structure properties of the target language. Regarding the findings on L2 focus marking, Hertel (2003) concluded that as the proficiency level increases, the dependency on the L1 may decrease and L2 learners can behave more native-like in their focus-marking behavior in the L2.

Lozano (2006) also investigated how L2 learners process word-order alternation of intransitive verbs (unaccusatives and unergatives) in Spanish depending on lexical–semantic information of the verb and the focus structure in the context. Lozano's participants were advanced L2 learners of Spanish that had Greek and English as their L1. Greek is similar to Spanish in verb type, word-order and information structure relations for intransitive verbs. In both languages, a VS order is used for unaccusative verbs and SV order is used for unergative verbs in neutral contexts where the whole sentence conveys new information. And in both languages,

regardless of the verb type, a VS structure is used when the sentential subject introduces new information; i.e., presentational focus. English does not use any word-order variance depending on the verb type or information structure of the sentence (except for ditransitive structures).

The participants took part in an acceptability judgment task in which they were presented with contexts similar to those in Hertel's (2003) study where there is a lack of information between two speakers and one of them asks a question which requires either a discourse neutral answer such as *Que paso?*(What happened?) or requires an answer with presentational focus on the subject such as *Quién llegó?* (Who arrived?). The participants were asked to judge the acceptability of the answers as in (31a-b) from -2 to +2. The context were presented in the participants' L1 to ensure comprehension (which makes L1 and L2 input less comparable), but the questions and the options for the answers were always in Spanish.

(31) The context: You are at a party with your friend Laura. Laura leaves the room and at that moment, the police arrive because the party is too noisy. When Laura comes back, she asks you: ¿Quién llegó?' You answer:

a. La policia llego. (The police arrived.)

b. Llefo la policia. (Arrived the police.)

(Lozano, 2006, p. 165)

The results of the study showed that the L2 learners (both Greek and English) were sensitive to the verb's lexical type (i.e., unaccusative or unergative) in their judgments of discourse neutral contexts in which the whole sentence presented new information. That is, the L2 learners correctly preferred SV for unergative verbs and VS order for unaccusative verbs in neutral contexts suggesting that their use of the

lexical-semantic information of the verb was similar to that by Spanish L1 speakers. However, the L2 learners diverged from the word-order patterns of native speakers when the word-order choice depended on the focus properties (neutral or presentational) of the sentences. When the questions in the context required answers with presentational focus in which the subject conveyed new information, the judgments of the appropriateness of the VS or SV orders indicated that both English and Greek L2 learners of Spanish found the SV word-order acceptable in presentational focus contexts in contrast to the Spanish L1 speakers who preferred VS order in such contexts. Lozano concluded that although L2 speakers were similar to native speakers in their use of syntax-semantics interface, regardless of their L1, they deviated from native speakers at the syntax-discourse interface. That is, although the language users acquired the lexical class distinction (unergative vs. unaccusative) and word-order properties, they could not behave native-like when they needed to take into consideration the fact that the subject presents new information, so it should follow the verb, which is discourse information. Thus, Lozano's findings support the Interface Hypothesis ((Sorace & Filiaci, 2006) see below for more details) in that L2 learners have difficulty processing information that requires integrating syntactic and discourse-level cues.

Belleti et al. (2007) investigated how word-order variance depending on focus structure is acquired by Italian L2 learners. The participants were Italian L1 speakers and English learners of Italian who had near-native fluency in their L2. In Italian, when there is an overt subject (Italian is a pro-drop language) and when a sentence has neutral focus in which the whole sentence represents new information, the subject precedes the verb (SV) except for the unaccusative verbs which require the use of VS order as in Spanish and Greek. But when the sentence has

presentational focus, i.e., when it is only the subject which conveys new information, the subject is positioned post-verbally (VS) as in *parlerà Gianni* (will-talk Gianni). Belleti et al. investigated the use of VS order by L2 learners in a short video task and a story telling task.

In the short video task, the participants watched short videos where some characters in the video did some actions e.g., drinking coffee or phoning. Then, they were asked to respond verbally to questions as in (32a) whose answers would require presentational focus and use of postverbal subjects since the subject would provide new information. The verbs in the questions included a variety of transitive, unaccusative and unergative verbs.

(32) a. Chi ha telefonato?

Who has phoned?

b. Ha telefonato *una ragazza.*

Has phoned *a girl*

(Belleti et al., 2007, p. 664)

The results of the short video task showed that native speakers of Italian used the subject post-verbally for every verb class used in the task. Although English learners of Italian also used post-verbal subjects, that was significantly lower compared to the native speakers. The L2 speakers instead mostly preferred to mark focus on the subject in-situ by prosodic prominence, which is not a focus-marking strategy in Italian.

In the story-telling task, the participants watched a 5-minute silent film and they were asked to tell the film using their own words. This task differed from the short video task in that the context had neutral focus and not the subjects but the whole context presented new information. All actions in the film (e.g., *fall*)

encouraged the use of unaccusative verbs (which requires VS order). The examples in (32) are from the experimental data.

(32) a. Passa un uomo.
goes by a man
'A man goes by.'
b. Cade una pera.
falls a pear
'A pear falls.'

(Belleti et al., 2007, p. 667)

Analysis of production data showed that the number of VS production by English L2 learners of Italian was almost the same as that by the native speakers.

Belleti et al. (2007) argued that L2 learners had the syntactic representations for the position of the subject depending on the semantic information of the verb because in the story telling task, they successfully used the VS order with the unaccusative verbs. On the other hand, the L2 learners faced difficulty in using the correct word-order when they needed to take the focus structure (presentational focus) into consideration. That is, although the presentational focus context in the short video task required the L2 learners to use VS order, they preferred the inappropriate SV order. The L2 speakers' pitch accent placement for presentational focus for the subject was probably an instance of L1 influence. Belleti et al. interpreted that the L2 learners had problems in integrating syntactic representations with discourse information despite their high proficiency in Italian and they were influenced by their L1. These findings support the Interface Hypothesis, detailed below (Sorace & Filiaci, 2006).

3.2.2 Real-time processing of focus in the L2

There have also been studies that examined how L2 learners process focus information in real-time. Studies examining real-time processing of focus in L2 may be more informative on the operations of the L2 parser as they may provide information on when and how language users integrate sources of information (Robert, 2007). The following studies, namely Hopp (2009), Reichle and Birdsong (2014) and Rijswijk et al. (2017) used online methods, e.g., self-paced reading, ERP or eye-tracking, to investigate focus processing in the L2.

Hopp (2009) tested whether L2 learners of German could process changes in word-order that marked the focus structure. There was an offline grammatically judgment task and an online self-paced reading task. The participants were L1 English, L1 Dutch and L1 Russian learners of German who had either advanced or near-native proficiency in German. German requires new information to appear after given information. Therefore, in the contexts where the subject introduces new information and is focused as in (33), the object is defocused and appears before the subject. But, when the object provides new information as required in (34a), the object *den Vater* must follow the subject *der Onkel*, which is also the unmarked order as in (34b). If it does not, the sentence would be infelicitous. In (33) and (34), capitalization indicates the focused constituent.

(33) a. Wer hat den Vater geschlagen? (SUBJECT-Focus)
‘Who beat the father?’
b. Ich glaube, dass den Vater der ONKEL geschlagen hat.
‘I think, the UNCLE beat the father.’

(34) a. Wen hat der Onkel geschlagen? (OBJECT-Focus)

"Who did the uncle beat?"

b. Ich glaube, dass der Onkel den VATER geschlagen hat.

'I think, the uncle beat the FATHER.'

(Hopp, 2009, p.467)

Russian has the same pattern as German in focus marking. In Dutch, the order is the reverse of German as new (i.e., focused) information appears before given information. English has a strict word-order and it does not allow the movement of its constituents to mark focus; focus is marked via pitch accenting (except for ditransitive structures).

In the acceptability judgment task, the participants judged the acceptability of the word-order in one of the sentences in (35). The sentences in (35) followed one of the context questions in (36). In (36a), the question requires a response with neutral focus in which the whole sentence provides new information. The questions in (36b-c) require a response with presentational focus which either marks focus on the subject (36b) or on the object (36c).

(35) a.Thomas denkt, dass der Vater den Wagen kauft. (SO)

b. Thomas denkt, dass den Wagen der Vater kauft. (OS)

'Thomas thinks the father bought the car.'

(36) a. ALL-Focus: What happened?

b. SUBJECT-Focus: Who bought the car?

c. OBJECT-Focus: What did the father buy?

(Hopp, 2009, p. 470)

The results of the acceptability judgment task showed that the native German speakers preferred given-before-new, i.e., the OS order as in (35b), when the subject

was focused in the context as in (36b), but in all-focus and object-focus conditions (36a and 36c, respectively), they preferred the unmarked SO order as in (35a). The Russian and Dutch L2 learners' judgments were affected by their L1 in the L2. Russian L2 learners of German, regardless of their proficiency level, were German-like in that they also used OS order when the context required marking focus on the subject and they used SO order when the context required focusing the whole sentence or the object. Dutch L2 learners, regardless of their proficiency level, used OS word-order to mark the object as focus in contrast to German L1 speakers. English L2 learners' judgments were affected by their L2 proficiency. English L2 learners with near-native proficiency in German behaved native-like and used OS order in subject-focused condition and SO order in all-focus condition and object-focus condition. However, the advanced English learners did not prefer OS order sentences as more acceptable for the subject focus contexts compared to SO order in such contexts.

In the self-paced reading task, the readers were presented with a context which included a question. The question in the context required an all-focus response as in (37a), a subject-focus response as in (37b) or object-focus response as in (37c). Following the context and the question, a response was given, which has either SO (38a) word-order, which would have all-focus or object-focus, or OS (38b) word-order which would focus the subject. The participants read the context as a whole but the responses to questions in segments.

(37) a. ALL-Focus: "In the factory, the machines ground to a standstill last Monday. What had happened?"

b. SUBJECT-Focus: "In the factory, the worker was distracted by someone last Monday. Who distracted the worker?"

c. OBJECT-Focus: “In the factory, the apprentice distracted someone last Monday. Who did the apprentice distract?

(38) a. Ich glaube, dass der Lehrling am Montag den Arbeiter abgelenkt hat. (SO)
I think that the.NOM apprentice on Monday the.ACC-worker distracted has

b. Ich glaube, dass den Arbeiter am Montag der Lehrling abgelenkt hat. (OS)
I think that the.ACC-worker on Monday the.NOM-apprentice distracted has

(Hopp, 2009, p.473)

The reading times for the first NP (subject or object), adverb and the second NP (subject or object) in total showed that native speakers, regardless of their proficiency level, L1 Russian and L1 English learners of German behaved similarly in their processing of focus. Russian and English speakers behaved similar to German speakers when the focus type induced by the context and the question in (37) did not match the focus structure of the response in (38). For example, (37b) requires a response in which the subject is focused because it will give new information, so when it was followed by a response with SO word-order as in (38a), where the object is focused, the readers spend longer time on reading the given regions. Dutch L2 learners of German, however, were not affected by the word-order of the responses; i.e., they did not perceive a certain type of word-order as a signal of different focus structure.

Overall, Hopp’s (2009) findings show that with a similarity of focus marking properties in L1 and L2 and with high level of proficiency, it is possible for L2

learners to process the focus structure in L2 in a similar way to the native speakers of that language. For Dutch learners of German, Hopp argues that different properties of focus marking between L1 and L2 pose computational difficulties for L2 learners to map discourse information on the syntax in L2.

Reichle and Birdsong (2014) investigated how focus structure is processed in French by both native speakers and English L2 learners of French who had low and high proficiency level. They specifically examined whether or not the participants' brain responses, i.e., event-related potentials (ERPs) would differ for informational focus and contrastive focus and whether or not L2 proficiency has any effect on focus processing in L2. In English focus marking is realized mostly via pitch accenting. French also uses pitch accenting as a focus marking strategy but it heavily uses syntactic constraints to indicate focus through c'est cleft, a construction similar to the English it cleft. It was predicted for L1 French speakers that processing both informational and contrastive focus would lead to an increase in positivity, more specifically P3 effects. P3 is a positive going waveform observed around 300 ms and Reichle and Birdsong (2014) attribute this effect to resolution of uncertainty. Since both informational and contrastive focus is used as a means of information delivery and so help to resolve uncertainty, they both may give rise to P3 effect. On the other hand, processing contrastive focus would cause an increase in negativity, LAN (left anterior negativity). LAN is observed when there is an increase in working memory load. Since processing contrastive focus would require keeping a set of alternatives in mind and that would lead to an increase in working memory load, at the word with contrastive focus a LAN effect was predicted. Thus, while informational focus would cause only P3 effect, contrastive focus would cause both P3 and LAN effects. For L2 speakers, Reichle and Birdsong predicted that a language proficiency effect in which

the L2 learners with higher proficiency would show similar ERP patterns as native French speakers.

The participants were presented with photographs of household objects and question-response pairs related to those photographs. While the questions for informational focus and contrastive focus conditions were different (e.g., (39a) and (39b), respectively), the target response (e.g., (39c)) was the same. The participants' task was to look at the photograph and silently read the question-response pairs. They also indicated whether the response they saw was acceptable in French or not by pressing on a button.

(39) a. Contrastive Focus:

Est-ce que c'est un verrre ou ın marteau qu' on voit sur la table?

'Is it a glass or a hammer that we see on the table?'

b. Informational Focus:

C'est quoi qu'on voit sur la table?

'What do we see on the table?'

c. Target Sentence:

C'est un marteau qu'on voit sur la table.

'It's a HAMMER that we see on the table.'

(Reichle & Birdsong, 2014, p.13)

The results showed that both native French speakers and English L2 speakers of French with both proficiency levels had an increase in positivity (P3 component) for both types of focus. Yet, the contrastive focus condition yielded different results for the LAN component across the two L2 proficiency groups. That is, when the question required an answer with contrastive focus, the L2 group with low-level proficiency did not show any effects of LAN component. But, the L2 learners of

English with high proficiency had an increase in negativity (LAN component) and this was similar to L1 data. Reichle and Birdsong concluded that native-like focus processing in L2 is possible with an increased proficiency in the L2. The non-native behavior of low-level L2 learners was attributed to computational difficulties at syntax-discourse interface again (Sorace & Filiaci, 2006). That is, Reichle and Birdsong claim that since the L2 learners already have computational limitations at the syntax-discourse interface, their processing of contrastive focus may be hindered since it leads in an extra burden on the working memory.

More recently, Rijswijk, et al. (2017) investigated, in an eye-tracking experiment, how heritage speakers of Turkish process focus in Dutch and how that compares to native speakers of Dutch. Both in Turkish and Dutch, pitch accenting is used as a means of focus marking. Turkish also allows for scrambling to mark narrow focus. But the two languages differ with respect to their word-orders and this has certain ramifications in focus marking in general. In discourse-neutral contexts, while broad focus is marked on the rightmost constituent in Dutch, in Turkish it is realized mostly on the immediately preverbal position. Also, Dutch has no syntactic limitations for focus marking but Turkish marks focus preverbally (post-verbal focus-marking is not allowed). Recall from Stolterfoht et al.'s (2007) study that when a broad focus context is followed with a contrastive ellipsis, the focus structure of a sentence needs to be changed from broad focus to narrow focus. And, when the information in the contrastive ellipsis does not match the focused constituent in the main clause, which is determined by default focus expectations, there is a need for prosodic revision. Given this observation and the differences in Turkish and Dutch in their marking of focus, Rijswijk et al. examined how heritage speakers of Turkish would behave in a context where a focus revision or/and prosodic revision is

required. Regarding the broad focus position in Dutch (the rightmost constituent), the experimental conditions included either a contrastive ellipsis which is congruous with the focused constituent *in het steegje* in the main clause as in (40a) or a contrastive ellipsis which is incongruous with the focused constituent *De barman* in the main clause as in (40b). In (40c) and (40d), focus was marked through the focus particle *Enkel* (only) and these conditions had narrow focus, so no revision for focus or prosody was required.

(40) a. De barman rookt zijn sigaretten in het steegje, niet in het zaaltje.
'The barkeeper smokes his cigarettes in the alleyway, not in the party room.'

b. De barman rookt zijn sigaretten in het steegje, niet de tiener.
'The barkeeper smokes his cigarettes in the alleyway, not the teenager.'

c. Enkel de barman rookt zijn sigaretten in het steegje, niet de tiener die niet rookt.
"Only the barkeeper smokes his cigarettes in the alleyway, not the teenager.

d. De barman rookt zijn sigaretten enkel in het steegje, niet in het zaaltje waar dat verboden is.
"The barkeeper smokes his cigarettes only in the alleyway, not in the party room.

(Rijswijk et al., 2017, p.990)

Regressions on the subject, regressions on the prepositional phrase (PP) in the main clause and total fixation durations on the contrastive ellipsis region were examined. There was no significant difference between Dutch L1 and L2 speakers in the

number of regressions on the subject or on the PP. However, total fixation durations on the contrastive ellipsis region showed that for Dutch L1speakers, there was no difference between the reading times of the contrastive ellipsis in (40a) where the broad focus is on the PP and (40d) where the narrow focus is on the PP. This result showed that focus revision from broad to narrow in (40a) did not cause longer reading times than focus revision from narrow to narrow in (40d). However, the Dutch L1 speakers read the contrastive ellipsis in (40b) in a longer time than (40c). In (40b) they expected focus to appear on the PP *in het steegje* (in the alleyway), but the upcoming information in the contrastive ellipsis, which marks focus on the subject *niet de tiener* (not the teenager), did not match their expectation. Since in (40c) the focus particle already informed them that the focus would be on the subject *De barman* (the barkeeper), the contrastive ellipsis there was read more easily. As for Turkish L2 speakers, while no focus revision effect was observed between (40b), which requires a revision from broad to narrow and (40c), which requires a revision from narrow to narrow, Turkish L2 heritage speakers of Dutch experienced more difficulty in reading (40a) compared to (40d). In (40a), the focus was expected to appear on the subject *De barman* (the barkeeper), but when the contrastive ellipsis involved the PP niet in het zaaltje (not the party room), this did not match their expectations and caused longer reading time than (40d) where they were already aware that the focus was on the PP *in het steegje* (in the alleyway) because of the focus particle. These results demonstrated that while no focus revision was observed by Dutch L1 and L2 speakers, Dutch native speakers assigned focus to the PP in the main clause, which is the rightmost constituent, Turkish heritage speakers of Dutch assigned focus to the subject in the main clause, which cause different prosodic revision effects. Rijswijk et al. (2017) argued that these findings indicate that Turkish

heritage speakers were influenced by Turkish constraints, the allowance for only preverbal focusing, in their Dutch processing. That is, since their heritage language Turkish does not allow post-verbal focus placement, they placed focus on the only preverbal constituent; subject in Dutch.

Rijswijk et al. (2017) explained that although Dutch was the dominant language of the Turkish heritage speakers in this study, they still were affected by the syntactic patterns of their L1 when they needed to integrate the syntactic information and discourse information, which may be challenging to do in an L2.

The L2 studies presented above are inconclusive on how L2 learners process focus. While some found evidence for native-like focus processing at higher proficiency levels (Hertel, 2003; Hopp, 2009; Marefat, 2005; Reichle and Birdsong, 2014), others showed, even at high proficiency levels, that L2 speakers could not behave similar to native speakers; and this was attributed to the challenges in integrating syntactic information and discourse information (Belleti et al. 2007; Lozano, 2006; Rijswijk et al. 2017) supporting the Interface Hypothesis (Sorace & Filiaci, 2006), whose details will be discussed in the following section.

3.3 Theoretical models of L2 processing

The possibility to reach native-like performance has been one of the major questions in L2 processing studies (Clahsen & Felser, 2006; Hopp, 2006; Sorace &Filiaci, 2006 among others). More recently, L2 studies have started to investigate how L2 learners process the target language at the interfaces of distinct modules of language faculty such as syntax, semantics or morphology (e.g., syntax-semantics interface); or at the interfaces of these modules with other cognitive domains such as pragmatics or discourse requiring the integration of contextual information (e.g., syntax-

discourse interface) (Montrul, 2011). One such interface which may pose difficulties for L2 learners is the syntax-discourse interface where the language users need to use syntactic representations in a way that would be contextually appropriate. While most first language users face little difficulty in processing structures requiring computations at the syntax-discourse interface (cf., pathological cases, though: March, Pattison & Wales, 2009 –participants with Alzheimer's disease; Burkhardt et al., 2008 – participants with Broca's aphasia) L2 speakers have been reported to encounter problems which may be due to the fact that the violations at syntax-discourse interface may lead to unacceptable interpretations, but they do not result in a strict ungrammaticality (Sorace & Filiaci, 2006; Sorace & Serratrice, 2009).

Focus processing requires language users to integrate syntactic and discourse-related representations. Languages may have strict syntactic constraints to mark focus (e.g., preverbal focus marking in Turkish (Erguvanlı, 1984); new-before-given constraint in Dutch (Hopp, 2009)). In addition, different syntactic constructions may yield different configurations of focus (e.g., canonical word-order, broad focus; non-canonical word-order, narrow focus (Brown et al. 2012; Göksel & Özsoy, 2003)). Thus, a language user needs to involve syntactic as well as discourse-related mechanisms successfully to be able to process focused information. How L2 learners process focus in L2 can inform on L2 parsing mechanisms especially in their ability to integrate syntactic and discourse-level cues.

As was noted in Chapter 4, the present study investigates how advanced-level Turkish L2 learners of English process focus in their L2 through ditransitive structures followed by replacive phrases such as (41) below (see Ch.4 Section 4.4.2 for more details of experimental items).

(41) a. The presenter gave the flowers to the director yesterday, not to the actress/not the trophy/not the organizer.

b. The presenter gave the director the flowers yesterday, not the trophy/not to the actress/not the organizer.

The sentences in (41) require integration of syntactic and discursive information. According to Kahnemuyipour's (2009) Sentential Stress Rule, sentential stress is assigned at phases which are determined syntactically, so the L2 learners need to have necessary syntactic representations to assign stress to the correct position, which is assumed to be the rightmost object *to the director* in (40a). And, the word-order of the objects in ditransitive structures can be informative on the focus structure (broad vs. narrow) in English. That is, the dative construction in (41a) is assumed to be the canonical word-order (Brown et al. 2012; Clifton & Frazier, 2004) and the constituent assigned stress in this construction has broad focus, where all information in the sentence is new (Kahnemuyipour, 2009). On the other hand, double-object constructions as in (41b) are presumed to be non-canonical (Clifton & Frazier, 2004; Brown et al. 2012) as the direct object is moved to the second object position to get focused. This movement yields a narrow focus reading. Therefore, syntax is argued to be encoded in the information structure in these constructions (Brown et al., 2012).

Given that the present study investigates focus processing, which requires a successful computation at syntax-discourse interface, in this section, I will outline a model which makes precise predictions regarding L2 learners' behavior during focus processing, which is Interface Hypothesis by Sorace and Filiaci (2006), and an approach which has predictions applicable to focus processing, which is Hopp's (2006, 2009, 2010) approach to L2 behavior.

The Interface Hypothesis (hence forth, IH) by Sorace and Filiaci (2006) and Sorace (2011) is the most informative approach to L2 processing of information at the syntax-discourse interface. The IH maintains that while it is possible for L2 learners to acquire features within the core of grammar and compute those grammatical representations in a native-like fashion (albeit with a potential delay), interfaces containing syntax and another cognitive domain might be more difficult to process and they may be processed incompletely even in the end-state L2 grammar. Tsimpli and Sorace (2006) and Sorace and Serratrice (2009) further argue that interfaces which involve a link between the sub-modules of language such as syntax, semantics or phonology and other external cognitive domains such as discourse or pragmatics may present prolonged challenges for L2 learners compared to interfaces which include only the sub-modules of a language such as syntax, semantics or phonology. In syntax-discourse interface, the communicators need to use a grammatical representation appropriately in a certain context. Computing syntactic information depending on the discourse may cause extra computational burden for L2 learners because of the "insufficient processing resources" (Sorace & Filiaci 2006, p. 340), so the performance of L2 learners may never become native-like at this interface. Sorace and Filiaci (2006) investigated the IH in a study on anophora resolution in near-native English learners of Italian and they found that although English L2 learners had the null-subject grammar in their L2 representations, they could not use the null-subject parameter appropriately in contexts that required use of a null-subject.

As reviewed in the previous experimental studies and also explained in this section above, focus processing requires integration of syntactic and discourse-related cues, so its processing would require processing information at the syntax-

discourse interface. Given the predictions of IH, the L2 speakers in the present study would not be able to process focus information in a way similar to native speakers. That is, although the L2 learners may assign sentential stress to the correct position by following the Sentential Stress Rule (Kahnemuyipour, 2009) as they can compute syntactic information alone during their L2 parsing, they would not be able to compute the differences between broad focus (41a) and narrow focus conditions (41b) since that would require integration of syntactic information (word-order) and discourse information (broad vs. narrow focus).

Hopp (2006, 2009, 2010), on the other hand, argues that the differences between native speakers and L2 learners are not qualitative. He maintains that with increased (i.e., native-like) proficiency in the L2 and with reduced typological differences between the L1 and L2, L2 speakers may be similar to native speakers in their language processing behavior. Although the argument of native-likeness in L2 was put forward for processing syntactic information (Hopp, 2006) and for processing case-marking and subject-verb agreement (Hopp, 2010), the findings in his 2009 study show that when they have high-proficiency in the L2 and their L1 behaves similar to the target language in focus marking, it is possible for L2 learners to process information at the syntax-discourse interface in the L2 similar to L1 speakers. It has been outlined in Ch. 1 that Turkish and English are typologically different and they mark focus differentially. And the participants in the present study have advanced-level proficiency in English but not native-like proficiency as in Hopp's studies. Given Hopp's findings, it seems unlikely for the participants of the present study to behave similar to native speakers due both to their proficiency and to L1 focus marking properties.

Both models/approaches to L2 processing appear to concur that the participants of the present study will not be able to process focus in the same manner as native speakers of English. If they do, that would suggest that L2 speakers can compute information at the syntax-discourse interface and are not affected by L1 properties in focus assignment even at advanced-level proficiency. Detailed predictions will be presented in the Present Study chapter.

CHAPTER 4

THE PRESENT STUDY

This study investigates processing focus in Turkish as a first language (L1) and English as a second language (L2). More specifically, it examines how first and second language users assign focus (broad/narrow) in a sentence and how that influences their sentence comprehension. Although how focus is marked in Turkish has received much attention in theoretical work (Erguvanlı 1984; Göksel & Özsoy, 2000, 2003; İşsever, 2003, 2006 among others), to my knowledge, no prior study has examined how it is processed in Turkish. Previous theoretical studies predict for both Turkish and English that sentential stress position is the default focus position (Cinque, 1993; Göksel & Özsoy, 2003, İşsever, 2006; Kahnemuyipour, 2009) and that corresponds to broad focus in which the whole sentence presents new information (Kahnemuyipour, 2009). When focus is placed on another constituent, this corresponds to narrow focus in which the focused constituent carries new information (Kahnemuyipour, 2009). The default/broad focus position is argued to be immediately preverbal in Turkish (Erguvanlı, 1984; Göksel & Özsoy, 2003; İşsever, 2006). For canonical word-order sentences, where the context is neutral, it corresponds to broad focus (Kahnemuyipour, 2009); for non-canonical word-order sentences, where the context is non-neutral, it corresponds to narrow focus (Göksel & Özsoy, 2003; İşsever, 2006; Kahnemuyipour, 2009). English is similar to Turkish in that the position of sentential stress, i.e., the rightmost stress-bearing constituent, is perceived as the default focus position, (Carlson et al., 2009; Clifton & Frazier, 2016; Frazier & Clifton, 1998). In English, focus is marked mostly via pitch accenting in-situ, tough (Selkirk, 1984). (Although that is also a strategy in Turkish, changing

word-order is widely used to mark focus.) Marking focus using syntactic strategies is also possible in English (e.g., it-cleft, there-insertion and pseudocleft structures). Using canonical and non-canonical word-orders to mark focus is limited, though, and is observed for structures with ditransitive verbs (Brown et al., 2012). When a sentence with a ditransitive verb has canonical word-order (dative construction) in English, it has broad focus, when a sentence with a ditransitive verb has non-canonical word-order, (double-object construction) it has narrow focus. This study experimentally tests the predictions for broad/narrow focus assignment in Turkish and English using sentences with ditransitive verbs, which to my knowledge has not been investigated in a previous focus processing study neither in English nor in Turkish. The findings will, therefore, contribute to the literature for English as well as for Turkish sentence processing. But the Turkish data is especially of importance as there is, to my knowledge, no prior study on how focus is processed in Turkish.

Turkish and English are typologically different languages and there are differences as well as similarities across the strategies used for focus marking in each language. Turkish is an SOV language where heads follow their complements and English is an SVO language where heads precede their complements. These word-order properties appear to affect the default position for focus marking in these languages (mostly immediately preverbal in Turkish and rightmost in English). Regarding focus marking strategies, Turkish allows for the movement of any constituent to the immediately preverbal position to mark focus, but English is more limited in movement as a strategy to mark focus (cf. the dative alternation). And although Turkish, similar to English, uses pitch accenting to mark focus, it has a syntactic constraint which limits accentuation to mark focus only preverbal constituents (Erguvanlı, 1984; Göksel & Özsoy, 2000). English is rather flexible in

using pitch accenting in-situ as a focus marking strategy. Given the flexibility of scrambling but the preverbal focus-marking constraint in Turkish and the flexibility of pitch accenting in any position but the limited use of scrambling to mark focus in English, examining the focus assignment behavior of Turkish L2 learners can be informative for L2 parsing, specifically for syntax-discourse interface. That is, assignment of sentential stress requires L2 learners successfully follow sentential stress assignment rules in the target language, which is driven by syntax; and focus processing requires integration of syntactic and discourse-related representations. To be able to assign focus properly, a language learner needs to know what a syntactic structure tells about the information structure of the target language. In the present study, the L2 learners should be aware of the fact that the discourse information (i.e., given-before-new principle) triggers a change in the syntactic structure (i.e., word-order). Thus, whether L2 learners could behave native-like in focus processing will inform us on how their parsing mechanism work when they need to take both syntax and discourse information into consideration.

The present study employs both offline and online measures to explore sentence processing behavior by L1 and L2 speakers. The sentence completion tasks (Experiments 1 and 3) were employed to examine whether or not L1 and L2 users assign focus to a specific position as predicted by the theoretical work. The eye-tracking experiments (Experiments 2 and 4) investigated how different focus structures (broad and narrow) are processed in real-time. Eye-tracking methodology has several advantages in examining real-time parsing decisions. With eye-tracking, reading is more natural (although still in laboratory settings) as experimental stimuli can be presented without interrupting the flow of reading (cf., self-paced reading tasks; Conklin & Pellicer-Sánchez, 2016; Rayner & Sereno, 1994). In addition, the

eye-tracking methodology provides a comprehensive record of different stages of eye-movements from earlier to later measures of reading (Pickering et al., 2004, Roberts & Siyanova-Chanturia, 2013) and can inform on the cognitive processes that readers experience in a more detailed and multidimensional way (Just & Carpenter, 1980; Rayner, 1998, 2009; Rayner et al., 1989). Early measures of eye-tracking inform on processing stages such as lexical access (Rayner, 1998). Later measures of eye-tracking are considered to reflect "comprehension of a text, information reanalysis, discourse integration, and recovery from processing difficulties" (Roberts & Siyanova-Chanturia, 2013, p. 217). This study investigates focus processing, which require integration of syntactic information into context, and revision to focus structure which requires recovery from a potentially mis-assigned focus. Thus, the eye-tracking experiments can be informative for similarities and differences in information processing at the syntax-discourse interface and its timing in L1 and L2 sentence processing.

Overt prosodic cues (e.g., pitch accentuation) as well as syntactic cues are important to assign/process focus and explicit encoding of prosodic features are limited in written language. But the Implicit Prosody Hypothesis (IPH, Fodor, 1998, 2002) predicts that readers project the (default) prosodic contours of spoken language during silent reading. It would have been desirable to also employ a task or tasks that would involve spoken language but since the present study manipulates only the syntactic strategies (i.e., word-order) to mark focus, given the predictions of the IPH, the sentence completion tasks and the eye-tracking experiments would be sufficient to inform on language-specific and cross-linguistic strategies to mark/revise focus.

4.1 Experiment 1: Sentence completion task in Turkish

Experiment 1 examines if Turkish speakers prefer a specific position to place sentential stress/broad focus and narrow focus in Turkish. Recall from Chapter 2 that theoretical literature predicted for Turkish sentential stress to be placed mostly on the immediately preverbal position (Göksel & Özsoy, 2000, 2003; İşsever, 2006; Kahnemuyipour, 2009). The theoretical literature also predicted sentential stress to correspond to the default (i.e., broad) focus position (in Turkish) in which the whole sentence carries new information (Göksel & Özsoy; 2003; İşsever, 2006; Kahnemuyipour, 2009). For Turkish sentences with canonical word-order, both sentential stress and default (broad) focus would be placed on the immediately preverbal constituent and the whole sentence would present new information. For a sentence that is not in canonical word-order, the immediately preverbal constituent is predicted to receive focus, but it would be narrow focus there (Göksel& Özsoy, 2003; İşsever, 2006; Kahnemuyipour, 2009) and the immediately preverbal constituent itself would present new information.

Experiment 1, employing a sentence completion task, was conducted to test these theoretical predictions for Turkish sentential stress/broad focus and narrow focus placement. Specifically, it examined whether the immediately preverbal object in a sentence with a ditransitive verb would be assigned focus by L1 Turkish speakers. Their completion preferences for the replacive phrases would reveal that. If they do so, I assume that the immediately preverbal constituent is assigned broad focus in canonical word-order sentences and narrow focus in non-canonical word-order sentences but evidence for that will be available in the eye-tracking experiment.

4.1.1 Participants

Thirty-eight native speakers of Turkish (females= 24) whose age ranged from 19 to 31 (*M* = 20.76, *SD* = 2.19) participated in this experiment (See Appendix A for Ethics Committee Approval for this and following experiments.). All of the participants were native speakers of Turkish and students of Boğaziçi University, either at bachelor's or master's level. Each participant was asked to complete a background questionnaire (see Appendix B) before data collection process. The bachelor level students received course credit for participation. The graduate students did not receive any compensation for their participation. All participation in the study was voluntary and informed consent was obtained before commencement of data collection. The participants were naïve to the purpose of the study.

4.1.2 Materials

All experimental sentences included a main clause with a ditransitive verb and a following phrase (henceforth, a replacive phrase) that would contrast with one of the constituents in the main clause. In Experiment 1 (and the following experiments), focus structure of the main clause was manipulated via the word-order of objects in the main clause: canonical word-order as in (1a), or non-canonical word-order as in (1b). The constituent in the replacive phrase was left blank and the participants were to fill it in with a word that could contrast with the indirect object, the direct object or the subject.

(1) a. Defne Hanım çiçeğ-i yönetmen-e ver-di,_____ değil.
Defne Miss-NOM flowers-ACC director-DAT give-PST.3SG not

b. Defne Hanım yönetmen-e çiçeğ-i ver-di,_____ değil.

Defne Miss-NOM director-DAT flowers-ACC give-PST.3SG not

'Miss Defne gave [the flowers to the director]/ [the director the flowers], not _____.'

Options:

a) aktör-e (actor- DAT) 'to the actor'

b) ödül-ü (the throphy-ACC) 'the trophy'

c) Selin Hanım (Selin Miss- NOM) 'Miss Selin'

There were 24 experimental sentences in Experiment 1, each with two versions as outlined in (1), adding up to a total of 48 sentences. The experimental sentences were distributed across two lists controlling for focus structure (broad vs. narrow). The direct object, the indirect object, and the subject were distributed in the (a), (b), and (c) options in a balanced way. The experimental sentences were intermingled with 36 fillers in each list. 24 of them were included to disguise the experimental items. 16 of the disguise fillers had a main clause with a ditransitive verb similar to experimental sentences but they were followed by a phrase which emphasized the truth value of the main clause, not a certain constituent. These fillers were included to prevent any expectancy for a narrow focus reading in the main clause. Eight of the disguise fillers had the replacive phrase *"_____ değil*" (*not* _____) contrasting with a constituent of the main clause as in the experimental sentences, but the main clause did not include a ditransitive verb to prevent any expectancy for a ditransitive verb in the main clause. The remaining 12 filler sentences had structures different from the experimental sentences. (See Appendix C for the list of fillers.)

4.1.3 Procedure

The sentence completion task was conducted on an online platform, IBEX Farm (https://spellout.net/ibexfarm/). The participants received a link for the task via e-mail. In the task, each sentence was presented, on a separate screen, to the participants and was followed by three options on the same screen. The participants' task was to choose which of the listed options would complete the sentence the best. They indicated their preference by clicking on the option. Upon their response, the next sentence and its three options appeared on the screen. The task was not timed.

4.1.4 Predictions

Kahnemuyipour's (2009) Sentential Stress Rule (SSR) predicts for a context-neutral sentence that the constituent carrying sentential stress also carries broad focus. Although this has been confirmed with empirical evidence in English (Carlson et al., 2009; Clifton & Frazier, 2016; Frazier & Clifton, 1998), it has not been experimentally tested for Turkish. If the position of sentential stress is also the default focus position in Turkish, the Turkish speakers are predicted to place sentential stress on the immediately preverbal position in canonical word-order sentences (Göksel & Özsoy, 2000, 2003; İşsever, 2006). Considering that the direct object-indirect object (DO-IO) order is the canonical word-order in Turkish (Erguvanli, 1984; Erkü, 1983; Kornfilt, 1997), the indirect object in the immediately preverbal position in (1a) is predicted to be assigned sentential stress and broad focus (Kahnemuyipour, 2009). In a non-canonical word-order sentence as in (1b), the immediately preverbal constituent cannot carry sentential stress/broad focus and is assigned narrow focus by Focus Stress Rule (Kahnemuyipour, 2009). Thus, in (1b) the immediately preverbal direct object will have narrow focus.

The participants' sentence completion preferences were predicted to align with these. That is, they were predicted to complete the replacive phrase region with a constituent that would contrast (i.e., be congruous) with the immediately preverbal position. For sentences with canonical word-order as in (1a) that would correspond to a constituent that is in the same alternative set with the indirect object. For sentences with non-canonical word-order as in (1b), that would correspond to a constituent that is in the same alternative set with the direct object. Note that the options also included constituents that would contrast with the subject of the main clause. This option was specifically added as a control condition. It is assumed in Turkish that the subject position is considered to convey background information (Erguvanlı, 1984). Thus, the preference for the subject to complete the replacive phrase would be much lower than the (in)direct object conditions in both (1a) and (1b) because that would put the new/prominent information into the background information position.

4.1.5 Results

The data were analyzed for percent choices to complete the replacive phrase region. The results are summarized in Table 1 below.

Table 1. Mean Percentages of (In)Congruous Completions for the Replacive Phrase Region

Conditions		Preference for Replacive Completions
Broad Focus (Canonical Order)	Congruous	32.7
	Incongruous Object	13.92
	Incongruous Subject	3.28
Narrow Focus (Non-Canonical Order)	Congruous	29.82
	Incongruous Object	16.66
	Incongruous Subject	4.16

The results showed that the participants were overall more likely to complete the replacive phrase region with a constituent that would contrast and be congruous with the constituent in the immediately preverbal region (62%) than with a constituent that would be in the alternative set of another argument in the main clause (38%). This was so for both the Broad Focus conditions (*M* =32.12%) and for the Narrow Focus conditions (*M* =29.82%). The data also indicated that the overall preference to complete the replacive phrase region with the subject was quite low (*M* =7.44%). A generalized linear mixed model (Marschner, 2011) on the R statistical computing software (R Core Team, 2020) was used to analyze if Broad or Narrow focus predicted the sentence completion preferences better. Focus was the fixed effect and subjects and items were random effects. This analysis revealed no reliable difference in completing the replacive phrase region with a congruous constituent in the Broad Focus and Narrow Focus conditions, $z = 1.36$, $p = .17$.

4.1.6 Discussion

The results of the sentence completion task confirmed the theoretical predictions in that the participants perceived the information in the immediately preverbal position as the focused information in both sentences with canonical order (1a) and sentences with non-canonical order (1b). In addition, the participants found the subject position for focus as the least acceptable position as predicted probably because it is the position for background information (Erguvanlı, 1984).

It is assumed that the participants assigned broad focus in canonical order sentences and narrow focus in non-canonical order sentences but it is not clear with the data from a sentence completion task. Data from the eye-tracking experiment would be more informative on that. If they did so, it is also not clear if assigning

different types of focus required different operations. Previous research showed that processing narrow focus is slower than processing broad focus as it requires deeper encoding of that constituent and deeper integration of that constituent to the preceding context (Lowder & Gordon, 2015). The sentence completion task does not inform on the timing of sentence processing behavior. For that, we would also need to examine the data from the eye-tracking experiment.

4.2 Experiment 2: Eye-tracking experiment in Turkish

Although the results of the sentence completion task were informative on the default focus position in Turkish, they did not inform on how broad and narrow focus are processed in Turkish. As was mentioned above, Lowder and Gordon (2015) reported that processing narrow focus requires deeper encoding of the narrowly focused constituent. This is reflected as longer time to process narrow focus compared to broad focus during sentence processing. The eye-tracking experiment, with measures sensitive to the timing of processing behavior, can inform on that. Experiment 2, thus, specifically examines if there is any difference in the processing cost between broad focus and narrow focus (Lowder & Gordon; 2015; Reichle & Birdsong, 2014). The sentential materials also require revision to the focus structure of the main clause. This manipulation will allow for if recovering from narrow focus (i.e., deeper encoding) would be more or less costly than recovering from broad focus (Benatar & Clifton, 2014; Stolterfoht et al., 2007). As in Experiment 1, Experiment 2 also tests if the readers assign focus to a particular position in a sentence. But Experiment 2 can provide data on how soon this decision is made.

Experiment 2 employed the same experimental sentences in Experiment 1, but the replacive phrase was not left blank in this experiment. The replacive phrase

contrasted with one of the constituents (the subject, the direct object or the indirect object) in the main clause. The focus structure of the main clause (broad vs. narrow) and the prosodic congruency of the replacive phrase with the focused constituent (congruent vs. incongruent) were manipulated. These manipulations allowed for investigating whether or not the immediately preverbal position was perceived as broad focus position in canonical word-order sentences and as narrow focus position in non-canonical word-order sentences. They would also inform on the processing cost of broad versus narrow focus and the cost of revision from broad-to-narrow versus narrow-to-narrow focus.

4.2.1 Participants

Forty-three L1 Turkish speakers (females= 29) whose age ranged from 19 to 31 (M = 20.67, SD = 2.07) participated in this experiment. (38 of the participants also took part in the sentence completion task but there was a two-week interval between the two experiments.) All of the participants were native speakers of Turkish and students of Boğaziçi University, either at bachelor's or master's level. Each participant was asked to complete a background questionnaire before data collection process. The participants had normal or corrected-to-normal (with glasses or contact-lenses) vision. The bachelor level students received course credit for participation. The graduate students did not receive any compensation for their participation. All participation in the study was voluntary and informed consent was obtained before commencement of data collection. The participants were naïve to the purpose of the study.

4.2.2 Materials

As stated above, the focus structure and the prosodic structure of the experimental sentences were manipulated. The focus structure was manipulated via the word-order of objects in the main clause: canonical word-order leading to broad focus assignment to the immediately preverbal constituent as in (2a-c) or non-canonical word-order leading to narrow focus assignment to the immediately preverbal constituent as in (2d-f). The prosodic structure was manipulated via the replacive phrase, ____ *değil* (not ____), which contrasted either with the immediately preverbal constituent creating prosodic congruency as in (2a,d) below, or with another constituent, the (in)direct object as in (2b,e) or the subject as in (2c,f), creating prosodic incongruency.

(2) a. Broad Focus / Congruous Indirect Object:

Defne Hanım çiçeğ-i yönetmen-e ver-di, aktör-e değil.

Defne Miss-NOM[3] flowers-ACC director-DAT give-PST.3SG actor-DAT not

b. Broad Focus / Incongruous Direct Object:

Defne Hanım çiçeğ-i yönetmen-e ver-di, ödül-ü değil.

Defne Miss-NOM flowers-ACC director-DAT give-PST.3SG trophy-ACC not

c. Broad Focus / Incongruous Subject:

Defne Hanım çiçeğ-i yönetmen-e ver-di, sunucu değil.

Defne Miss-NOM flowers-ACC director-DAT give-PST.3SG presenter-NOM not

d. Narrow Focus / Congruous Direct Object:

Defne Hanım yönetmen-e çiçeğ-i ver-di, ödül-ü değil.

Defne Miss-NOM director-DAT flowers-ACC give-PST.3SG trophy-ACC not

[3] Turkish nominative case is morphologically null.

e. Narrow Focus / Incongruous Indirect Object:

Defne Hanım yönetmen-e çiçeğ-i ver-di, aktör-e değil.

Defne Miss-NOM director-DAT flowers-ACC give-PAST.3SG actor-DAT not

f. Narrow Focus / Incongruous Subject:

Defne Hanım yönetmen-e çiçeğ-i ver-di, sunucu değil.

Defne Miss-NOM director-DAT flowers-ACC give-PAST.3SG presenter-NOM not

'*Miss Defne gave the flowers to the director/the director the flowers, not to the actor/ the trophy/ the presenter.'*

In all the conditions in (2a-f), the constituent in the immediately preverbal position in the main clause is predicted to carry focus: either broad focus, in canonical word-order, as in (2a-c) or narrow focus, in non-canonical word-order, as in (2d-f) (Erguvanli, 1984; Erkü, 1983; Göksel & Özsoy, 2003; Kahnemuyipour, 2009; Kornfilt, 1997).

A replacive phrase, _____ *değil (not)*, was added after the main clause to examine how revisions are made to the focus structure of the main clause. The replacive phrase presents a contrastive alternative to one of the arguments of the ditransitive verb in the main clause. This would indicate which constituent would have received the focus assignment in the main clause because the focused constituent in the main clause and the constituent in the replacive phrase exist in the same semantic alternative set (Rooth, 1992) and the use of an alternative in the replacive phrase with *değil* (not) informs the readers that the focused constituent in the main clause is the true alternative, not the one in the replacive phrase. Thus, it emphasizes the truth value of a specific constituent in the main clause. The constituent in the replacive phrase sometimes contrasts with the immediately preverbal constituent; then the replacive phrase is prosodically congruent with the

constituent that would receive default focus in the main clause as in (2a,d). The constituent in the replacive phrase sometimes contrasts with a constituent that is not immediately preverbal; then, the replacive phrase is prosodically incongruent with the constituent that would receive default focus in the main clause as in (2b,c,e,f). In addition to prosodic congruency, at the replacive region, the participants would also need to revise the focus structure from either broad-to-narrow or from narrow-to-narrow. In (2a-c), where canonical word-order is used, at the replacive phrase, the participants need to change focus structure from broad focus to narrow focus because then they understand that not the whole sentence, but a specific constituent is focused. In (2b,c), the focused constituent would also need to be revised prosodically because there, the replacive phrase region specifies a set for a constituent that is not immediately preverbal, which creates prosodic incongruency. Thus, the readers need to change the assignment of stress in the main clause from the immediately preverbal constituent to either the direct object (in (2b)) or the subject (in (2c)). In (2d-f), the main clause already has a narrow focus reading, so the participants do not need to make any change in the focus structure at the replacive phrase region, but they need to make a prosodic revision in two of the narrowly-focused conditions (2e,f) because the focused constituent is not the immediately preverbal constituent there, which again causes prosodic incongruency. Hence, the readers need to change the assignment of stress in the main clause from the immediately preverbal constituent to either the indirect object (in (2e)) or the subject (in (2f)).

All of the experimental sentences started with a lead-in phrase such as *Film festivalinde*, (At the movie festival,). The lead-in phrase was used to provide a meaningful discourse to the experimental sentence. The experimental sentences also ended with a content-neutral follow up sentence such as *Organizasyon öyle yapılmış.*

(It was organized that way) to center one of the critical regions (the replacive phrase region) on the screen.

In addition to the manipulations explained above, certain factors were taken into consideration in creating the materials. Inanimate NPs are more likely to be the themes than animates (Dahl & Fraurud, 1996) which may also inform on the focus structure of the sentence. To prevent this, the animacy of the objects in experimental sentences was balanced in four different ways. That is, the twenty-four experimental sentences in each list included six sentences with each animacy condition: animate DO- animate IO, animate DO-inanimate IO, inanimate DO- animate IO and inanimate DO- inanimate IO.

There were 24 experimental sentences in Experiment 2, each with six versions as outlined in (2), adding up to a total of 144 sentences. The experimental sentences were distributed across six lists controlling for focus structure (broad vs. narrow) and prosodic congruency (congruous, incongruous object and incongruous subject). The experimental sentences were intermingled with 72 fillers in each list. 24 of them were included to disguise the experimental items. 16 of the disguise fillers had a main clause with a ditransitive verb similar to experimental sentences but they were followed by a phrase which emphasized the truth value of the main clause, not a certain constituent. These fillers were included to prevent any expectancy for a narrow focus reading in the main clause. Eight of the disguise fillers had the replacive phrase *"*_____*değil*" (*not*_____) contrasting with a constituent of the main clause as in the experimental sentences, but the main clause did not include a ditransitive verb to prevent any expectancy for a ditransitive verb in the main clause. The remaining 48 filler sentences had structures different from the experimental sentences. (See Appendix D for the list of fillers.)

All experimental sentences and filler sentences were followed by a yes/no question to ensure comprehension. The number of *yes* or *no* as the correct answer was equal.

4.2.3 Predictions

Experiment 1 confirmed the predictions of the theoretical literature in that the immediately preverbal constituent is assigned focus in Turkish (Erguvanlı, 1984; İşsever, 2003; Kılıçaslan, 1994). The data from Experiment 1 could not inform on when the immediately preverbal constituent received broad or narrow focus, though. Theoretical work in Turkish predicts for the constituent in the immediately preverbal position to receive broad focus in the canonical word-order sentences as in (2a-c) and narrow focus in the non-canonical word-order sentences as in (2d-f). It has been reported that when there is an increase in the focusing level of a constituent (narrow focus > broad focus), it can result in deeper encoding of a constituent and its deeper integration to the preceding context. This leads to longer reading times for narrowly-focused constituents compared to broadly-focused constituents (Lowder & Gordon, 2015). Narrowly-focused constituents may also have a contrastive meaning (İşsever, 2003) and contrastive focus brings additional processing load on the parser since the readers need to keep a set of alternatives in mind (Reichle & Birdsong, 2014). Thus, it is predicted that Turkish readers would spend longer time to process the immediately preverbal direct object in (2d-f) than the immediately preverbal indirect object in (2a-c) as the former requires narrow focus and the latter requires broad focus. Note that it is possible to see this effect at the preceding word, i.e., the indirect object in (2d-f) and the direct object in (2a-c) due to the case marking on these objects (accusative case marking on direct objects and dative case marking on

indirect objects). Thus, the region preceding the immediately preverbal region will also be examined in the statistical analyses.

Processing the replacive phrase region is also of importance because the replacive phrase region contrasts either with the immediately preverbal constituent as in (2a,d) creating prosodic congruency, or with another constituent (the object in (2b,e) and the subject in (2c,f)), creating prosodic incongruency. It is predicted that the readers will spend longer time to read the replacive phrase region when it is prosodically incongruent than that when it is prosodically congruent because when the replacive phrase region is prosodically incongruent the readers would need to revise the stress assignment in the main clause. That would result in longer reading times.

Note that the information at the replacive phrase region would require some revision for all the conditions in (2a-f), except for (2d). For sentences that are predicted to carry broad focus as in (2a-c), the reader would need to revise focus from broad focus to narrow focus in the main clause. And the readers would need to revise the narrow focus in the main clause and assign it to another constituent in (2e,f) due to the incongruency at the replacive phrase. There will be neither focus revision nor prosodic revision in (2d) since it has both narrow focus in the main clause and a congruous constituent in the replacive phrase. Revising the focus structure from broad to narrow has been reported to be costlier than keeping the narrow focus structure (Stolterfoht, 2007). Thus, it is predicted that reading the replacive region for the sentences in which the ditransitive clause has broad focus (2a-c) may take longer than that for the sentences in which the ditransitive clause has narrow focus (2d-f).

4.2.4 Procedure

The data were collected in a quiet laboratory and the participants' eye movements were recorded using SR EyeLink 1000 Plus system (SR Research, Mississauga, Ontario, Canada). Before the experiment, the participants were informed that they were to read some sentences on the screen and answer a comprehension question related to that sentence. A chin rest was used to stabilize the head of the participants and they were asked not to move their heads during the experiment. A calibration procedure preceded the experiment. During calibration, the participants fixated on nine dots that appeared at different positions on the screen. This process was repeated until an accurate calibration was obtained. The calibration was then validated by the experimenter. The experiment started only after successful calibration and validation.

All the sentences were left-aligned. Between each sentence-question pair, the experimenter accepted the fixation of the participants on another computer screen which was connected to the computer to present the materials. The participants read the sentences at their own pace and moved, with a left-click on the mouse, to a comprehension question for the sentence, which appeared on another screen. The participants answered the comprehension questions by clicking either *yes* or *no* options under the question on the screen and they moved to the next sentence. They did not receive any feedback on their accuracy. There were three warm-up sentences and five practice sentences preceding the experimental session for familiarization. The experimenter stayed with the participants throughout the experiment to drift-check each sentence and to ensure that there were no calibration problems.

Although the participants were offered a break half-way-through the experiment, no participant took a break. The experiment, including calibration and validation, took approximately 30 minutes.

4.2.5 Data analysis

The six standard eye-tracking measures, namely the first fixation duration, gaze duration, regression path duration, re-reading duration, total reading duration and the probability of regression out (Clifton, Staub & Rayner, 2007; Liversedge, Paterson & Pickering, 1998; Rayner et al., 1989; Roberts & Siyanova-Chanturia, 2013), were analyzed. First fixation duration is "the duration of the first fixation on a word regardless of whether it is the only fixation on a word or the first of multiple fixations on a word" (Rayner, 1998, p. 377). Gaze duration (also referred as first pass reading time when the region of interest is more than one word (Clifton et al., 2007; Liversedge et al., 1998; Rayner et al., 1989; Roberts & Siyanova-Chanturia, 2013)) is the sum of all successive fixations made in a region of interest before leaving it either to its left or to its right (Rayner & Duffy, 1986). First fixation duration and gaze duration are considered to inform on the early processes of comprehension such as lexical access (Liversedge et al., 1998; Rayner et al., 1989). The regression path duration (also known as go-past time) refers to "the sum of all the fixations from the first fixation in a region up to but excluding the first fixation to the fight of this region" (Liversedge et al., 1998, p.63). Regression path duration includes regressions to the left of the area of interest and it is considered to reflect the integration processes of a region to the context (Lowder & Gordon, 2015). Total duration refers to the sum of all fixations made in a region of interest including the time spent during a recovery from a processing difficulty (Liversedge et al., 1998). Rereading duration is the duration obtained by subtracting gaze duration from total duration and it is described as "the regression path reading time for a region less the first pass reading time for a region" (Liversedge et al., 1998, p. 63). Finally, the probability of regression out is the probability of skipping a target region with a regressive saccade

to go back to a previously encountered region of text (Cook & Wei, 2017). Regression path duration, rereading duration, total duration and probability of regression out measures reflect later stages of processing such as integrating a word to the previous discourse in the sentence.

Prior to the analyses, fixations longer than 800 ms and shorter than 80 ms were excluded (Morrison, 1984; Rayner, 1978; Rayner et al., 1989) since processing of information during reading is assumed to take less than 800 ms (Rayner et al., 1989) and word recognition takes longer than 80 ms (Rayner & Pollatsek, 1989). To analyze each eye-tracking measure, linear mixed effects models were fit to the data (Bates, Maechler, Bolker & Walker, 2015) in which it is possible to include subject and item level variance in the same model (Baayen, Davidson, & Bates, 2008). All of the analyses were conducted in R statistical computing software (R Development Core Team, 2020) with the *lme4* package (Bates, 2007; Bates et al., 2015).

The analyses were carried out at two critical regions and their spill-over regions. The 4th word corresponding to the constituent in the immediately preverbal region was the first critical region; and the following word, which was the verb, was examined as its spill-over region. The second critical region was the replacive phrase region where the 6th word and the 7th word (*değil*) were merged as one interest area; and the 8th word, corresponding to the first word of the context-neutral follow up sentence, was its spill-over region. Analyses for each region were conducted for each eye-tracking measure described above, each of which represents the dependent variable of the models. The 2nd word was also analyzed because the case marking (dative or accusative) on the first object could also have revealed the focus structure of the sentence before the participants read the immediately preverbal position. But

no significant effect was observed for any of the eye-tracking measures at this region; thus, those analyses will not be reported here.

4.2.6 Results

All the participants answered more than 70% of the comprehension questions correctly. In addition, there was no calibration problem in any participant's data. Focus (Broad Focus and Narrow Focus) and Prosody (Congruous and Incongruous) were two predictor variables. Recall that including the subject contrast in the replacive phrase region was for control purposes in the sentence completion task. It was also included in the eye-tracking experiment to have a comparison condition for L2 speakers' data. (Details will be presented in Experiments 3 and 4.) This resulted in two incongruous conditions, Incongruous Object and Incongruous Subject, and one congruous condition, Congruous Object. To compare Congruous condition with the incongruous ones separately, another predictor, namely Prosodic Congruency with three levels (Congruous, Incongruous Object and Incongruous Subject) was also used. Subjects and items were included as random effects in each model.

The analyses started with simple models where only single predictors (Focus, Prosody or Prosodic Congruency) were included, then more complex models were built in which either the predictor variables were fit together (e.g., Focus + Prosody) or where the two interacted (e.g., Focus x Prosody). The complex models were compared to the simpler models via a log-likelihood ratio test and the models that fit the data better were reported. The data in the reported models were cleaned from the data points with standardized residuals above or below 2.5 standard errors (Baayen & Milin, 2010). The overly influential subjects, items and individual data points were also removed in these models using the *influence.ME* function (Nieuwenhuis,

Grotenhuis & Pelzer, 2012). (The elimination influential data did not affect the significance of the results in most cases.) The analyses are reported below, separately for each region of interest.

4.2.6.1 The immediately preverbal region

The mean values for each measure and their standard errors (in parentheses) for the immediately preverbal region are reported in Table 2. In Table 2 and all other tables in this thesis, the following abbreviations for eye-tracking measures are used: FFD for first fixation duration, GD for gaze duration, RPD for regression path duration, RRD for rereading duration, TD for total duration and Prob.RO for probability of regression out. And the experimental conditions are abbreviated in the tables as follows: B for broad, N for narrow, F for focus, C for congruous, InC for incongruous, IO for indirect object, DO for direct object and S for subject.

Table 2. Mean Values for the Six Conditions (in milliseconds (msec.) for durations), with Standard Errors in Parentheses, for the Six Eye-tracking Measures at the Immediately Preverbal Region

	FFD	GD	RPD	RRD	TD	Prob. RO
BF-C. IO	255 (7.09)	336 (14.5)	518 (38.7)	379 (38.5)	667 (38.0)	.23(0.03)
BF-InC. DO	241 (6.69)	297 (13.4)	564 (42.8)	463 (46.1)	736 (47.6)	.34 (0.03)
BF-InC. S	264 (9.7)	352 (15.1)	591 (53.2)	420 (43.3)	713 (44.4)	.25 (0.03)
NF-C. DO	268 (7.67)	268 (13.2)	571 (41.4)	457 (36.4)	740 (37.4)	.27 (0.03)
NF-InC. IO	262 (7.82)	327 (12.4)	609 (45.9)	475 (41.1)	756 (41.7)	.33 (0.03)
NF-InC. S	263 (9.19)	361 (16.5)	597 (39.4)	517 (47.6)	814 (47.7)	.28 (0.03)

Only a simple model with Focus as the predictor was used for the analyses for this region. That is because the predictors Prosody or Prosodic Congruency are expected to show their effects at or after the replacive phrase region. The analyses showed for gaze duration, rereading duration and total duration, the reading times for the immediately preverbal region with Narrow Focus were significantly longer than

those for the same region with Broad Focus (gaze duration: β = 27.65, *SE* = 10.74, *t* = 2.57, $p < .05$; rereading duration: β = 63.34, *SE* = 27.20, *t* = 2.32 , $p < .05$, and total duration: β = 73.87, *SE* =23.38, *t* =3.16, $p < .05$; all other measures: *t*'s ≤ 1.76, *p*'s ≥ .07 and *z* = .64, *p* = .51). Note that 1 subject in first fixation duration, 1 subject and 2 items in gaze duration and 2 subjects in rereading duration were found influential and excluded from the data, and the models were re-fit after the elimination of influential data in these models.

4.2.6.2 The spill-over region for the immediately preverbal region

The mean values for each measure and their standard errors (in parentheses) for the spill-over region of the immediately preverbal region are reported in Table 3.

Table 3. Mean Values for the Six Conditions (in msec. for durations), with Standard Errors in parentheses, for the Six Eye-tracking Measures at the Spill-over Region of the Immediately Preverbal Region

	FFD	GD	RPD	RRD	TD	Prob. RO
BF-C. IO	250 (9.69)	292 (15.3)	446 (34.8)	192 (25.8)	376 (25.9)	.24 (0.04)
BF-InC. DO	242 (9.25)	281 (10.9)	449 (52.1)	201 (25.3)	381 (24.7)	.22 (0.03)
BF-InC. S	250 (9.36)	280 (12.5)	499 (11.8)	218 (25.1)	395 (25.0)	.18 (0.03)
NF-C. DO	228 (6.91)	249 (8.91)	454 (34.2)	188 (21.4)	374 (21.1)	.28 (0.03)
NF-InC. IO	239 (8.45)	268 (10.9)	487 (49.4)	229 (29.7)	388 (26.7)	.26 (0.04)
NF-InC. S	235 (7.65)	271 (12.7)	478 (47.9)	283(37.4)	443 (33.4)	.26 (0.04)

As in the immediately preverbal region, Focus was the only predictor variable for the spill-over region of the immediately preverbal region. The analyses conducted on the regression path duration showed that the participants took longer to read the spill-over region of the immediately preverbal region in Narrow Focus conditions than that in Broad Focus conditions, β = 66.29, *SE* = 31.27, *t* = 2.12 , $p < .05$. (For all other fixation durations: *t*'s ≤ 1.35, *p*'s ≥ .17 and for the probability of regression out: *z* = 1.76, *p* = .07) Note that 6 data points in first fixation duration, 2 subjects in gaze

duration, 3 subjects in regression path duration, 3 subjects, 1 item and 5 data points in rereading duration, 1 item and 3 data points in total duration and 1 item in probability of regression out were found influential and excluded from the data, and the models were re-fit after the elimination of influential data in these models.

The results of both the immediately preverbal region and its spill-over region indicate that when a ditransitive sentence has a non-canonical word-order, and in turn has Narrow Focus, Turkish readers spend longer time to read the constituent in the immediately preverbal position and its spill-over region than when the immediately preverbal constituent has Broad Focus.

4.2.6.3 The replacive phrase region

The mean values for each measure and their standard errors (in parentheses) for the replacive phrase region are reported in Table 4.

Table 4. Mean Values for the Six Conditions (in msec. for durations), with Standard Errors in Parentheses, for the Six Eye-tracking Measures at the Replacive Phrase Region

	FFD	GD	RPD	RRD	TD	Prob. RO
BF-C. IO	259 (7.55)	429 (15.1)	588 (33.4)	283 (30.5)	674 (34.2)	0.18 (0.03)
BF-InC. DO	242 (7.23)	483 (20.8)	733 (47.2)	348 (36.2)	773 (41.2)	0.23 (0.03)
BF-InC. S	251 (7.17)	420 (13.8)	749 (60.7)	352 (32.5)	757 (36.7)	0.22 (0.03)
NF-C. DO	262 (8.24)	452 (16.1)	744 (56.6)	284 (26.5)	697 (30.2)	0.24 (0.03)
NF-InC. IO	262 (9.54)	479 (17.5)	812 (63.2)	315 (30.4)	750(34.7)	0.22 (0.03)
NF-InC. S	249 (7.72)	454 (17.2)	857 (66.2)	425 (36.1)	810 (41.5)	0.31 (0.03)

Three analyses were conducted for the replacive phrase region. In the first analysis, Prosody (Congruous and Incongruous) and Focus (Broad and Narrow) were the predictor variables to observe the overall (in)congruency effect. In the second analysis, the main predictors were Focus and Prosodic Congruency in which the Prosodic Congruency had three levels (Congruous Object, Incongruous Object and

Incongruous Subject). The second set of analysis was conducted to examine the effect of Incongruous Object and Incongruous Subject separately. And lastly, in the third analysis, Focus and Prosodic Congruency predictors were used, but only Incongruous Object and Incongruous Subject levels of Prosodic Congruency predictor were included in order to observe whether one incongruous condition causes more difficulty in prosodic revision than the other.

In the first analysis with Prosody and Focus predictors, analyses with Prosody as a predictor variable showed for gaze duration, regression path duration, rereading duration, and total duration that the participants took longer to read the replacive phrase region in Incongruous conditions (2b,c,e,f) than that in Congruous conditions (2a,d) (gaze duration: β = 30.53, *SE* = 12,85, *t* = 2.37, *p* < .05, regression path duration: β = 147.23, *SE* = 38.2, *t* = 3.84, *p* < .05, rereading duration: β = 67.90, *SE* = 22.48, *t* = 3.02, *p* < .05 and total duration: β = 60.13, *SE* = 22.84, *t* = 2.63, *p* < .05). No significant effect of Prosody was observed for first fixation duration (β = -11.83, *SE* = 6.50, *t* =-1.81, *p* = .06) and for the probability of regression out (β =0.2174, *SE* = .1783, *z* = 1.219, *p* = .22). Analyses with Focus as a predictor variable indicated for gaze duration and regression path duration that the participants spent longer time on reading the replacive phrase region in Narrow Focus conditions (2d,e,f) than that in Broad Focus conditions (2a,b,c) (gaze duration: β = -26.54, *SE* = 11.77, *t* = -2.25, *p* < .05 and regression path duration: β = -96.10, *SE* = 36.18, *t* = -2.65, *p* < .05). In addition, the participants were more likely to regress out of the replacive phrase region in Narrow Focus conditions (2d,e,f) than in Broad Focus conditions (2a,b,c), β = -.37, *SE* = .1708, *z* = -2.176, *p* < .05. No reliable effect of focus was found in the remaining measures: *t*'s ≤ 1.48, *p*'s ≥ .13. Note that 4 subjects and 7 data points in first fixation duration, 4 subjects and 5 data points in gaze duration, 1 subject and 5

data points in regression path duration, 3 subjects and 6 data points in rereading duration, 2 subjects and 3 data points in total duration, and lastly 1 subject in probability of regression out were found influential and excluded from the data, and the models were re-fit after the elimination of influential data in these models.

For regression path duration, the complex model with two predictor variables (Prosody and Focus) explained the data better than the simple model with Prosody as a single predictor variable ($\chi 2$ (1) = 6.25, $p < .05$). Similarly, for regression path duration, re-reading duration and total duration, the complex models containing two predictor variables explained the data better than the simple models with Focus as a predictor variable (regression path duration: $\chi 2$ (1) = 8.74, $p < .05$, rereading duration: $\chi 2$ (1) = 8.56, $p < .05$, total duration: $\chi 2$ (1) = 10.12, $p < .05$). In order to understand how the Prosody and Focus predictors may have contributed to the data in the complex models with two predictors, for regression path duration, rereading duration and total duration the data were split and the effect of prosodic (in)congruency was examined in Broad Focus and Narrow Focus conditions individually. The results of planned pairwise comparisons for regression path duration showed that in Broad Focus conditions, replacive phrase regions that were prosodically Incongruous were read significantly slower than those that were prosodically Congruous, $\beta = 146.30$, $SE = 46.84$, $t = 3.12$, $p < .05$. The planned pairwise comparisons for re-reading and total duration measures showed that in Broad Focus conditions there was not a reliable difference between Congruous and Incongruous conditions (t's ≤ 1.81, p's $\geq .07$). In Narrow Focus conditions, it was found for all three measures that the replacive phrase region in Incongruous Conditions took longer to read compared to that in Congruous conditions (regression path duration: $\beta = 143.41$, $SE = 60.12$, $t = 2.38$, $p < .05$, rereading duration: $\beta =$

80.05, *SE* = 32.07, *t* = 2.49, *p* < .05, total duration: β = 72.19, *SE* = 33.31, *t* = 2.16 , *p* < .05).

The pattern for the pairwise comparisons can be observed below, in Table 5.

Table 5. Reading Time Data Pattern for the Replacive Phrase Region. > indicates longer reading time; = indicates no significant difference in reading time. All inequalities in the table are confirmed at *p* <.05 or smaller

Eye-tracking Measures	Broad Focus	Narrow Focus
Regression Path Duration	Incongruous > Congruous	Incongruous > Congruous
Rereading Duration	Incongruous = Congruous	Incongruous > Congruous
Total Duration	Incongruous = Congruous	Incongruous > Congruous

Furthermore, in order to examine how focus revision alone influenced the reading times for the replacive phrase region, while controlling for the effect of prosodic revision, another pairwise comparison for regression path duration, rereading duration and total duration was conducted for Congruous conditions. The results for regression path duration indicated that the reading times for the replacive phrase region in Narrow Focus-Congruous conditions was marginally slower than that in Broad Focus-Congruous conditions, *t* = -1.92, *p* = .054. No reliable effect of focus was found in rereading duration and total duration (*t*'s ≤ -.65, *p*'s ≥ .51).

The results of the first set of analyses indicated that the readers spent longer time reading the replacive phrase region in Incongruous conditions than that in Congruous conditions especially when revisions needed to be made to Narrow Focus.

The following set of analyses included Prosodic Congruency and Focus as the predictor variables. Congruous conditions were compared to Incongruous Object and Incongruous Subject conditions separately in this analysis. This set of analysis was conducted to examine whether the incongruency effect in the first set of analysis is

available regardless of the grammatical category (the subject or the object) of Incongruous conditions. Since the results for the Focus predictor were similar to those in the first set of analysis, they will not be reported here.

Analyses with the Prosodic Congruency as a predictor variable showed for gaze duration, regression path duration and rereading duration that the participants read the replacive phrase region in Incongruous Object conditions (2b,e) in a significantly longer time than that in Congruous conditions (2a,d) (gaze duration: β = 36.27, *SE* = 14.15, t = 2.56, $p < .05$, regression path duration: β = 136.53, *SE* = 44.17, t = 3.09, $p < .05$ and rereading duration: β = 55.13, *SE* = 27.73, t = 1.98, $p < .05$; all other measures: t's $\leq$ 1.92, p's $\geq$ .055 and probability of regression out: z = .44, p = .65). Similarly, the comparison between Congruous (2a,d) and Incongruous Subject conditions (2c,f) indicated for regression path duration, rereading duration and total duration that the participants read the replacive phrase region in Incongruous Subject conditions in a significantly longer time than that in Congruous Conditions (regression path duration: β = 157.97, *SE* = 44.21, t = 3.57, $p < .05$, rereading duration: β = 91.92, *SE* = 39.72, t = 2.31, $p < .05$ and total duration: β = 68.53, *SE* = 26.49 t = 2.58, $p < .05$; all other measures: t's $\leq$ 1.61, p's $\geq$ .10 and probability of regression out: z = 1.7, p = .08). Note that 4 subjects and 7 data points in first fixation duration, 1 subject and 5 data points in gaze duration, 1 subject and 5 data points in regression path duration, 1 subject and 4 data points in rereading duration, 1 subject and 2 data points in total duration and lastly 1 subject in probability of regression out were found influential and excluded from the data, and the models were re-fit after the elimination of influential data in these models.

For regression path duration, the complex model containing the two predictors explained the data better than the simple model with Prosodic Congruency

as a single predictor variable, $\chi 2$ (1) = 6.26, p = < .05. Similarly, for gaze duration, regression path duration, rereading duration and total duration, the complex models containing two predictor variables explained the data better than the simple models with Focus as a predictor variable (gaze duration: $\chi 2$ (1) = 11.73, p < .05, regression path duration: $\chi 2$ (1) = 9.14, p < .05, rereading duration: $\chi 2$ (1) = 12.93, p < .05 and total duration: $\chi 2$ (1) = 10.61, p < .05).

In order to understand how Prosodic Congruency and Focus predictors may have contributed to the data in the complex model with two predictors, for gaze duration, regression path duration, rereading duration and total duration the data were split and the effects of prosodic (in)congruency was examined in Broad Focus and Narrow Focus conditions separately. For the relevant eye-tracking measures Table 6 shows the statistics for Broad Focus condition and Table 7 shows the statistics for Narrow Focus condition.

Table 6. For GD, RPD, RRD and RD, Comparison of Incongruous Object and Incongruous Subject Conditions to Congruous Object Conditions for Sentences with Broad Focus

		β	*SE*	*t*	*p*
GD	InC-Object	45.90	19.02	2.41	< .05
	InC-Subject	2.60	18.82	.13	= .89
RPD	InC-Object	175.94	53.75	3.27	< .05
	InC-Subject	115.31	54.38	2.12	< .05
RRD	InC-Object	63.14	40.11	1.57	= .11
	InC-Subject	91.92	39.72	2.31	< .05
TD	InC-Object	16.78	36.89	.45	= .64
	InC-Subject	70.54	36.53	1.93	= .054

Table 7. For GD, RPD, RRD and RD, Comparison of Incongruous Object and Incongruous Subject Conditions to Congruous Object Conditions for Sentences with Narrow Focus

		β	*SE*	*t*	*p*
GD	InC-Object	26.69	20.60	1.29	= .19
	InC-Subject	6.76	20.65	.32	=.74
RPD	InC-Object	90.97	69.53	2.30	< .05
	InC-Subject	194.22	68.99	2.81	< .05
RRD	InC-Object	56.78	38.09	1.49	= .13
	InC-Subject	154.41	38.45	4.01	< .05
TD	InC-Object	66.71	37.59	1.75	= .07
	InC-Subject	70.72	37.95	1.86	= .06

Table 8 summarizes the pattern for the pairwise comparisons in which Incongruous Object and Incongruous Subject Conditions were compared to Congruous object Conditions for sentences with Broad Focus and Narrow Focus separately.

Table 8. Reading Time Data Pattern for the Replacive Phrase Region. > indicates longer reading time; = indicates no significant difference in reading time. All inequalities in the table are confirmed at p <.05 or smaller

Eye-Tracking Measures	Broad Focus	Narrow Focus
GD	InC-Object > C	InC-Object = C
	InC-Subject = C	InC-Subject = C
RPD	InC-Object > C	InC-Object > C
	InC-Subject > C	InC-Subject > C
RRD	InC-Object = C	InC-Object = C
	InC-Subject > C	InC-Subject > C
TD	InC-Object = C	InC-Object = C
	InC-Subject = C	InC-Subject = C

The results in the second set of analyses showed that the replacive phrase region took longer to read in both Incongruous Object and Incongruous Subject

conditions than that in Congruous conditions. A detailed discussion of the findings will be reported in Section 4.2.7 below.

The last analysis conducted for the replacive phrase region included the Prosodic Congruency and Focus predictors; however, only Incongruous Object and Incongruous Subject levels of the Prosodic Congruency predictor were included. This analysis was conducted to examine whether recovery from the wrong focus assignment in the main clause was harder in Incongruous Subject conditions or Incongruous Object conditions.

Analyses with the Prosodic Congruency as a predictor variable showed for gaze duration that the participants took longer to read the replacive phrase region in Incongruous Object conditions (2b,e) than that in Incongruous Subject conditions (2c,f), $\beta = 36.21$, $SE = 14.56$, $t = -2.48$ $p < .05$. The analysis for rereading duration indicated that they took longer to read the replacive phrase region in Incongruous Subject conditions (2c,f) than that in Incongruous Object conditions (2b,e), $\beta = 62.51$, $SE = 27.23$, $t = 2.29$, $p < .05$ (all other measures: t's ≤ 1.26, p's $\geq .20$ and probability of regression out: $z = 1.1$, $p = .26$) Note that 4 subjects and 12 data points in first fixation duration; 1 subject and 3 data points in gaze duration, 1 subject and 4 data points in regression path duration, 1 subject and 8 data points in rereading duration and lastly 4 subjects and 9 data points in total duration were found influential and excluded from the data, and the models were re-fit after the elimination of influential data in these models.

For regression path duration, the complex model containing two predictors explained the data better than the simple model with Prosodic Congruency as a single predictor variable, $\chi 2$ (1) = 6.14, $p < .05$. Also, for gaze duration and rereading duration, the complex models containing two predictor variables explained the data

better than the simple model with Focus as a predictor (gaze duration: $\chi 2$ (1) = 9.56, $p < .05$ and rereading duration: $\chi 2$ (1) = 4.33 , $p < .05$).

In order to understand how the Prosodic Congruency and Focus predictors may have contributed to the data in the complex model with two predictors, for gaze duration, regression path duration and rereading duration the data were split and the effects of prosodic (in)congruency was examined in each Broad Focus and Narrow Focus conditions separately. In Broad Focus conditions, the analysis for gaze duration demonstrated that the participants read the replacive phrase region in Incongruous Object conditions in a significantly longer time than that in Incongruous Subject conditions, β = -48.25, SE = 19.88, t = -2.42, $p < .05$. The planned pairwise comparisons did not show any reliable difference between Incongruous Subject and Incongruous Object conditions for regression path duration and rereading duration measures, t's $\leq .57$, p's $\geq .11$. As for Narrow Focus conditions, the reading times for Incongruous Object and Incongruous Subject conditions did not differ in any of the three measures (t's ≤ 1.92, p's $\geq .054$).

The findings of the third set of analyses indicated that reading the replacive phrase region in Incongruous Object conditions took longer than that in Incongruous Subject conditions in early measures (gaze duration) while reading the replacive phrase region in Incongruous Subject conditions took longer than that in Incongruous Object conditions in later measures of eye-tracking (rereading duration). Since later measures of eye-tracking are considered being more informative on the recovery processes during reading, re-reading data may be more informative and suggest that recovery from mis-assignment of focus in Incongruous Subject conditions is more difficult than that in Incongruous Object conditions.

4.2.6.4 Spill-over region for the replacive phrase region

The mean values for each measure and their standard errors (in parentheses) for the spill-over region of the replacive phrase region are reported in Table 9.

Table 9. Mean Values for the Six Conditions (in msec. for durations), with Standard Errors in Parentheses, for the Six Eye-tracking Measures at the Spill-over Region of the Replacive Phrase Region

	FFD	GD	RPD	RRD	TD	Prob. RO
BF-C. IO	242(8.68)	299(12.0)	631(143)	129(19.9)	318(20.3)	0.112(0.03)
BF-InC. DO	226(6.66)	274(10.8)	593(84.6)	160(23.5)	307(21.2)	0.142(0.03)
BF-InC. S	237(8.41)	290(13.0)	732(92.5)	116(18.7)	326(21.8)	0.154(0.03)
NF-InC. DO	244(8.20)	281(10.2)	516(60.7)	107(17.9)	301(19.1)	0.134(0.03)
NF-InC. IO	235(8.51)	279(12.4)	521(67.2)	148(21.6)	327(23.9)	0.155(0.03)
NF-InC. S	239(8.18)	311(15.8)	725(114)	180(24.4)	339(24.0)	0.175(0.03)

The third set of analysis including comparison of Incongruous Object and Incongruous Subject conditions were not conducted for the spill-over region of the replacive phrase region since there was no reliable difference between Incongruous Object conditions (2b,e) and Congruous Conditions(2a,d) in any of the eye-tracking measures.

In the first set of analyses with Prosody and Focus, the analyses where Prosody was a predictor variable indicated for regression path duration and rereading duration that the spill-over region of the replacive phrase region took longer to read in Incongruous conditions (2b,c,e,f) than that in Congruous conditions (2a,d) (regression path duration: $\beta = 152.30$, $SE = 65.50$, $t = 2.32$, $p < .05$ and rereading duration: $\beta = 34.20$, $SE = 16.67$, $t = 2.05$, $p < .05$). In addition, the proportions of regressions out of the spill-over region was higher in Incongruous conditions (2b,c,e,f) than Congruous conditions (2a.d) for probability of regression out, $\beta = 0.7297$, $SE = .3093$, $z = 2.359$, $p < .05$ (all other measures: t's $\leq .75$, p's $\geq .44$). In the analyses with the Focus as a predictor variable, there was no reliable difference

between the reading times for the spill-over region of the replacive phrase region in Broad Focus conditions (2d,e,f) and Narrow Focus conditions (2a,b,c) in any of the six eye-tracking measures (t's $\leq .88$, p's $\geq .37$ and probability of regression out: $z = .02$, $p = .98$). Note that 4 subjects and 7 data points in first fixation duration, 4 subjects and 8 data points in gaze duration, 5 subjects and 5 data points in regression path duration, 1 item and 3 data points in total duration and lastly 1 subject in probability of regression out were found influential and excluded from the data, and the models were re-fit after the elimination of influential data in these models.

In the first analysis with Prosody and Focus predictors, none of the complex models with two predictor variables explained the data better than the simple models with Prosody as a single predictor ($\chi 2$'s $(1) \leq .89$, p's $\geq .34$) or Focus as a single predictor ($\chi 2$'s $(1) \leq 3.65$, p's $\geq .056$).

The first set of analyses indicated that the effects of prosodic congruency of the replacive phrase extended to the spill-over region.

In the second set of analyses where Prosodic Congruency and Focus were the predictor variables, analyses with the Prosodic Congruency as a predictor variable for total duration showed that the participants took longer to read the spill-over region of the replacive phrase region in Incongruous Subject conditions (2c,f) than that in Congruous conditions (2a,d), $\beta = 38.47$, $SE = 15.53$ $t = 2.47$, $p < .05$. In addition, the participants were more likely to regress out of the spill-over region of the replacive phrase region in Incongruous Subject conditions (2c,f) than Congruous conditions (2a,d), $\beta = .8029$, $SE = .3414$, $z = 2.35$, $p < .05$ (all other measures: t's ≤ 1.36, p's $\geq .17$). The reading times of the spillover region of the replacive phrase region did not differ between Congruous conditions (2a,d) and Incongruous Object conditions (2b,e) in any of the measures (t's ≤ 1.85, p's $\geq .06$ and probability of regression out: z

= 1.85, p = .06). Note that 1 subject, 1 item and 10 data points in first fixation duration, 5 data points in gaze duration, 1 subject and 3 data points in rereading duration, 1 item and 3 data points in total duration, and lastly 3 subjects in probability of regression out were found influential and excluded from the data, and the models were re-fit after the elimination of influential data in these models.

In the second set of analysis where Prosodic Congruency and Focus were predictor variables, the complex model with interaction for the rereading duration explained the data better than the simpler models, ($\chi 2$ (1) = 6.33, $p < .05$) so the interaction model was considered as the best fitting model for rereading duration.

In order to understand the nature of interaction between Prosodic Congruency and Focus predictors, the data for rereading duration were split into Broad and Narrow Focus and were examined separately. In Broad Focus conditions, there was no significant difference for the reading times for the spill-over region of the replacive phrase region between Incongruous Object and Congruous conditions (β = 25.23, SE = 25.13 t = 1.00, p = .31) and between Incongruous Subject and Congruous conditions (β = -9.37, SE = 25.39, t = -.36, p = .71). Regarding Narrow Focus conditions, while the readers spent longer time in reading the spill-over region in Incongruous Subject conditions compared to that in Congruous conditions, β = 70.55, SE = 27.78, t = 2.53, $p < .05$, the reading times for the spill-over region were not different between Incongruous Object and Congruous conditions, β = 45.82, SE = 27.08, t = 1.69, p = .09.

To examine how focus revision alone influenced the reading times for the spill-over region for the replacive phrase region, without the effect of prosodic revision, another pairwise comparison for rereading duration was done between the two Congruous conditions (for Broad Focus and Narrow Focus sentences). The

results indicated that there was no significant difference for the reading times for the spill-over region between Broad Focus-Congruous condition and Narrow Focus-Congruous condition, t = -1.06, p = .29.

These results indicated that the readers spent longer time in reading the spill-over region of the replacive phrase region in Incongruous Subject conditions than that in Congruous conditions especially in Narrow Focus conditions while the reading times for the spill-over region did not differ in Incongruous Object and Congruous conditions.

4.2.7 Discussion

The results of Experiment 2 showed that reading the immediately preverbal region took longer when it was narrowly-focused (i.e., in non-canonical word-order sentences) as in (2d-f), than when it was broadly-focused (i.e., in canonical word-order sentences) as in (2a-c). This was so for the measures of gaze duration, rereading duration and total duration for the immediately preverbal region and for the measure of regression path duration for its spill-over region. These results are in line with previous research and support the view that as the strength of focus increases, the encoding of the information and its integration to the previous context gets deeper; that's probably why the narrowly-focused constituents took longer to process than the broadly-focused constituents (Lowder & Gordon, 2015; also see Sanford et al., 2006 and Sturt et al., 2004). It is also possible that the readers considered that the narrowly-focused constituent carried not only new information but also a contrastive meaning (İşsever, 2003) which may have required the participants to eliminate other possible alternatives in the focused constituent's set. And eliminating alternatives and emphasizing the truth value of the focused constituent in the narrow (or the

contrastive) focus conditions may have brought additional processing load for the readers (Reichle & Birdsong, 2014) and caused longer reading times.

Note that the differences between Broad Focus and Narrow Focus in the immediately preverbal region and its spill-over region were mostly observed in later measures of eye-tracking (i.e., regression path duration, rereading duration and total duration). This further confirms that processing focus requires deeper integration of information to the preceding context and takes longer than simple processes such as lexical access (Lowder & Gordon, 2015).

The eye-tracking data also showed that the prosodic congruency of the replacive phrase region affected the participants' processing of the sentences. Overall, fixation durations or the probability of regression out increased when the replacive phrase region included a constituent that was not in the immediately preverbal constituent's alternative set as in (2b,c,e,f). This was evident in both the replacive phrase region itself (in the measures of gaze duration, regression path duration, rereading duration and total duration); and its spillover region (in the measures of regression path duration, rereading duration and probability of regression out). These results are in line with the findings of the sentence completion task that the participants assigned focus to the immediately preverbal position in (non)canonical word-order sentences (Erguvanlı, 1984; İşsever, 2003; Kılıçaslan, 1994). Note that there was a stronger incongruency effect in the narrow focus conditions, which further supports the argument that narrow focus is processed deeper (Lowder &Gordon, 2015).

These results also show that Turkish readers, based on their knowledge of default focus position, make predictions for upcoming information while processing sentences (Carlson et al., 2009; Clifton & Frazier, 2016; Frazier & Clifton, 1998;

Stolterfoht et al., 2007; Rijswijk et al., 2017), and when their predictions are not met, processing is slowed down (Stolterfoht et al. 2007; Rijswijk et al., 2017).

Analyses also indicated that the grammatical category (subject or object) of the incongruous replacive phrase also had an effect on the participants' processing. The findings indicated that it was harder to recover from Incongruous Subject than Incongruous Object (rereading duration) at the replacive phrase region. And the incongruency effect of the subject continued at the spill-over region (total duration and probability of regression out). These results are in line with the data in the sentence completion task and confirm that sentence initial position in Turkish is perceived to be spared for background information (Erguvanlı, 1984). The readers probably had more difficulty to revise the given information interpretation for the subject than the non-new information interpretation for the incongruous object. This could alternatively be the case due to the distance of the subject and the incongruous object. Revisions to the focus structure of the subject may have taken longer because the subject is more distant and its cues may be harder to retrieve from memory (Grodner & Gibson, 2005; VanDyke &Lewis, 2003).

The data for the replacive phrase region demonstrated that there was a significant difference between Broad Focus (2a-c) and Narrow Focus (2d-f) conditions with regard to focus revision (broad-to-narrow and narrow-to-narrow). It was reported in the literature that changing the type of focus caused additional processing load compared to keeping the same type of focus (Stolterfoht et al., 2007). Thus, it was predicted that reading the replacive phrase region would take longer in Broad Focus conditions than that in Narrow Focus conditions because revising focus from broad to narrow would be costlier than revising focus from narrow to narrow. But the results showed the opposite. That is, the reading behavior of the participants

showed that it was harder to read the replacive phrase region in Narrow Focus conditions compared to Broad Focus conditions (in gaze duration, regression path duration and probability of regression out). And as mentioned above, the effect of incongruency was stronger in the Narrow focus conditions. These results imply that narrow focus is processed deeper and it provides deeper integration of a word to the preceding context, so deleting deeply-integrated information would be harder than assigning it for the first time (see Pauker & Steinhauer, 2011 for a similar argument on prosodic boundary deletion vs. prosodic boundary assignment). Benatar and Clifton (2014) also have a similar view that it would be costlier to revise corrective (i.e. contrastive) focus since it requires deletion of old information and addition of new information compared to broad focus which only requires adding new information. Overall, the findings indicated that revision from narrow to narrow focus was more challenging than revision from broad to narrow focus for the participants.

4.3 Experiment 3: Sentence completion task in English

Experiment 3 examines whether English L1 speakers and Turkish L2 learners of English prefer any specific position to place sentential stress and focus. It has been reported in theoretical literature that sentential stress mostly falls on the rightmost constituent in English in a neutral context as it is the highest element of the stress domain and that constituent carries broad focus (Kahnemuyipour, 2009). Some studies in English also presented empirical evidence that the rightmost constituent is perceived as the focus position in English (Carlson et al., 2009; Clifton & Frazier, 2016; Frazier & Clifton, 1998). It has been also argued that when a sentence has non-canonical word-order, which cause non-neutral context, the focused constituent

cannot carry sentential stress/broad focus; it carries narrow focus (Kahnemuyipour, 2009). Recall from Chapter 2 that scrambling to mark focus is not a common strategy in English. Changes to word-order/syntactic focus marking strategies are available through it-cleft, there-insertion and pseudo-cleft such as *What she ate was* etc. Scrambling, though, is rather limited and available for structures that involve ditransitive verbs. For sentences including ditransitive verbs in English, Brown et al. (2012) reports that the dative structure is perceived as the default (canonical) word-order and the double-object construction is triggered by information structural motivations and is the non-default (non-canonical) order. Thus, it is predicted that in a sentence with dative structure (with canonical word-order) the sentential stress falls on the rightmost object, i.e., the indirect object, and the indirect object is assigned broad focus. And in a sentence with double object construction, (non-canonical word-order), the rightmost object, i.e. direct object, is assigned narrow focus. Experiment 3 employed a sentence completion task in English to examine these predictions for the default focus position in English sentences with ditransitive verbs. Specifically, it examined whether the rightmost object in a sentence with a ditransitive verb would be assigned focus by L1 English speakers and Turkish L2 speakers of English. Their completion preferences for the replacive phrases would reveal that. If they do so, I assume that the rightmost constituent is assigned broad focus in canonical word-order sentences (dative structure) and narrow focus in non-canonical word-order sentences (double-object) but evidence for that will be available in the eye-tracking experiment.

4.3.1 Participants

Forty-seven Turkish L2 learners of English (number of females = 29) from Boğaziçi University (an English-medium instruction university) either at bachelor's or master's level; and twenty-one native English speakers (number of females =8) participated in Experiment 3. The L2 learners were considered as advanced speakers of English as they had a minimum BUEPT (Boğaziçi University English Proficiency Test) score of 60 (C) which is equal to 6.5 in IELTS (International English Language Testing System), 550 in TOEFL PBT (Paper-based Test) and 79 in TOEFL IBT (Internet-based Test). The English L1 speakers were all competent readers in English.

Before the experiment, participants were asked to fill in a background questionnaire to gather information on demographics and language history (See Appendix B). The L2 learners' age ranged from 19 to 32 (M = 21.61, SD = 3.12) and the native English speakers' age ranged from 16 to 56 (M = 31.09, SD = 11.13). The participants had normal or corrected-to-normal (with glasses or contact-lenses) vision. Bachelor level L2 learners received course credit for their participation, but the master's level L2 learners and English L1 speakers did not receive any compensation. Participation in the experiment was voluntary for all the participants and they were all naïve to the purpose of the study.

4.3.2 Materials

All experimental sentences included a main clause with a ditransitive verb and a replacive phrase that would contrast with one of the constituents in the main clause. Focus structure of the main clause was manipulated via the word-order of objects in the main clause: canonical word-order as in (3a), or non-canonical word-order as in

(3b). Following Carlson et al. (2009) the stimuli in Experiment 3 included an additional time adverbial at the end of the ditransitive clauses to prevent any recency effect of the sentence-final constituent (Carlson et al.2009) on sentence completion decisions. In this way, there was an additional constituent between the rightmost object and the replacive phrase. Note that this was not necessary for Turkish items as there was always a verb between the focused constituent and the replacive phrase there. It is important to note that these additional time adverbials in the stimuli are not predicted to alter sentential stress placement because they are deictic and they avoid carrying stress (Zubizarreta, 1998). The constituent in the replacive phrase was left blank and the participants were to fill it in with a word that could contrast with the indirect object, the direct object or the subject.

(3) a. At the park, Finn threw the frisbee to his babysitter yesterday, not _____. It was so funny.

b. At the park, Finn threw his babysitter the frisbee yesterday, not _____. It was so funny.

Options:

a) to his mother

b) his ball

c) Lucas

There were 24 experimental sentences in Experiment 1, each with two versions as outlined in (1), adding up to a total of 48 sentences. The experimental sentences were distributed across two lists controlling for focus structure (broad vs. narrow). The direct object, the indirect object, and the subject were distributed in the (a), (b), and (c) options in a balanced way. The experimental sentences were intermingled with 32 fillers in each list. 20 of them were included to disguise the experimental items. 12 of

the disguise fillers had a main clause with a ditransitive verb similar to experimental sentences but they were followed by a phrase which emphasized the truth value of the main clause, not a certain constituent. These fillers were included to prevent any expectancy for a narrow focus reading in the main clause. Eight of the disguise fillers had the replacive phrase *"not*_____" contrasting with a constituent of the main clause as in the experimental sentences, but the main clause did not include a ditransitive verb to prevent any expectancy for a ditransitive verb in the main clause. The remaining 12 filler sentences had structures different from the experimental sentences. (See Appendix E for the list of fillers.)

4.3.3 Procedure

The experimental procedure was the same as in Experiment 1.

4.3.4 Predictions

Kahnemuyipour's (2009) Sentential Stress Rule (SSR) predicts that the constituent carrying sentential stress also carries broad focus in a canonical word-order sentence. If the position of sentential stress is also the default focus position in English (as found in Carlson et al., 2009; Clifton & Frazier, 2016; Frazier & Clifton, 1998), in (3a) which has a dative structure and a canonical-word-order (Brown et al., 2012), the English L1 speakers are predicted to place sentential stress and broad focus on the indirect object as it is the rightmost object there. In a non-canonical word-order sentence, the stress assignment is carried out by Focus Stress Rule (Kahnemuyipour, 2009) and the constituent with stress carries narrow focus. Thus, in the non-canonical word-order sentences as in (3b) the direct object will carry stress as it is the rightmost object and will have narrow focus due to changes to word-order. It was predicted that

the participants' sentence completion preferences would reflect these arguments. Since there are two participant groups (L1 English and Turkish L2 learners of English), the predictions will be presented separately.

L1 English speakers are predicted to complete the replacive phrase region with a constituent that contrasts (i.e., be congruous) with the rightmost object. For sentences with canonical word-order as in (3a) that corresponds to a constituent that is in the same alternative set with the indirect object. For sentences with non-canonical word-order as in (3b), that corresponds to a constituent that is in the same alternative set with the direct object. If the Turkish L2 learners have acquired stress and focus assignment rules in English, their preferences for completing the replacive phrase region will be similar to those by native speakers. But, as was mentioned before, there is a constraint in Turkish that allows language users to assign focus to preverbal constituents only. If the Turkish L2 learners are influenced by this L1 constraint in their L2, they may choose to complete the replacive phrase region with a constituent that would contrast with a preverbal constituent. The only constituent that is preverbal in the present study items is the subject.

As mentioned before, although I suggest that in canonical word-order sentences (dative structure), the rightmost object will be assigned broad focus and in non-canonical word-order sentences (double-object), it will be assigned narrow focus, the sentence completion task do not inform on this difference; the eye-tracking experiment will present evidence for this assumption.

4.3.5 Results

The results for the L1 English speakers and L2 Turkish learners are presented separately.

4.3.5.1 L1 English results

The data were analyzed L1 English speakers' percent choices to complete the replacive phrase region are summarized in Table 10 below.

Table 10. Mean Percentages of (In)Congruous Completions of L1 English Speakers for the Replacive Phrase Region

Conditions		Preference for Replacive Completions
Broad Focus	C-Object	32.7
(Canonical Order)	InC-Object	12.6
	InC-Subject	4.5
Narrow Focus	C-Object	30.3
(Non-Canonical Order)	InC-Object	14.6
	InC-Subject	4.9

The results showed that L1 English speakers were overall more likely to complete the replacive phrase region with a constituent that would contrast and be congruous with the rightmost object (%63) than with a constituent that would be in the alternative set of another argument in the main clause (37%). This was so for both the canonical word-order (Broad Focus) conditions (M =32.7%). and for the non-canonical word-order (Narrow Focus) conditions. (M =30.3%). A generalized linear mixed model (Marschner, 2011) on the R statistical computing software (R Core Team, 2020) was used to analyze if Broad or Narrow focus predicted the sentence completion preferences of L1 English speakers better. Focus was the fixed effect and subjects and items were random effects. This analysis revealed no reliable difference in completing the replacive phrase region with a congruous constituent in the Broad Focus and Narrow Focus conditions, z = .46, p = .64.

4.3.5.2 L2 English results

The L2 speakers' percent choices to complete the replacive phrase region are summarized in Table 11 below.

Table 11. Mean Percentages of (In)Congruous Completions of L2 English Speakers for Replacive Phrase Region

Conditions		Preference for Replacive Completions
Broad Focus	C-Object	26.6
(Canonical Order)	InC-Object	15.8
	InC-Subject	7.5
Narrow Focus	C-Object	27.39
(Non-Canonical Order)	InC-Object	14.47
	InC-Subject	8.1

The results showed that, similar to L1 native speakers of English, Turkish L2 learners were overall more likely to complete the replacive phrase region with a constituent that would contrast and be congruous with the rightmost object (%54) than with a constituent that would be in the alternative set of another argument in the main clause (46%). This was so for both the canonical word-order (Broad Focus) conditions (M =26.6%) and for the non-canonical order (Narrow Focus) conditions (M =27.39%). Note that the preference of L2 learners to complete the replacive phrase with a subject was lower than the preferences for the first object and the rightmost object (M =15.6%). There was no reliable difference between Broad Focus and Narrow Focus conditions in completing the replacive phrase region with a congruous constituent, z = .46, p = .64.

4.3.6 Discussion

The results of the sentence completion task confirmed that both L1 English speakers and L2 Turkish learners perceived the information in the rightmost object as the focused information for both canonical word-order (3a) and non-canonical word-order (3b) conditions. In addition, Turkish L2 learners did not seem to be affected by their L1 focus assignment properties in L2 focus assignment. But, as in Experiment 1, the sentence completion data cannot inform on if they assigned the rightmost object broad focus in canonical word-order sentences and narrow focus in non-canonical sentences. For that the data from the eye-tracking experiment need to be analyzed. The eye-tracking experiment will also inform on whether there was any processing difference between broad focus and narrow focus both in L1 and L2 processing.

4.4 Experiment 4: Eye-tracking experiment in English

As in Experiment 1, although the results of the sentence completion task informed on the default focus position in English, they were not informative on whether there was any difference between the processing of broad focus and narrow focus for L1 and L2 speakers in English. The eye-tracking experiment, with measures sensitive to the timing of processing behavior, can inform on whether processing narrow focus takes longer time than broad focus since the former requires deeper encoding of information (Lowder & Gordon, 2015). Experiment 4, thus, specifically examines any potential difference in the processing cost between broad focus and narrow focus (Lowder & Gordon; 2015; Reichle & Birdsong, 2014). The experimental materials in Experiment 4 also require revision to the focus structure of the main clause. This manipulation will allow for if recovering from narrow focus (i.e., deeper encoding)

would be more or less costly than recovering from broad focus (Benatar & Clifton, 2014; Stolterfoht et al., 2007). As in Experiment 3, Experiment 4 also tests if the readers assign focus to a particular position in a sentence. But Experiment 4 can provide data on how soon this decision is made.

Experiment 4 employed the same sentences in Experiment 3 but the replacive phrase was not left blank. It included a constituent that contrasted with one of the arguments of the ditransitive verb in the main clause. The focus structure of the main clause (broad vs. narrow) and the prosodic congruency of the replacive phrase with the focused constituent (congruent vs. incongruent) were manipulated. These manipulations allowed for investigating whether or not the rightmost object was perceived as broadly-focused in canonical word-order sentences (Carlson et al., 2009; Clifton & Frazier, 2016; Frazier & Clifton, 1998; Kahnemuyipour, 2009) and as narrowly-focused in non-canonical word-order sentences (Kahnemuyipour, 2009; Brown et al., 2012). They would also inform on the processing cost of broad versus narrow focus (Lowder & Gordon, 2015; Reichle & Birdsong, 2014) and on the cost of revision from broad-to-narrow versus narrow-to-narrow focus (Benatar & Clifton, 2014; Stolterfoht et al. 2007).

Given the headedness and focus marking strategies used in Turkish and English, the data from this experiment will inform on whether Turkish L2 learners of English can effectively mark focus in English and determine the difference between narrow and broad focus similar to native speakers of English.

4.4.1 Participants

The same Turkish L2 learners of English that took part in Experiment 3 also participated in Experiment 4 (N = 47); so, their information will not be repeated here. Unlike Experiment 3, only eight native English speakers[4] (number of females =2) participated in Experiment 4. The English L1 speakers were either students at Boğaziçi University or they were English language instructors; all competent readers in English. The native English speakers' age ranged from 19 to 56 (M = 35.12, SD = 14.11). The vision of the participants was either normal or corrected-to-normal (with glasses or contact-lenses). Bachelor level L2 learners received course credit for their participation, but the master level L2 learners and English L1 speakers did not receive any compensation. Participation in the experiment was voluntary for all the participants and they were all naïve to the purpose of the study.

4.4.2 Materials

As stated before, the focus structure and the prosodic structure of the experimental sentences were manipulated. The focus structure was manipulated via the word-order of objects in the main clause: canonical word-order leading to broad focus assignment to the rightmost object as in (4a-c) or non-canonical word-order leading to narrow focus assignment to the rightmost object as in (4d-f). The prosodic structure was manipulated via the replacive phrase, *not* _____, which contrasted either with the rightmost object creating prosodic congruency as in (4a,d) below, or with another constituent, the (in)direct object as in (4b,e) or the subject as in (4c,f), creating prosodic incongruency.

[4] The number of native speakers of English is rather limited for an experimental study. Unfortunately, due to Covid-19 breakout, data collection from native speakers had to be paused. The small number of participants for the L1 speaker group largely limits any generalizations that can be made for the population. Such limitations will be discussed in Section 5.2. I intend to collect more data for the L1 group as soon as it is safe to do so.

(4) a. Broad Focus/ Congruous Indirect Object:

The presenter gave the flowers to the director yesterday, not to the actress.

b. Broad Focus / Incongruous Direct Object:

The presenter gave the flowers to the director yesterday, not the prizes.

c. Broad Focus/ Incongruous Subject:

The presenter gave the flowers to the director yesterday, not the organizer.

d. Narrow Focus/ Congruous Direct Object:

The presenter gave the director the flowers yesterday, not the prizes.

e. Narrow Focus/ Incongruous Indirect Object:

The presenter gave the director the flowers yesterday, not to the actress.

f. Narrow Focus / Incongruous Subject:

The presenter gave the director the flowers yesterday, not the organizer.

In all the conditions in (4a-f), the constituent in the rightmost object in the main clause is predicted to carry focus: either broad focus, in canonical word-order, as in (4a-c) or narrow focus, in non-canonical word-order, as in (4d-f) (Brown et al., 2012; Kahnemuyipour, 2009).

A replacive phrase, *not*_____ was added after the main clause to examine how revisions are made to the focus structure of the main clause. As explained in Experiment 3, the replacive phrase informs the readers that the focused constituent itself in the main clause is the true alternative in its alternatives set (Rooth, 1992), not

the one in the replacive phrase. Thus, the replacive phrase emphasizes the truth value of a specific constituent in the main clause. The constituent in the replacive phrase sometimes contrasts with the rightmost object; then the replacive phrase is prosodically congruent with the constituent that would receive default focus position in the main clause as in (4a,d). The constituent in the replacive phrase sometimes contrasts with a constituent that is not the rightmost object; then, the replacive phrase is prosodically incongruent with the constituent that would receive default focus in the main clause as in (4b,c,e,f). In addition to prosodic congruency, at the replacive phrase region, the participants would also need to revise the focus structure from either broad-to-narrow or from narrow-to-narrow. In (4a-c), where canonical word-order is used, at the replacive phrase, the participants need to change focus structure from broad focus to narrow focus because then they understand that not the whole sentence, but a specific constituent is focused. In (4b,c), the focused constituent would also need to be revised prosodically because there, the replacive phrase region specifies a set for a constituent that is not the rightmost object, which creates prosodic incongruency. Thus, the readers need to change the assignment of stress in the main clause from the rightmost constituent to either the direct object (in (4b)) or the subject (in (4c)). In (4d-f), the main clause already has a narrow focus reading, so the participants do not need to make any change in the focus structure at the replacive phrase region, but they need to make a prosodic revision in two of the narrowly-focused conditions (4e,f) because the focused constituent is not the rightmost object there, which again causes prosodic incongruency. Hence, the readers need to change the assignment of stress in the main clause from the rightmost object to either the indirect object (in (4e)) or the subject (in (4f)).

All of the experimental sentences started with a lead-in phrase such as *At the* premiere. The lead-in phrase was used to provide a meaningful discourse to the experimental sentence. The experimental sentences also ended with a content-neutral follow up sentence such as *It was the procedure* to center one of the critical regions (the replacive phrase region) on the screen. As in the sentence completion task, the stimuli in Experiment 4 included an additional time adverbial at the end of the main clauses to prevent any recency effect of the sentence-final constituent (Carlson et al.2009) on sentence completion decisions. In this way, there was an additional constituent between the rightmost object and the replacive phrase. These additional time adverbials in the stimuli are not predicted to alter sentential stress placement because they are deictic and they avoid carrying stress (Zubizarreta, 1998).

There were 24 experimental sentences in Experiment 4, each with six versions as outlined in (4), adding up to a total of 144 sentences. The experimental sentences were distributed across six lists controlling for focus structure (broad vs. narrow) and prosodic congruency (congruous, incongruous object and incongruous subject). The experimental sentences were intermingled with 72 fillers in each list. 24 of them were included to disguise the experimental items. 16 of the disguise fillers had a main clause with a ditransitive verb similar to experimental sentences but they were followed by a phrase which emphasized the truth value of the main clause, not a certain constituent. These fillers were included to prevent any expectancy for a narrow focus reading in the main clause. Eight of the disguise fillers had the replacive phrase *not*_____ contrasting with a constituent of the main clause as in the experimental sentences, but the main clause did not include a ditransitive verb to prevent any expectancy for a ditransitive verb in the main clause. The remaining 48

filler sentences had structures different from the experimental sentences. (See Appendix F for the list of fillers.)

All experimental sentences and filler sentences were followed by a yes/no question to ensure comprehension. The number of *yes* or *no* as the correct answer was equal.

4.4.3 Predictions

The predictions for the L1 and L2 groups will be presented separately below as the parsing operations for L1 and L2 speakers may differ.

For L1 English speakers, Kahnemuyipour's (2009) Sentential Stress Rule predicts the sentential stress to be placed on the highest element in the stress domain in a sentence with canonical word-order. This mostly corresponds to the rightmost constituent in English and has previously been confirmed for English (Carlson et al., 2009; Clifton & Frazier, 2016; Frazier & Clifton, 1998). Thus, it is predicted that for sentences with the dative structure and canonical word-order (Brown et al., 2012) as in (4a-c), the L1 English speakers will place sentential stress on the indirect object, as it is the rightmost object. In these sentences the indirect object will carry broad focus and the whole sentence will convey new information. For sentences with double-object constructions, as non-canonical word-order (Brown et al., 2012), as in (4e-f), the L1 speakers will place focus on the direct object. In these sentences the direct object will carry narrow focus and convey new information due to given-before-new principle (Halliday, 1967; Clark & Haviland, 1977; Givon, 1984; Lambrecht, 1994). Note that, linearly, the rightmost constituent corresponds to the adverb phrase in the experimental sentences of the present study (see (4d-f) above). However, as was mentioned for the sentence completion task, Zubizaarreta (1998) argues that time

adverbials such as yesterday are deictic and they do not carry stress. Thus, I do not predict the time adverbials to receive focus in the present study items.

As was discussed for Experiment 2, the processing of narrow focus is predicted to be costlier than broad focus because its processing is deeper and it brings additional processing load on the memory (Lowder & Gordon, 2015; Reichle & Birdsong, 2014). Thus, it is predicted that L1 English readers would spend longer time to process the rightmost (direct) object in (4d-f) than the rightmost (indirect) object in (4a-c) as the former requires narrow focus and the latter requires broad focus.

It is predicted for L1 speakers that the readers will spend longer time to read the replacive phrase region when it is prosodically incongruent as in (4b,c,e,f,) than that when it is prosodically congruent as in (4a,d) because prosodic incongruency triggers a revision to the focus assignment in the main clause.

Note that the information at the replacive phrase region would require some revision for all the conditions in (4a-f), except for (4d). For sentences that are predicted to carry broad focus as in (4a-c), L1 speakers would need to revise focus from broad focus to narrow focus in the main clause. And they would need to revise the narrow focus in the main clause and assign it to another constituent in (4e,f) due to the incongruency at the replacive phrase. Note that there will be neither focus revision nor prosodic revision in (4d) since it has both narrow focus in the main clause and a congruous constituent in the replacive phrase. Revising the focus structure from broad to narrow has been reported to be costlier than keeping the narrow focus structure (Stolterfoht, 2007). Thus, it is predicted that reading the replacive phrase region for the sentences in which the ditransitive clause has broad

focus (4a-c) may take longer than that for the sentences in which the ditransitive clause has narrow focus (4d-f).

The Interface Hypothesis (Sorace & Filiaci, 2006; Sorace, 2011) maintains that L2 speakers face difficulty when they need to integrate information from the sub-modules of language such as syntax and the information from other external domains such as discourse. In Kahnemuyipour's (2009) Sentential Stress Rule, sentential stress assignment requires a successful mapping of syntax because sentential stress is assigned at *phases* which are determined syntactically. And, determining to assign broad focus or narrow focus to a constituent is a process that requires knowledge of the information structure (e.g., given-before-new or new-before-given order) which is encoded through syntax, i.e. word-order of objects in the sentences with dative verbs (Brown et al., 2012) in the present study. Thus, assigning broad focus or narrow focus to the rightmost object requires integration of syntactic and discourse-level information.

If the Interface Hypothesis is correct in that L2 speakers cannot integrate syntactic and discourse-level information, then at the rightmost object, the L2 speakers may deviate from the L2 speakers as they may not be able to process syntactic and discourse-level cues together. This may lead to their failure to differentiate the focus type in the main clause in (4a-f). In that case, they may show no difference in reading the rightmost object in broad focus conditions as in (4a-c) and narrow focus conditions as in (4d-f).

Processing the revisions at the replacive phrase region would also require integrating both syntactic and discourse-related information as it requires revisions to broad or narrow focus. The IH would not predict the L2 speakers to successfully revise, at the

replacive phrase region, the focus structure especially if they fail to distinguish narrow focus from broad focus in the main clause.

It is not clear if the L2 speakers will show a specific pattern in their processing of focus in English but it is possible that they may be influenced by the word-order properties of their L1 Turkish. Turkish allows for focus placement on preverbal constituents only. A constituent that follows the verb cannot receive focus (Erguvanlı, 1984). If Turkish learners of English are influenced by this property in their L2 processing of focus in English, then they may perceive the subject as the focused constituent as it is the only preverbal constituent in the experimental sentences in the present study. If they do so, the effects of this are predicted to reflect in the replacive phrase region. If the L2 speakers are influenced by their L1 and if they assign focus to the subject in English, then, they will spend shorter time when the replacive phrase contrasts with and presents an alternative set to the subject. This would result in shorter reading times for (4c,f) than all the other conditions in (4a,b,d,e).

Cunnings (2017) also predicts divergence from L1 English behaviors in L2 speakers's sentence processing. He argues that L2 speakers weight discourse-related cues heavier than syntactic cues and that affects the L2 cue-retrieval processes. Cunnings would therefore predict that L2 learners would not be able to successfully assign sentential stress in (4a-c) conditions and would not be able to perceive the difference between broad focus (4a-c) and narrow focus conditions (4d-f) because both processes require successful use of syntactic cues. Although Cunnings does not predict L1 effects in L2 processing, if L2 learners follow their L1 discourse cue that only preverbal focus marking is allowed (Erguvanlı, 1984), they may spend shorter time in the subject congruous conditions (4c-f).

It is also possible that Turkish speakers of L2 English can behave similar to native speakers of English. In that case, they would have the same in(congruency) and focus structure (broad and narrow) effects predicted for L1 English speakers. This would suggest that focus processing in L2 can be native-like and L2 speakers do not face as much challenge as predicted by the IH in their integration of syntactic and discourse-related information, even at advanced level proficiency. This would also suggest that L2 speakers weight syntactic and discourse-level cues similar to native speakers.

4.4.4 Procedure

The experimental procedure was the same as in Experiment 2.

4.4.5 Data analysis

The data were analyzed in the same way as in Experiment 2, but the regions of interest were different. There were two critical regions and two spill-over regions as in Experiment 2, but the first critical region corresponded to the 5th word, i.e, the rightmost object, in Experiment 4. The word that followed, the time adverbial, was examined as its spill-over region. The second critical region was the replacive phrase region and it consisted of the negation marker *not* and the following constituent, the direct object, the indirect object or the subject, e.g., *not to the director*. The spill-over region of the replacive phrase region was the first two words of the context-neutral follow up sentence, e.g., *It was* or *There was*.

4.4.6 Results

All the L1 English speakers and L2 Turkish learners of English answered more than 70% of the comprehension questions correctly. Because of a calibration problem, one L1 English speaker's data were not included in the analyses. Focus (Broad Focus and Narrow Focus) and Prosody were two predictor variables (Congruous and Incongruous). In addition, since there were two types of incongruous conditions, namely Incongruous Object and Incongruous Subject, another predictor named Prosodic Congruency with three levels was included in the analysis to compare Congruous conditions with the incongruous conditions separately. Its levels were Congruous, Incongruous Object and Incongruous Subject. Subjects and items were included as random effects in each model.

The analyses started with simple models where only single predictors (Focus, Prosody and Prosodic Congruency) were included; then more complex models were built in which either the predictor variables were fit together (e.g., Focus + Prosody) or the two interacted (e.g., Focus x Prosody). The complex models were compared to simpler models via a log-likelihood ratio test and the models that fit the data better are reported here.

The data were analyzed separately for Turkish L2 learners of English and L1 English speakers. Although this is not ideal, as the native speaker group would also serve as the control group for the L2 speakers, the participant size was not sufficient enough to be able to make generalizations for the L1 group. As this could potentially obscure the L2 speakers' data (e.g., no interaction of any measure with the group predictor), the L1 and L2 data were analyzed separately. The report for the L2 data analysis is detailed and is presented first. Data analysis for the L1 group is presented later and mainly in the form of descriptive statistics as the subject size is not

sufficient for inferential statistical procedures. I nevertheless conducted statistical analyses for the L1 group as well, which are summarized very briefly following the descriptive data.

The data in the reported models for two language groups were cleaned from the data points with standardized residuals above or below 2.5 standard errors (Baayen & Milin, 2010). The L2 learners' data were also cleaned from the overly influential subjects, items and lower-level observations. The *influence.ME* function (Nieuwenhuis, Grotenhuis & Pelzer, 2012) was used for this and the models were re-run after these procedures.

4.4.6.1 L2 English results

The following sections will present the results for Turkish L2 learners of English for two critical regions and their spill-over regions.

4.4.6.1.1 The rightmost object region in the main clause

The mean values for each measure and their standard errors (in parentheses) for the rightmost object region are reported in Table 12.

Table 12. Mean Values for the Six Conditions (in milliseconds (msec.) for durations), with Standard Errors in Parentheses, for the Six Eye-tracking Measures at the Rightmost Object Region

	FFD	GD	RPD	RRD	TD	Prob. RO
BF-C. IO	232 (6.21)	455 (17.5)	516 (20.7)	341 (30.3)	799 (33.1)	.09 (0.02)
BF-InC. DO	233 (7.09)	455 (16.8)	509 (21.9)	264 (27.6)	721 (30.1)	.08 (0.02)
BF-InC. S	233 (5.85)	473 (17.8)	559 (25.9)	361 (32.6)	818 (33.6)	.14 (0.03)
NF-C. DO	262 (8.22)	441 (19.8)	585 (32.4)	344 (32.4)	776 (35.8)	.17 (0.03)
NF-InC. IO	251 (7.82)	439 (17.3)	530 (26.6)	374 (33.5)	783 (35.0)	.11 (0.02)
NF-InC. S	242 (7.69)	417 (15.4)	517 (26.4)	292 (29.4)	690 (31.2)	.16 (0.03)

Only a simple model with Focus as the predictor was built for the analyses for this region. That is because the predictors Prosody or Prosodic Congruency are expected to show their effects at or after the replacive phrase region. In the models where Focus was analyzed as a predictor, for first fixation duration, the reading times for the rightmost object region with Narrow Focus (4d-f) were significantly longer than those for the same region with Broad Focus (4a-c), β = 16.32, *SE* = 5.69, t = 2.86, $p < .05$. Yet for the total duration, the reading times for the rightmost object region with Broad Focus were significantly longer than those for the same region with Narrow Focus, β = -74.18, *SE* =21.75, t =-3.41, $p < .05$ (for all other measures: t's (1) $\leq .96$, p's $\geq .33$ and for the probability of regression out: z = 1.78 , p = .07). Note that 2 subjects in first fixation duration, 1 subject and 1 item in gaze duration, 2 subjects in regression path duration, 2 subjects in rereading duration and 1 subject and 1 item in total duration were found influential and excluded from the data, and the models were re-fit after the elimination of influential data in these models.

4.4.6.1.2 The spill-over region for the rightmost object

The mean values for each measure and their standard errors (in parentheses) for the spill-over region for the rightmost object are reported in Table 13.

Table 13. Mean Values for the Six Conditions (in msec. for durations), with Standard Errors in Parentheses, for the Six Eye-tracking Measures at the Spill-over Region for the Rightmost Object Region

	FFD	GD	RPD	RRD	TD	Prob. RO
BF-C. IO	242 (7.05)	286 (12.1)	392 (23.4)	150 (17.4)	419 (22.5)	.19 (0.03)
BF-InC. DO	244 (8.07)	296 (13.5)	374 (24.2)	144 (19.4)	417 (22.7)	.12 (0.02)
BF-InC. S	240 (9.02)	284 (13.2)	352 (25.8)	182 (21.9)	449 (25.6)	.09 (0.02)
NF-C. DO	236 (8.29)	291 (12.5)	434 (29.7)	191 (24.1)	440 (24.8)	.23 (0.03)
NF-InC. IO	249 (9.96)	278 (13.4)	379 (24.0)	176 (21.9)	447 (24.4)	.20 (0.03)
NF-Inc. S	238 (7.36)	277 (11.5)	409 (26.5)	163 (17.9)	437 (20.6)	.25 (0.03)

As in the rightmost object region, Focus was the only predictor variable for the spill-over region for the rightmost object. In the models where Focus was analyzed as a predictor, there was no reliable difference between the reading times for the spill-over region for the rightmost object in Broad Focus conditions (4d-f) and Narrow Focus conditions (4a-c) in any eye-tracking measure (t's (1) $\leq$ 1.34, p's $\geq$ .17 and probability of regression out: z = 1.84 , p = .06). Note that 2 subjects in gaze duration, 2 subjects in regression path duration, 2 subjects in rereading duration, 2 subjects in total duration and 1 subject and 1 item in probability of regression out were found influential and excluded from the data, and the models were re-fit after the elimination of influential data in these models.

The results of the analyses with the rightmost object region and its spill-over region indicated that when the rightmost constituent had narrow focus it was read slower than that in broad focus in an early measure of eye-tracking (first fixation duration) while the reverse was true for a later measure (total duration).

4.4.6.1.3 The replacive phrase region

The mean values for each measure and their standard errors (in parentheses) for the replacive phrase region are reported in Table 14.

Table 14. Mean Values for the Six Conditions (in msec. for durations), with Standard Errors in Parentheses, for the Six Eye-tracking Measures at the Replacive Phrase Region

	FFD	GD	RPD	RRD	TD	Prob. RO
BF-C. IO	225 (5.45)	624 (21.1)	708 (29.2)	207 (27.8)	806 (33.0)	0.06 (0.02)
BF-InC. DO	238 (6.30)	558 (19.9)	624 (25.3)	177 (21.0)	715 (25.5)	0.07 (0.02)
BF-InC. S	234 (5.72)	568 (23.1)	586 (24.3)	243 (29.2)	797 (31.7)	0.04 (0.01)
NF-C. DO	235 (6.83)	552 (17.5)	611 (24.6)	172 (25.6)	704 (30.3)	0.06 (0.02)
NF-InC. IO	231 (7.16)	635 (22.8)	674 (24.1)	191 (27.2)	825 (30.4)	0.05 (0.02)
NF-InC. S	250 (7.57)	576 (21.3)	635 (28.6)	170 (23.7)	724 (31.0)	0.09 (0.03)

Three analyses were conducted for the replacive phrase region. In the first analysis, Prosody (Congruous and Incongruous) and Focus (Broad and Narrow) were the predictor variables to examine the overall incongruency effect. In the second analysis, the main predictors were Focus and Prosodic Congruency in which the Prosodic Congruency had three levels (Congruous Object, Incongruous Object and Incongruous Subject). The second set of analysis was conducted to examine the effect of Incongruous Object and Incongruous Subject separately. And lastly, in the third analysis, Focus and Prosodic Congruency predictors were used, but only the Incongruous Object and Incongruous Subject levels of Prosodic Congruency predictor were included to examine whether one incongruous condition caused more difficulty in prosodic revision than the other.

In the first analysis with Prosody and Focus as predictors, analyses with Prosody as a predictor variable showed that there was no reliable difference in the reading times for the replacive phrase region between Congruous conditions (4a,d) and Incongruous conditions (4b,c,e,f) in any of the six measures (t's ≤ 1.43, p's $\geq .15$, and $z = .21$, $p = .83$). Similarly, analyses with the Focus as a predictor variable indicated that there was no reliable difference in the reading times for the replacive phrase region between Broad Focus and Narrow Focus in any of the six measures (t's ≤ 1.70, p's $\geq .08$, and $z = -.68$, $p = .49$). Note that 2 subjects and 1 item in first fixation duration, 2 data points in gaze duration, 1 subject in regression path duration and 1 subject in total duration were found influential and excluded from the data, and the models were re-fit after the elimination of influential data in these models.

The next set of analyses included Prosodic Congruency and Focus as the predictor variables. Congruous conditions were compared to the Incongruous Object and the Incongruous Subject conditions separately in this analysis. This set of

analysis was conducted to examine whether the incongruency effect in the first set of analysis was available regardless of the grammatical category (the subject or the object) of the incongruous conditions. Since the results for the Focus predictor were similar to those in the first set of analysis, they will not be reported here.

Analyses with Prosody as a predictor variable showed that there was no reliable difference in the reading times for the replacive phrase region between Congruous conditions (4a,d) and Incongruous Object conditions (4b,e) in any of the eye-tracking measures (t's $\leq .78$, p's $\geq .43$ and probability of regression out: $z = -.03$, $p = .96$). However, the comparison between Congruous (4a,d) and Incongruous Subject conditions (4c,f) indicated for total duration that the participants read the replacive phrase region in Incongruous Subject conditions in a significantly longer time than that in Congruous Conditions, ($\beta = 65.81{,}97$, $SE = 26.79$, $t = 2.45$, $p < .05$) (all other measures: t's ≤ 1.31, p's $\geq .19$, and probability of regression out: $z = .36$, $p = .71$). Note that 1 item and 5 data points in first fixation duration, 2 data points in gaze duration, 2 subjects in regression path duration, 1 subject in total duration and 1 subject in probability of regression out were found influential and excluded from the data, and the models were re-fit after the elimination of influential data in these models.

The last analysis conducted for the replacive phrase region included again the Prosodic Congruency and Focus predictors; however, only the Incongruous Object and Incongruous Subject levels of the Prosodic Congruency predictor were included. This analysis was conducted to examine whether recovery from the wrong stress assignment in the main clause was harder in Incongruous Subject conditions or Incongruous Object conditions. The results for the Focus predictor will not be reported to avoid repeating similar results.

Analyses with Prosody as a predictor variable showed that there was no reliable difference in the reading times for the replacive phrase region between Incongruous Object conditions (4b,e) and Incongruous Subject conditions (4c,f) in any of the eye-tracking measures (t's ≤ 1.40, p's $\geq .16$ and probability of regression out: $z = 1.05$, $p = .29$). Note that 1 subject in gaze duration, 1 subject and 1item regression path duration, 2 subjects in total duration and 1 subject in probability of regression out were found influential and excluded from the data, and the models were re-fit after the elimination of influential data in these models.

Overall, the results showed that the readers spent longer time in reading the replacive phrase region in Incongruous Subject conditions than that in Congruous conditions (total duration), but in other analyses, no statistically significant result was found.

4.4.6.1.4 The spill-over region for the replacive phrase region

The mean values for each measure and their standard errors (in parentheses) for the spill-over region of the replacive phrase region are reported in Table 15.

Table 15. Mean Values for the Six Conditions (in msec. for durations), with Standard Errors in Parentheses, for the Six Eye-tracking Measures at the Spill-over Region for the Replacive Phrase Region

	FFD	GD	RPD	RRD	TD	Prob. RO
BF-C. IO	239 (7.31)	308 (13.7)	377 (29.0)	116 (22.4)	317 (20.7)	0.11 (0.03)
BF-InC. DO	243 (7.15)	297 (13.6)	404 (34.2)	168 (24.7)	362 (22.3)	0.08 (0.02)
BF-InC. S	248 (8.37)	308 (14.4)	416 (40.3)	149 (26.2)	341 (24.2)	0.08 (0.03)
NF-C. DO	250 (7.82)	311 (14.9)	383 (31.6)	95(20.4)	328 (23.8)	0.09 (0.03)
NF-InC. IO	245 (8.02)	298 (11.9)	379 (34.5)	180 (27.3)	332 (23.0)	0.06 (0.02)
NF-InC. S	249 (7.98)	318 (15.7)	455 (35.4)	155 (26.2)	367 (26.7)	0.18 (0.03)

Three sets of analyses conducted at the replacive phrase region were also conducted at this region. The first analysis included Prosody and Focus predictor variables, the second analysis had Prosodic Congruency and Focus predictor

variables and the third analysis had Prosodic Congruency (only Incongruous Object Incongruous Subject levels) and Focus.

In the first analysis with Prosody and Focus predictors, analyses with Prosody as a predictor variable indicated for regression path duration, rereading duration and total duration that the participants took longer to read the spill-over region for the replacive phrase region in Incongruous conditions (4b,c,e,f) than that in Congruous Conditions (4a,d) (regression path duration: $\beta = 69.60$, $SE = 27.36$, $t = 2.54$, $p < .05$, rereading duration: $\beta = 66.61$, $SE = 17.13$, $t = 3.88$, $p < .05$, total duration: $\beta = 31.14$, $SE = 14.11$, $t = 2.20$, $p < .05$; for all other measures: t's (1) $\leq .89$, p's $\geq .37$; $z = -.29$, $p = .76$). Analyses with the Focus as a predictor variable indicated that there was no reliable difference in the reading times for/probability of regression out of the replacive phrase region between Broad Focus and Narrow Focus in any of the six measures (t's (1) $\leq .92$, p's $\geq .35$; $z = .99$, $p = .32$). Note that 3 subjects in gaze duration, 3 subjects and 5 data points in regression path duration and 2 subjects and 5 data points in total duration were found influential and excluded from the data, and the models were re-fit after the elimination of influential data in these models.

The models with two predictors fitted the data better than the simple models with the Focus predictor in rereading duration ($\chi 2$ (1) = 12.15, $p < .05$) and total duration ($\chi 2$ (1) = 4.78, $p < .05$). In order to understand how the Prosody and Focus predictors may have contributed to the data in the complex model with two predictors, the data were split and the effects of prosodic (in)congruency was examined in each Broad Focus and Narrow Focus conditions individually for rereading duration and total duration.

The results of the analyses for rereading duration showed that in Broad Focus conditions, the spill-over region for the replacive phrase region in Incongruous

conditions was read significantly slower than that in Congruous conditions , β = 69.62, *SE* = 24.07, t = 2.89, $p < .05$. The analyses for the total duration measure did not show any reliable difference between Congruous and Incongruous conditions (t = 1.61, p =.10) in Broad Focus conditions. Similarly in Narrow Focus conditions, it was found for rereading duration that the spill-over region for the replacive phrase regions that were prosodically Incongruous were read significantly slower than those that were prosodically Congruous, β = 45.64, *SE* = 22.58, t = 2.02, $p < .05$, but no reliable difference was found for total duration (β = 27.37, *SE* = 19.88, t = 1.37, p = .16).

The pattern for the pairwise comparisons can be observed below, in Table 16.

Table 16. Reading Time Data Pattern for the Spill-over Region for the Replacive Phrase Region. > indicates longer reading time; = indicates no significant difference in reading time. All inequalities in the table are confirmed at p <.05 or smaller

Eye-tracking Measures	Broad Focus	Narrow Focus
Rereading Duration	Incongruous > Congruous	Incongruous > Congruous
Total Duration	Incongruous = Congruous	Incongruous = Congruous

In addition, in order to observe how focus revision alone influenced the reading times for the spill-over region for replacive phrase region, without the effect of prosodic revision, another pairwise comparison for rereading duration and total duration was done for Congruous conditions. The results indicated that there was no significant difference for the reading times of the spill-over region between the Broad Focus-Congruous condition and Narrow Focus-Congruous condition in either of the measures (t's $\leq .41$, p's $\geq .67$).

In the second set of analyses where Prosodic Congruency and Focus were the predictor variables, analyses with the Prosodic Congruency as a predictor variable for rereading duration and total duration showed that the participants took longer to read

the spill-over region of the replacive phrase region in Incongruous Object conditions (4b,e) than that in Congruous conditions (4a,d) (rereading duration: β = 80.04, *SE* = 19.72, *t* = 4.05, *p* < .05 and total duration: β = 33.16, *SE* = 16.16, *t* = 2.05, *p* < .05; all other measures: *t*'s ≤ .61, *p*'s ≥ .54 and probability of regression out: *z* = -1.47, *p* = .14). Similarly, analyses with the Prosodic Congruency as a predictor variable for rereading duration showed that the participants read the spill-over region of the replacive phrase region in Incongruous Subject conditions (4c,f) in a longer time than that in Congruous conditions (1a,d), β = 53.34, *SE* = 19.65, *t* = 2.71, *p* < .05 (all other measures: *t*'s ≤ 1.53, *p*'s ≥ .12 and probability of regression out: *z* = .63, *p* = .52). Note that 1 subject in first fixation duration, 2 subjects in rereading duration, 1 subject in probability of regression out were found influential and excluded from the data, and the models were re-fit after the elimination of influential data in these models. Since the results for the analyses with Focus as a predictor are similar to the first set of analyses, they will not be reported here.

The models with two predictors fitted the data better than the simple models with the Focus predictor in rereading duration, $\chi 2$ (1) = 12.30, *p* < .05. In order to understand the nature of interaction between Prosodic Congruency and Focus predictors, the data for rereading duration were split into Broad and Narrow Focus and were examined separately. The spill-over region for the replacive phrase region in the Incongruous Object conditions took longer to read than that in Congruous conditions in both Broad Focus (β = 79.51, *SE* = 29.46, *t* = 2.69, *p* < .05) and Narrow Focus conditions (β = 88.83, *SE* = 29.15, *t* = 3.04, *p* < .05). The reading times for the same region were not different between Incongruous Subject and Congruous conditions either in Broad Focus (β = 58.45, *SE* = 30.18, *t* = 1.93, *p* = .054) or Narrow Focus (β = 46.10, *SE* = 27.74, *t* = 1.62, *p* = .09).

The last analysis conducted for the replacive phrase region included again the Prosodic Congruency and Focus predictors, however, only the Incongruous Object and Incongruous Subject levels of the Prosodic Congruency predictor was included. Analyses with the Prosodic Congruency as a predictor variable showed that there was no difference between the reading times for the spill-over region for the replacive phrase region in Incongruous Object and that in Incongruous Subject conditions in any of the measures (t's $\leq$ 1.38, p's $\geq$ .16; z = 1.51, p = .12). Note that 2 subjects in first fixation duration, 2 subjects in gaze duration, 2 subjects in regression path duration, 2 subjects in rereading duration and 1 subject in total duration were found influential and excluded from the data, and the models were re-fit after the elimination of influential data in these models. Since the results for the analyses with Focus as a predictor are similar to the previous analyses, they will not be reported here.

The complex model including interaction of the two predictor variables (Prosodic Congruency and Focus) explained the data better than the simpler models in probability of regression out ($\chi 2$ (1) = 4.41, p < .05). In order to understand how the Prosodic Congruency and Focus predictors may have interacted in the complex model with the interaction, the data were split and analyzed in Broad Focus and Narrow Focus conditions separately for the probability of regression out measure. The results of these analyses indicated that while in Broad Focus conditions, the reading times for the spill-over region in Incongruous Object and Incongruous Subject conditions did not have any reliable difference β = -1.85, SE = 5.11, t = -.36, p =.71, in Narrow Focus condition, it was found that the participants regressed out more in Incongruous Subject conditions compared to Incongruous Object conditions, β = 15.99, SE = 5.80, t = -2.75, p < .05.

Overall findings for the spill-over region for the replacive phrase region indicated that recovery of stress assignment was more costly in both Incongruous Object (rereading and total duration) and Incongruous Subject conditions (rereading duration) than Congruous conditions. And the comparison between Incongruous Subject and Incongruous Object conditions showed that processing was costlier (probability of regression out) when reading the spill-over region in Incongruous Subject. No significant difference between Broad Focus and Narrow Focus conditions was found at the spill-over region.

4.4.6.2 L1 English results

The data for English L1 speakers are presented in the form of descriptive statistics due to the low number of subjects. Although statistical analyses were also carried out, they will be presented very briefly following the descriptive statistics as it is difficult to make any reliable generalizations to the target population with such limited sample size.

The data for English L1 speakers were also analyzed at the rightmost object region, the spill-over region for the rightmost object region, the replacive phrase region and, the spill-over region for the replacive phrase region. The following tables summarize the mean values for each measure and their standard errors for those regions for each eye-tracking measure: Table 17: the rightmost object region, Table 18: the spill-over region for the rightmost object region, Table 19: the replacive phrase region and Table 20: the spill-over region for the replacive phrase region. The relevant statistical analyses are briefly reported below each table. In these analyses, Focus (Broad Focus and Narrow Focus) was the predictor for the rightmost object regions and its spill-over region. For the replacive phrase region and its spill-over

region, Focus and Prosody (Congruous and Incongruous) were the predictors for the first set of analyses; Focus and Prosodic Congruency (Congruous, Incongruous Object and Incongruous Subject) were the predictors for the second set of analyses.

Table 17. Mean Values for the Six Conditions (in milliseconds (msec.) for durations), with Standard Errors in Parentheses, for the Six Eye-tracking Measures at the Rightmost Object Region

	FFD	GD	RPD	RRD	TD	Prob. RO
BF-C. IO	233 (16.3)	386 (36.4)	447 (41.5)	257 (68.5)	666 (88.8)	.15 (0.08)
BF-InC. DO	226 (10.2)	407 (59.6)	486 (78.2)	270 (79.0)	648 (85.1)	.09 (0.06)
BF-InC. S	232 (15.2)	449 (54.0)	511 (61.2)	301 (64.9)	767 (83.9)	.19 (0.08)
NF-C. DO	264 (16.4)	364 (33.8)	521 (47.0)	288 (60.0)	636 (54.0)	.30 (0.09)
NF-InC. IO	270 (19.2)	444 (33.6)	503 (52.8)	169 (44.9)	590 (58.5)	.07 (0.05)
NF-InC. S	289 (17.4)	388 (29.6)	410 (29.9)	319 (58.8)	642 (64.9)	.09 (0.06)

For first fixation duration, the participants took longer to read the rightmost object region in Narrow Focus conditions (4d,e,f) in than that in Broad Focus conditions (4a,b,c), β =43,41, SE = 13.09, t = 3.31, $p < .05$ (all other measures: t's $\leq$ 1.76, p's $\geq .07$ and probability of regression out $z = .27$, $p = .78$).

Table 18. Mean Values for the Six Conditions (in milliseconds (msec.) for durations), with Standard Errors in Parentheses, for the Six Eye-tracking Measures at the Spill-over Region for the Rightmost Object Region

	FFD	GD	RPD	RRD	TD	Prob. RO
BF-C. IO	242(13.4)	242 (13.4)	262 (27.0)	128 (46.2)	387 (57.3)	.05 (0.05)
BF-InC. DO	278 (31.3)	285 (31.3)	449 (106)	148 (60.7)	388 (58.4)	.15 (0.08)
BF-InC. S	215 (12.8)	237 (20.0)	328 (43.7)	152 (60.8)	364 (50.1)	.02 (0.09)
NF-C. DO	218 (20.9)	281 (40.0)	328 (44.9)	87.3 (27.9)	320 (45.6)	.15 (0.08)
NF-InC. IO	261 (25.6)	261 (25.6)	311 (46.1)	115 (37.7)	323 (45.5)	.08 (0.05)
NF-InC. S	280 (27.2)	304 (30.1)	357 (48.1)	174 (61.0)	447 (57.4)	.11 (0.07)

There was no significant difference for the reading times for the spill-over region of the rightmost object region between Broad Focus conditions (4a,b,c) and

Narrow Focus conditions (4d,e,f) in any of the measures, *t*'s ≤ .96, *p*'s ≥ .33; *z* = -.43, *p* = .66.

Table 19. Mean Values for the Six Conditions (in milliseconds (msec.) for durations), with Standard Errors in Parentheses, for the Six Eye-tracking Measures at the Replacive Phrase Region

	FFD	GD	RPD	RRD	TD	Prob. RO
BF-C. IO	208 (7.30)	498 (65.1)	603 (72.5)	152 (49.0)	653 (65.5)	0.14 (0.07)
BF-InC. DO	247 (17.7)	470 (56.8)	591 (90.2)	217 (67.3)	661 (90.3)	0.16 (0.07)
BF-InC. S	238 (23.0)	404 (54.7)	416 (53.8)	156 (44.1)	593 (60.5)	0.05 (0.05)
NF-C. DO	233 (18.2)	523 (60.6)	563 (76.7)	142 (43.4)	645 (67.6)	0.08 (0.06)
NF-InC. IO	214 (9.30)	506 (42.5)	599 (33.8)	161 (62.8)	587 (68.2)	0.18 (0.08)
NF-InC. S	258 (29.3)	504 (55.0)	634 (102)	197 (69.5)	726 (88.8)	0.18 (0.08)

In the first set of analyses, there was no reliable difference for the reading times for the replacive phrase region between Congruous and Incongruous conditions in any of the six eye-tracking measures, *t*'s (1) ≤ 1.06, *p*'s ≥ .28; *z* = .05, *p* = .95. The reading behavior for the replacive phrase region in Broad Focus conditions (4a,b,c) were not significantly different from those in the Narrow Focus conditions (4d,e,f) in any of the measures, *t*'s (1) ≤ 1.12, *p*'s ≥ .26; *z* = .69, *p* = .48.

In the second set of analyses, no significant difference for the reading behavior for the replacive phrase was found between Congruous (4a,d) and Incongruous Object conditions (4b,e) in any of the measures, *t*'s (1) ≤ .63, *p*'s ≥ .52; *z* = .37, *p* = .70. In addition, the reading behavior for the replacive phrase region in Congruous conditions (4a,d) were not significantly different from those in Incongruous Subject conditions (4c,f) in any of the eye-tracking measures, *t*'s (1) ≤ 1.41, *p*'s ≥ .15; *z* = .35, *p* = .72.

Table 20. Mean Values for the Six Conditions (in milliseconds (msec.) for durations), with Standard Errors in Parentheses, for the Six Eye-tracking Measures at the Spill-over Region for the Replacive Phrase Region

	FFD	GD	RPD	RRD	TD	Prob. RO
BF-C. IO	235 (29.7)	281 (43.5)	903 (497.)	195 (84.5)	350 (71.9)	0.12 (0.12)
BF-InC. DO	240 (36.3)	379 (65.9)	1401 (712)	138 (64.4)	447 (83.6)	0.25 (0.13)
BF-InC. S	225 (25.1)	300 (55.4)	1117 (561)	211 (84.1)	457 (80.4)	0.23 (0.12)
NF-C. DO	205 (19.7)	306 (62.3)	838 (366)	189 (75.4)	432 (64.8)	0.16 (0.11)
NF-InC. IO	213 (11.8)	294 (56.3)	294 (56.3)	140 (38.8)	359 (66.6)	0 (0)
NF-InC. S	212 (11.0)	239 (17.4)	877 (584)	196 (96.9)	443 (82.2)	0.16 (0.11)

In the first set of analyses, there was no reliable difference in the reading behavior for the spill-over region for the replacive phrase region between Congruous and Incongruous conditions in any of the six eye-tracking measures, *t*'s (1) ≤ .81, *p*'s ≥ .41, *z* = -.06, *p* = .95. The reading behavior for the replacive phrase region in Broad Focus conditions (4a,b,c) were not significantly different from those in the Narrow Focus conditions (4d,e,f) in any of the measures, *t*'s (1) ≤ 1.79, *p*'s ≥ .07, *z* = -1.13, *p* = .25.

In the second set of analyses, no significant difference in the reading behavior for the replacive phrase was observed between Congruous (4a,d) and Incongruous Object conditions (4b,e) in any of the measures, *t*'s (1) ≤ 1.21, *p*'s ≥ .23; *z* = .24, *p* = .80. Similarly, the reading behavior for the replacive phrase region in Congruous conditions (4a,d) were not significantly different from those in Incongruous Subject conditions (4c,f) in any of the eye-tracking measures, *t*'s (1) ≤ .93, *p*'s ≥ .35; *z* = .27, *p* = .78.

To summarize the results for L1 English speakers, no significant findings at any regions were found in the analyses of the six eye-tracking measures. This was very likely due to the low number of participants.

4.4.7 Discussion

Experiment 4 investigated real-time focus processing strategies in L1 and L2 English through an eye-tracking experiment. The findings of the L1 English data revealed no significant differences between the conditions with distinct (in)congruency and focus structure properties. As was mentioned in the Participants section for Experiment 4, data collection for L1 English speakers had to be paused due to the COVID-19 pandemic. That resulted in a very small number of participants in the L1 English group which limits any generalization to be made from this small sample to its target population. Thus, in my discussion of the L2 data, I will refer mainly to theoretical research and previous experimental studies on processing of focus in L1 English.

Previous experimental studies in English as L1 (Carlson et al., 2009; Clifton & Frazier, 2016; Frazier & Clifton, 1998) confirmed the theoretical literature in that English native speakers perceived sentential stress position as the default focus position. For the present study materials, this would correspond to the indirect object position and default (broad) focus in canonical word-order sentences (Carlson et al., 2009; Clifton & Frazier, 2016; Frazier & Clifton, 1998; Kahnemuyipour, 2009) and the direct object and narrow focus in non-canonical word-order sentences (Brown et al. 2012; Kahnemuyipour, 2009).

In the previous studies in English, it was also observed that processing broad focus is costlier than narrow focus (Lowder & Gordon, 2015) because of its deeper encoding and deeper integration to the previous context (Lowder & Gordon, 2015) and increased processing load on the working memory (Reichle & Birdsong, 2014). In addition, at the replacive phrase region, given the results of Experiment 2, revising from narrow-to-narrow focus would be costlier than revising from broad-to-narrow since deleting deeply-integrated information compared to assigning it from the

ground up would be costlier (Benatar & Clifton, 2014). Also, L1 English would take longer read the replacive phrase region in Incongruous conditions than that in Congruous conditions as in previous studies (Stolterfoht et al. 2007 in L1 German; Rijswijk et al., 2017 in L1 Dutch) and similar to L1 speakers of Turkish, because in Congruous conditions, the replacive phrase region had a constituent which is in the same alternative set with the rightmost object and did not require any prosodic revision unlike incongruous conditions.

The Interface Hypothesis (Sorace & Filiaci, 2006; Sorace, 2011) predicted for the L2 learners that they would process focus in a non-native-like fashion because processing focus requires integration of syntactic and discourse-related information, and L2 learners fail to do so. Turkish L2 learners' first fixation durations were higher for the rightmost object in the Narrow Focus conditions than that in Broad Focus conditions. But their total duration fixations for the rightmost object were longer in Broad Focus conditions than that in Narrow Focus conditions. It has been reported that effects of processing focus appear at eye-tracking measures which indicate later processes as it requires integration of information into the context (Lowder & Gordon, 2015). First fixation duration is one of the eye-tracking measures that indicate earlier processes such as lexical access (Rayner, 1998). Thus, it is not clear whether the results of first fixation durations could be attributed to the L2 speakers' processing of focus per se. The results of the total duration fixations were also unexpected as they are in the opposite direction of what was predicted. It is possible to attribute this to the number of words in the rightmost object in Broad Focus conditions (three words, e.g., *to the director*) and in the Narrow Focus conditions (two words, e.g., *the flowers*). Since no reliable difference was found in any other measure or in the spill-over region, the results for the rightmost object region appear

to suggest that L2 speakers did not process focus in manners similar to native speakers and they could not differentiate narrow focus from broad focus. In addition, no focus revision effect was observed at the replacive phrase region mostly because L2 learners could not differentiate broad and narrow focus in the rightmost object region. These results could be either due to L2 learners' failure to integrate syntactic and discourse-related cues as was predicted by the IH (Sorace & Filiaci, 2006; Sorace, 2011) or due to a failure to weight syntactic cues (word-order) for given-before-new principle in English (Cunnings, 2017).

The L2 speakers appeared to process prosodic (in)congruency, though. As was revealed at the replacive phrase region (total duration) and its spill-over region (regression path duration, rereading duration and total duration) L2 learners read the replacive phrase region in a longer time in Incongruous conditions compared to that in Congruous object conditions. This was also evident in the comparison of Incongruous Object (rereading duration and total duration) and Incongruous Subject (rereading duration) to the Congruous conditions separately. These results indicate that the L2 learners could process prosodic incongruity. That is, they perceived the rightmost object position as the default focus position and when they encountered an incongruous constituent with the rightmost object, they spent longer time to revise sentential stress/focus from the rightmost object to another constituent.

Together with the data for broad/narrow focus processing, these results show that advanced-proficiency-level Turkish learners of English have acquired the syntactic information that sentential stress/broad focus is assigned to the highest element in the stress domain (SSR, Kahnemuyipour, 2009), which corresponds to the rightmost object in dative structures, but they could not process the difference between the focus type (broad/narrow) which requires integration of discourse-level

cues in the form of given-before-new. This may suggest that, as predicted by the Interface Hypothesis (Sorace & Filiaci, 2006; Sorace, 2011), L2 speakers cannot integrate the syntactic (word-order) and discourse-related information (given-before-new) during online processing. Alternatively, the Turkish L2 learners of English may not have acquired that in English, similar to their L1 Turkish, changes to word-order is a strategy to mark narrow focus. This could be due to the limited input for that as English uses scrambling as an information structure tool sparingly, unlike Turkish.

The failure to differentiate narrow focus from broad focus could also be due to L2 learners' increased reliance on "good enough" processing (Clahsen et al, 2006, Ferreira et al., 2002). Recall that it has been argued that processing narrow focus requires deeper processing as integration of information to the preceding context would be deeper (Lowder & Gordon, 2015, Sanford et al., 2006; Sturt et al., 2004). If L2 speakers do not engage in deeper processing as was suggested for syntactic processing in the L2 (Clahsen & Felser 2006), that may have prevented them from differentiating narrow focus from broad focus. But this interpretation requires caution because the L2 group in the present study did show evidence for processing syntactic clues for stress and default focus position in a sentence.

The L2 group did not show any L1 effects in their processing of L2 focus. If they did, they could have favored revisions of focus to the subject. But similar to native speakers, they preferred prosodically congruous sentences over prosodically incongruous sentences and prosodically incongruous objects over prosodically incongruous subjects.

CHAPTER 5

GENERAL DISCUSSION AND CONCLUSION

5.1 Summary of the findings and general discussion

This study investigated whether the position of sentential stress is perceived as the default focus position in Turkish as L1 and English as L1 and L2. It also examined how the participants' predictions for upcoming information are influenced by the way they assign focus to sentences. To test these questions, two sentence completion tasks (Experiments 1 and 3) and two eye-tracking experiments (Experiments 2 and 4) were conducted.

Experiment 1 (sentence completion task in Turkish) employed Turkish sentences with a ditransitive verb followed by blank replacive phrases which could contrast either with the subject, the direct object or the indirect object of the main clause. The word-order in the main clause was modified. An example sentence for the sentence completion task is: *Defne Hanım [çiçeğ-i yönetmen-e]/ [yönetmen-e çiçeği]ver-di, _____ değil.(Miss Defne$_{NOM}$ gave [the flowers$_{ACC}$ to the director$_{DAT}$]/[the director$_{ACC}$ the flowers$_{DAT}$], not _____*). The participants' task was to complete the replacive phrase region with a given option (direct object, indirect object or subject). The participants' completion of the replacive phrase region would indicate which constituent they assigned focus in the main clause. Theoretical literature predicted the focus to be placed on the immediately preverbal constituent. For sentences with canonical word-order, in which the direct object preceded the indirect object, the immediately preverbal focus would correspond to broad focus. For sentences with non-canonical word-order, in which the indirect object preceded the direct object, the immediately preverbal focus would correspond

to narrow focus. Experiment 2 (eye-tracking experiment in Turkish) employed the same materials in Experiment 1 but the replacive phrases following the main clauses with a ditransitive verb were not left blank. The constituent in the replacive phrase contrasted either with the subject, the direct object or the indirect object, creating prosodic (in)congruency with the immediately preverbal constituent as in *Defne Hanım [çiçeğ-i yönetmen-e]/ [yönetmen-e çiçeği]ver-di, aktör-e/ödül-ü/sunucu değil.(Miss Defne$_{NOM}$ gave [the flowers$_{ACC}$ to the director$_{DAT}$]/[the director$_{ACC}$ the flowers$_{DAT}$], not to the actor$_{DAT}$/ the trophy$_{ACC}$/ the presenter$_{NOM}$*). As in Experiment 1, the order of the constituents in the main clause was manipulated as canonical word-order (broad focus) or non-canonical word-order (narrow focus). The participants' eye movements were examined both for the immediately preverbal constituent (to examine broad and narrow focus assignment) and for the replacive phrase region (to examine processing of prosodic congruency and revision behavior for focus structure).

The results of Experiment 1 showed, as was predicted in the theoretical literature (Erguvanlı, 1984; İşsever, 2003; Kılıçaslan, 1994) that the participants assigned focus to the immediately preverbal constituent (62%). (They rarely assigned focus to another constituent (38% for the subject and the non-immediately preverbal object together)). This corresponded to the indirect object in canonical word-order sentences (Erguvanli, 1984; Erkü, 1983; Kornfilt, 1997) and direct object in non-canonical word-order sentences. It was not clear, without eye-tracking data though, that the immediately preverbal constituent carried broad focus in canonical word-order sentences (Göksel & Özsoy, 2000; 2003; İşsever, 2006) and narrow focus in non-canonical word-order sentences (Göksel &Özsoy, 2003; İşsever, 2006; Kahnemuyipour, 2009).

The data for Experiment 2 showed for the immediately preverbal region (and its spillover region) that the participants were slower in reading those regions when the sentences with a ditransitive verb had non-canonical word-order (and thereby narrow focus) than when the main clause had canonical word-order (and hence broad focus). This was evident especially in the later measures of eye-tracking such as regression path duration, rereading duration and total duration. Lowder and Gordon (2015) argue that slower reading for narrow focus indicates deeper processing as deeper integration of the focused constituent to the preceding context is promoted in these sentences. It is also possible that the participants may have perceived the narrowly-focused immediately preverbal constituent to convey contrastive information (İşsever, 2003). Reichle and Birdsong (2014) argue that narrow (or contrastive) focus requires activation of a set of alternatives in the perceiver's mind and that is costlier to process than broad focus in which a constituent's set of alternatives are not activated. Reichle and Birdsong (2014) also found an increase in working memory load for contrastively-focused constituents in L1 French, which may be as well due to processing the activated alternatives set. Thus, the longer reading times in the narrow focus conditions compared to the broad focus conditions could be due to their deeper processing, to the activation of the alternative set for that constituent or to the increased memory load which may also be because of activated alternatives set.

The analyses of the replacive phrase region revealed that both in canonical and non-canonical word-order sentences, there was a consistent slow-down at this region (gaze duration, regression path duration, rereading duration) and its spill-over region (regression path duration, rereading duration and probability of regression out) when the constituent at the replacive phrase region contrasted with a constituent

that was not immediately preverbal and was therefore prosodically incongruous. These results are in line with the sentence completion task and show that the participants assigned focus to the immediately preverbal constituent both in canonical word-order sentences (Erguvanlı, 1984; Göksel & Özsoy, 2000, 2003; İşsever, 2003, 2006) and non-canonical word-order sentences (Erguvanlı, 1984; İşsever, 2003; Kılıçaslan, 1994). Note that the incongruency effect was stronger in the non-canonical word-order sentences, which further supports the view that immediately preverbal constituent in the non-canonical word-order had narrow focus and it was processed deeper (Lowder &Gordon, 2015). These results further confirm that readers project a default focus position as they read sentences (Carlson et al., 2009; Clifton & Frazier, 2016; Frazier & Clifton, 1998; Stolterfoht et al., 2007). Further analyses at the replacive phrase region (and its spillover region) showed that reading this region in Incongruous Subject conditions took longer than that in Incongruous Object conditions. This suggests that the subject position is the least likely to receive focus assignment in Turkish probably because the subject is mostly considered to present background information in Turkish (Erguvanli, 1984).

It was also predicted for the replacive phrase region that revising the focus structure would cause difficulty. Stolterfoht et al. found for German that changing the focus structure from broad to narrow caused difficulty while no processing difficulty was observed when the focus structure remained narrow. Based on Stolterfoht et al.'s findings, it was predicted for Experiment 2 that L1 Turkish speakers would spend longer time on reading the replacive phrase region in broad focus conditions compared to those in narrow focus conditions because the readers would need to change the focus from broad to narrow in the former, but they would keep it narrow in the latter. But the results showed the opposite. That is, the Turkish readers spent

longer time reading the replacive phrase region in Narrow Focus conditions compared to that in Broad Focus conditions (as revealed by gaze duration and regression path duration measures) and their probability of regressing out of the replacive phrase region was higher in Narrow Focus conditions compared to Broad Focus conditions. And, as stated above, the recovery from the incongruency effect was harder in narrow focus conditions. These results suggest that revising the focus structure of the main clause from narrow focus to narrow focus is costlier than revising the focus structure of the main clause from broad focus to narrow focus. I suggest that it is because processing narrow focus requires deeper processing and deeper integration of a word into the context; and deleting deeply-integrated information compared to assigning it from the ground up would be costlier (see Pauker & Steinhauer, 2011 for a similar argument on prosodic boundary deletion vs. prosodic boundary assignment). This would be in line with the earlier findings of Benatar and Clifton (2014) who argue that revising corrective (i.e. contrastive) focus requires deletion of old information and addition of new information and this is costlier than only adding new information.

Experiment 3 was the English version of Experiment 1. It also employed main clauses with a ditransitive verb followed by blank replacive phrases which could contrast with either the subject, the direct object or the indirect object of the main clause. The word-order in the main clause was manipulated. An example sentence for the sentence completion task is: *The presenter gave [the flowers to the director]/[the director the flowers] yesterday, not* _____. The participants were to complete the replacive phrase region with a given option (direct object, indirect object or subject). The participants' completion of the replacive phrase region would indicate whether they assigned focus to the rightmost object, as would be predicted

by the theoretical literature. As in Experiment 1, for the sentences with canonical word-order, in which the direct object preceded the indirect object, this would correspond to broad focus, and for the sentences with non-canonical word-order, in which the indirect object preceded the direct object, this would correspond to narrow focus. Experiment 4 was an eye-tracking experiment in English and employed the same materials as in Experiment 3, but as in the Turkish eye-tracking experiment, the replacive phrases following the main clauses with a ditransitive verb were not left blank. The constituent in the replacive phrase contrasted either with the subject, the direct object or the indirect object, creating prosodic (in)congruency with the rightmost object, as in *The presenter gave [the flowers to the director]/[the director the flowers] yesterday, not to the actress/ not the trophy/not the organizer.* As in Experiment 3, the word-order of the constituents in the main clause was manipulated for canonical order (broad focus) and for non-canonical order (narrow focus). The participants' eye movements were examined both for the rightmost object (to examine broad and narrow focus assignment) and for the replacive phrase region (to examine processing behavior for prosodic congruency and revision to focus structure).

The data in Experiment 3 showed that the L1 English speakers assigned focus mostly to the rightmost stress-bearing constituent (63%). (Their assigned focus to another constituent less frequently (37% for the subject and the non-rightmost object combined)). This was in line with the previous findings on focus assignment in English (Carlson et al., 2009; Clifton & Frazier, 2016; Frazier & Clifton, 1998). Similarly, Turkish L2 learners assigned focus mostly to the rightmost object (%54). (Their assignment of focus to another constituent was lower (46%)). The rightmost object corresponded to the indirect object in canonical word-order sentences (Clifton

& Frazier, 2004; Brown et al., 2012) and to the direct object in non-canonical word-order sentences (Brown et al., 2012; Clifton & Frazier, 2004). These results showed that Turkish L2 learners associated the rightmost constituent with focus, similar to L1 English speakers. It is not clear, without eye-tracking data though, that in canonical word-order, they assigned broad focus to the rightmost object (Kahnemuyipour, 2009) and in non-canonical word-order they assigned narrow focus to the rightmost object (Brown et al., 2012; Kahnemuyipour, 2009).

In Experiment 4, because of the COVID-19 pandemic, the eye-tracking data collection had to be paused, so there were very few L1 English speakers. The insufficient number of L1 English speakers does not allow me to make any inferences for the target L1 population. Thus, the findings for Turkish L2 learners will be discussed in relation to the previous focus studies conducted for L1 speakers of English.

The analyses for the rightmost object in L2 speakers' data showed no reliable difference between the narrow focus conditions and broad focus conditions. As discussed for L1 Turkish data, previous literature on L1 English showed longer reading times for narrow focus conditions compared to broad focus conditions (Lowder & Gordon, 2015; Reichle & Birdsong, 2014). Based on the previous findings in English (Lowder & Gordon, 2015) the L2 data show that the advanced-proficiency Turkish speakers of English could not differentiate between narrow focus and broad focus in English. This suggests that although the L2 speakers were aware of the default focus position in English (cf. the sentence completion data), the integration of the narrowly-focused constituent to the previous context was not possible for them (Lowder & Gordon, 2015). This may indicate that the L2 learners did good-enough parsing (Ferreira et al., 2002) of focus since they could not

integrate information that would require deeper processing (Lowder & Gordon, 2015). Alternatively, they did not perceive the contrastive meaning of narrow focus and did not activate an alternative set for the focused constituent. This may be because L2 learners use their working memory parsimoniously (Dussias, 2003; Harrington & Sawyer, 1992) and could not handle the extra load processing contrastive focus would put on their working memory (Reichle & Birdsong, 2014). These results may also show that Turkish speakers of English have not acquired that changes to word-order is a focus marking strategy in English. Although this strategy is frequently employed in their L1, English is mainly a strict word-order language. Thus, they may not have received enough input in their L2 which would suggest that word-order changes are employed as a tool for information structure.

The data for the replacive region also showed that L2 Turkish learners' reading behavior did not differ for conditions that required revision from broad focus to narrow focus and from narrow focus to narrow focus. This is very likely to be due to their failure to process the difference between broad focus and narrow focus at the rightmost object.

The analyses at the replacive phrase region (for the total duration measure) and at its spill-over region (for regression path duration, rereading duration and total duration) showed that Turkish L2 learners spent longer time in reading the incongruous replacive phrase regions compared to the congruous ones. This indicates that L2 learners compute, in real-time, that in English focus is assigned to the rightmost stress-bearing constituent. This is similar to the processing behavior by L1 English speakers (Carlson et al., 2009; Clifton & Frazier, 2016; Frazier & Clifton, 1998). Their sensitivity to prosodic incongruency with the rightmost object, together with their sentence completion behavior, indicates that Turkish learners of English

were not affected by their L1 focus constraints because in Turkish only preverbal constituents can be assigned focus (Göksel & Özsoy, 2000). If the L2 learners in English had been influenced by the word-order properties of their L1 and by this constraint, they might have assigned focus in English to the subject as the subject is the only preverbal constituent.

The results overall indicate that while the L2 learners have acquired the sentential stress position in English and can assign broad focus to the constituent that bears sentential stress (Kahnemuyipour, 2009), they could not differentiate the information structure associated with broad focus and narrow focus when modulated by word-order. As was mentioned above, scrambling is a rare strategy used for information structure in English. The L2 speaker, having limited input in this strategy, may have ignored the word-order cues about the information structure. Alternatively, this may be due to L2 speakers' inability to engage in deeper processing in L2. As was discussed above, computing narrow focus would require deeper encoding and deeper integration of the focused information to the preceding context (Lowder & Gordon, 2015). Perhaps due to the L2 speakers' increased reliance on good-enough processing (Clahsen & Felser, 2006; Ferreira et al., 2002), they might have failed to process the narrowly-focused information deeper. The L2 speakers' failure to compute narrow focus could also be due to the difficulty they experience in computing information at the syntax-discourse interface. The Interface Hypothesis (Sorace & Filiaci, 2006; Sorace, 2011) predicts that L2 speakers, even at near-native L2 proficiency, face difficulties in processing information that requires integration of information from the sub-modules of language (e.g., syntax) and other cognitive domains external to the grammar (e.g., discourse). Processing the dative alternation in the present study required the L2 leaners to compute discourse

information (given-before-new) manifested through syntactic operations (changes to word-order). Thus, the L2 speakers' failure to compute the differences between narrow focus and broad focus could also be due to their failure to integrate information at the syntax-discourse interface.

5.2 Conclusion

The sentence completion task and the eye-tracking experiment in Turkish provided empirical evidence that the immediately preverbal position is perceived as the sentential stress and broad focus position in sentences with canonical word-order (Göksel & Özsoy, 2000; 2003; İşsever, 2006) and as narrow focus position in sentences with non-canonical word-order (Erguvanlı, 1984; İşsever, 2003; Göksel & Özsoy, 2003; Kılıçaslan, 1994). In addition, the data from the eye-tracking experiment in Turkish supported the view that processing narrow focus is costlier than processing broad focus probably because of its deeper encoding (Lowder & Gordon, 2015) or the extra burden its processing puts on the working memory because of the alternatives it evokes (Reichle & Birdsong, 2014). The Turkish eye-tracking data also indicated that Turkish readers create predictions as they process sentences and their predictions for a certain focus position, i.e., the immediately preverbal position, influences their sentence processing behavior (Carlson et al., 2009; Clifton & Frazier, 2016; Frazier & Clifton, 1998; Stolterfoht et al., 2007). The Turkish eye-tracking data also showed that revision of focus was much harder when it was narrow than when it was broad. This may be because deleting and re-assigning deeply-encoded information is costlier than assigning it for the first time (Benatar & Clifton, 2014; Lowder & Gordon, 2015).

The sentence completion task and the eye-tracking experiment in English showed that although Turkish L2 learners of English could assign sentential stress to the rightmost object in English and were sensitive to the prosodic (in)congruency effects, they could not process the difference between broad focus and narrow focus. These data indicate that although L2 speakers can compute syntactic information and assign sentential stress and broad focus using that information (Kahnemayipour, 2009), they fail to compute information at the syntax-discourse interface (Sorace & Filiaci, 2006). This could be due to (i) L2 speakers' failure to engage in deeper processing for focus assignment, (ii) their inability to form a semantic alternative set for the narrowly-focused constituent, (iii) their insensitivity to word-order cues about information structure, or (iv) their parsimonious use of working memory. Further research testing these factors can inform on which possibility or possibilities prove to be the most explanatory for the L2 speakers' focus assignment/processing behavior.

5.3 Limitations and further research

This study presented the first empirical evidence, to my knowledge, for online focus processing in Turkish. And, it was the first study that examined real-time focus processing in L1 and L2 English through sentences with ditransitive verbs. Given the relative scarcity of psycholinguistic studies in Turkish and L2 studies on focus processing, this study contributed to both L1 and L2 psycholinguistics literature. While the L1 data mostly confirmed the theoretical predictions, the L2 data showed at what levels of information processing and why L2 speakers could deviate from L1 speakers.

Nevertheless, there were some limitations of the study. First of all, although it was assumed for the experimental materials in all experiments that there is no

background information available, it is possible for the participants to set certain background contexts in their mind by relying on other contextual cues such as frequency of the words. Thus, a further study, which ensures that the experimental sentences have broad/narrow focus with background information, not with the word-order manipulation, may eliminate these concerns.

In addition, as was mentioned a few times before, there were not enough participants in the L1 English group due to the COVID-19 pandemic. This limited the generalizability of the findings and comparison of L1 and L2 speakers of English in the same design. Another limitation was that the L2 group in the present study had advanced proficiency in English. A study with L2 learners who have near-native proficiency level in their L2 may help to understand if focus processing in the L2 improves with increased proficiency.

APPENDIX A

ETHICS COMMITTEE APPROVAL

T.C.
BOĞAZİÇİ ÜNİVERSİTESİ
Sosyal ve Beşeri Bilimler Yüksek Lisans ve Doktora Tezleri Etik İnceleme Komisyonu

Sayı: 2019-72

20 Kasım 2019

Didem Kurt
Yabancı Diller Eğitimi

Sayın Araştırmacı,

"Anadil Türkçe ve İkinci Dil İngilizcede Tümce Vurgusu ve Bilgi Yapısı İşlemlemesi" başlıklı projeniz ile ilgili olarak yaptığınız SBB-EAK 2019/69 sayılı başvuru komisyonumuz tarafından 20 Kasım 2019 tarihli toplantıda incelenmiş ve uygun bulunmuştur.

.....
Prof. Dr. Feyza Çorapçı

.....
Doç. Dr. Mehmet Yiğit Gürdal

.....
Doç. Dr. Ebru Kaya

.....
Dr. Öğr. Üyesi İnci Ayhan

APPENDIX B

BACKGROUND QUESTIONNAIRE

Turkish Questionnare:

Bu ankette vereceğiniz bilgiler kesinlikle gizli tutulacaktır. Lütfen uygun şıkkı işaretleyerek ya da boşlukları doldurarak tamamlayınız.

Demografik Bilgi: Bu bölümdeki sorular sizin hakkınızda genel bilgi edinme amaçlıdır.

1. Yaşınız: _____ **2.** Doğum yeriniz: _____

3. Cinsiyetiniz: _____

4. Mesleğiniz: _____

5. En son aldığınız eğitim seviyesi nedir?

a) İlköğretim b) Ortaokul c) Lise

c) Yüksekokul d) Üniversite e) Yükseklisans f) Doktora

6. Herhangi bir işitme probleminiz var mı?

a) Evet b) Hayır

7. Cevabınız 'evet'se sorunu nasıl gideriyorsunuz?

a) İşitme cihazı kullanıyorum b) Diğer (Lütfen belirtiniz): _____

8. Görme probleminiz var mı?

a) Evet b) Hayır

9. Cevabınız 'evet'se sorunu nasıl gideriyorsunuz?

a) Gözlük kullanıyorum b) Kontakt lens kullanıyorum

c) Diğer(Lütfen belirtiniz):_____

10. Sağ elinizi mi sol elinizi mi daha sık kullanıyorsunuz?

a) Sağ b) Sol

Dil Geçmişi: Anketin bu bölümü dil geçmişinizi ve dil ile ilgili aktiviteleriniz üzerine sorular içermektedir.

1. Türkçe anadiliniz mi? a) Evet b) Hayır

2. Cevabınız 'hayır'sa anadiliniz nedir? Lütfen belirtiniz:

_____

3. Anadilinizden başka bir dil konuşuyor musunuz?

a) Evet b) Hayır

4. Cevabınız 'evet'se lütfen dildeki yeterliliğinizi 1'in zayıf, 5'in mükemmel olduğu, 1-5 arası ölçekte belirtiniz:

Dil	Okuma	Dinleme	Yazma	Konuşma

5. Eğitiminizi hangi dilde aldınız?

İlköğretim: a) Türkçe b) Diğer (lütfen belirtiniz):

_____

Ortaokul: a) Türkçe b) Diğer (lütfen belirtiniz):

_____

Lise: a) Türkçe b) Diğer (lütfen belirtiniz):

_____

Üniveriste: a) Türkçe b) Diğer (lütfen belirtiniz):

_____

Lisansüstü: a) Türkçe b) Diğer (lütfen belirtiniz):

_____

6. Türkçe'nin anadil olmadığı herhangi bir ülkede yaşadınız mı?

a) Evet b) Hayır

7. Cevabınız 'evet'se, nerede ve ne kadar kaldınız?

_____

8. Haftada ne kadar Türkçe okuma yapıyorsunuz?

a) 5 saatten az b) 5-10 saat c) 10-15 saat d)15 saatten fazla

9. Haftada kaç saat Türkçe (müzik, radyo vs.) dinliyorsunuz?

a) 5 saatten az b) 5-10 saat c) 10-15 saat d)15 saatten fazla

10. Haftada kaç saat Türkçe televizyon seyrediyorsunuz?

a) 5 saatten az b) 5-10 saat c) 10-15 saat d)15 saatten fazla

Teşekkürler!

English Questionnare:

QUESTIONNAIRE

Participant Number: _____

The information you will provide on this questionnaire will be kept strictly confidential. Please circle or fill in information as appropriate.

Demographic Information: The questions in this section ask you to provide information about yourself in general.

1. Age: _____ **2.** Place of birth:_____

3. Gender _____

4. Occupation: _____

5. What is the highest degree you earned?

a) Elementary school b) Secondary school c) High school

c) Two-year college d) Four-year college e) Master's f) PhD

6. Do you have any hearing problem?

a) Yes b) No

7. If yes, how do you correct it?

a) I use hearing aid b) Other (Please specify): _____

8. Do you have any visual problem?

a) Yes b) No

9. If yes, how do you correct it?

a) I use glasses b) I use contact lenses

c) Other (Please specify): _____

10. Are you right-handed or left-handed?

a) Right-handed b) Left-handed

Language Background: This section of the questionnaire aims to elicit information about your language background and language-related activities.

1. Is Turkish your native language? a) Yes b) No

2. If no, what is your native language? Please specify: _____

3. What was the main medium of instruction language for your education?

Elementary school:

a) Turkish b) English c) Other (please specify): _____

Secondary school:

a) Turkish b) English c) Other (please specify): _____

High school:

a) Turkish b) English c) Other (please specify): _____

College:

a) Turkish b) English c) Other (please specify): _____

Graduate school:

a) Turkish b) English c) Other (please specify): _____

4. How old were you when you were first exposed to English?

_____

5. Where were you first exposed to English? _____

7. How much time do you spend reading in Turkish and English per week?

Turkish:

a) less than 5 hrs b) 5-10 hours c) 5-15 hrs d) more than 15 hrs

English:

a) less than 5 hrs b) 5-10 hours c) 5-15 hrs d) more than 15 hrs

8. Where and how much do you generally use Turkish and English per week?

Turkish:

a) Home ____ hours b) Work ____ hours c) Social ____ hours

English:

a) Home ____ hours b) Work ____ hours c) Social ____ hours

9. How much time do you spend listening to music in Turkish and English per week?

Turkish:

a) less than 5 hrs b) 5-10 hours c) 5-15 hrs d) more than 15 hrs

English:

a) less than 5 hrs b) 5-10 hours c) 5-15 hrs d) more than 15 hrs

10. How much time do you spend watching TV/movies in Turkish and English per week?

Turkish:

a) less than 5 hrs b) 5-10 hours c) 5-15 hrs d) more than 15 hrs

English:

a) less than 5 hrs b) 5-10 hours c) 5-15 hrs d) more than 15 hrs

11. Have you lived in an English-speaking country?

a) Yes b) No

12. If yes, how long have you stayed there?

Country (1) _____ Age of arrival: _____ Length of stay: _____

Country (2) _____ Age of arrival: _____ Length of stay: _____

English language proficiency: This section of the questionnaire aims to elicit information about your English language proficiency.

1. Have you ever taken any standardized English Proficiency Test (e.g., TOEFL, IELTS)?

a) Yes b) No

2. If yes, what was your score: _____

3. How would you rate your linguistic ability in English in the following areas?

	Beginner	Intermediate	Advanced	Near-Native
Reading				
Writing				
Speaking				
Listening				
Overall Competence				

4. Do you speak any other foreign languages besides English?

a) Yes b) No

5. If yes, please specify what languages you speak: _____

6. If yes, how would you rate your linguistic ability in those languages in the following areas?

Language 1: _____

	Beginner	Intermediate	Advanced	Near-Native
Reading				
Writing				
Speaking				
Listening				
Overall Competence				

Language 2: _____

	Beginner	Intermediate	Advanced	Near-Native
Reading				
Writing				
Speaking				
Listening				
Overall Competence				

Language 3: _____

	Beginner	Intermediate	Advanced	Near-Native
Reading				
Writing				
Speaking				
Listening				
Overall Competence				

Thank you!

APPENDIX C

THE TURKISH SENTENCE COMPLETION TASK:

EXPERIMENTAL SENTENCES, QUESTIONS AND FILLERS

Experimental Items and Questions:

1.
a. Broad Focus: Eleman alımlarında, Sevda Hanım kadını sekretere önerdi, _____ değil. Böylesi daha uygunmuş.
b. Narrow Focus: Eleman alımlarında, Sevda Hanım sekretere kadını önerdi, _____ değil. Böylesi daha uygunmuş.

Options:
a. müdüre
b. adamı
c. Selin Hanım

2.
a. Broad Focus: Üniversite yemeğinde, Ceyda Hanım doçenti rektöre tanıttı, _____ değil. Ortam öyle gerektirmiş.
b. Narrow Focus: Üniversite yemeğinde, Ceyda Hanım rektöre doçenti tanıttı, _____ değil. Ortam öyle gerektirmiş.

Options:
a. dekana
b. profesörü
c. Murat Bey

3.
a. Broad Focus: Sırada beklerken, Hasan Bey çocuğu adama bıraktı, _____değil. Su alıp dönecekmiş.
b. Narrow Focus: Sırada beklerken, Hasan Bey adama çocuğu bıraktı, _____değil. Su alıp dönecekmiş.

Options:
a. kadına
b. bebeği
c. Meral Hanım

4.
a. Broad Focus: Şantiyeyi gezerken, Ömer Bey teknikeri mühendise övdü, _____değil. İşçiler buna şaşırmamış.
b. Narrow Focus: Şantiyeyi gezerken, Ömer Bey mühendise teknikeri övdü, _____değil. İşçiler buna şaşırmamış.

Options:

a. mimara
b. ustayı
c. Cemal Bey

5.
a. Broad Focus: Mahkeme sırasında, Hakim Bey davacıyı mübaşire sordu, _____ değil. Süreç öyle işliyormuş.
b. Narrow Focus: Mahkeme sırasında, Hakim Bey mübaşire davacıyı sordu, _____ değil. Süreç öyle işliyormuş.

Options:
a. avukata
b. sanığı
c. Savcı Bey

6.
a. Broad Focus: Okul ziyaretinde, Salih Bey öğretmeni müfettişe kötüledi, _____değil. Kimse bunu beklemiyormuş.
b. Narrow Focus: Okul ziyaretinde, Salih Bey müfettişe öğretmeni kötüledi, _____değil. Kimse bunu beklemiyormuş.

Options:
a. valiye
b. müdürü
c. Suna Hanım

7.
a. Broad Focus: Yarınki etkinlikte, kulüp üyeleri öğrencileri sinemaya götürecekmiş, _____değil. Öyle karar alınmış.
b. Narrow Focus: Yarınki etkinlikte, kulüp üyeleri sinemaya öğrencileri götürecekmiş, _____ değil. Öyle karar alınmış.

Options:
a. tiyatroya
b. velileri
c. kulüp yöneticileri

8.
a. Broad Focus: Trafik yoğunluğunda, Ahmet Bey müdürü metroya bıraktı, _____ değil. Öyle yapması gerekmiş.
b. Narrow Focus: Trafik yoğunluğunda, Ahmet Bey müdürü metroya bıraktı, _____ değil. Öyle yapması gerekmiş.

Options:
a. konferansa
b. sekreteri
c. Kamil Bey

9.

a. Broad Focus: Tiyatro oyununda, Cavidan Hanım bahçıvanı banyoya sakladı, _____ değil. Seyirci çok güldü.
b. Narrow Focus: Tiyatro oyununda, Cavidan Hanım banyoya bahçıvanı sakladı, _____ değil. Seyirci çok güldü.

Options:
a. balkona
b. kahyayı
c. Nurten Hanım

10.
a. Broad Focus: Dün toplantıda, Jale Hanım stajyeri yemeğe çağırdı, _____ değil. Kişi sayısı sınırlıymış.
b. Narrow Focus: Dün toplantıda, Jale Hanım yemeğe stajyeri çağırdı, _____ değil. Kişi sayısı sınırlıymış.

Options:
a. partiye
b. stajyeri
c. Dilek Hanım

11.
a. Broad Focus: Toplantı sonrasında, Serdar Bey diyetisyeni hastaneye yönlendirdi, _____ değil. Öyle gerekli görülmüş.
b. Narrow Focus: Toplantı sonrasında, Serdar Bey hastaneye diyetisyeni yönlendirdi,_____ değil. Öyle gerekli görülmüş.

Options:
a. kliniğe
b.psikoloğu
c. Serhat Bey

12.
a. Broad Focus: Haberlere göre, İçişleri Bakanı askerleri köylere gönderdi, _____değil. Sebebi henüz bilinmiyor.
B. Narrow Focus: Haberlere göre, İçişleri Bakanı köylere askerleri gönderdi, _____değil. Sebebi henüz bilinmiyor.

Options:
a. ilçelere
b. polisleri
c. başbakan

13.
a. Broad Focus: Film festivalinde, Defne Hanım çiçeği yönetmene verdi, _____ değil. Organizasyon öyle yapılmış.
b. Narrow Focus: Film festivalinde, Defne Hanım yönetmene çiçeği verdi, _____ değil. Organizasyon öyle yapılmış.

Options:
a. aktöre
b. plaketi
c. Oğuz Bey

14.
a. Broad Focus: Müze gezisinde, tur rehberi heykelleri sanatçılara anlattı, _____ değil. Program öyle planlanmış.
b. Narrow Focus: Müze gezisinde, tur rehberi sanatçılara heykelleri anlattı, _____ değil. Program öyle planlanmış.

Options:
a. gazetecilere
b. tabloları
c. müze görevlisi

15.
a. Broad Focus: Taşınma sürecinde, Yusuf Bey radyoyu antikacıya sattı, _____ değil. Böylesi daha kârlıymış.
b. Narrow Focus: Taşınma sürecinde, Yusuf Bey antikacıya radyoyu sattı, _____ değil. Böylesi daha kârlıymış.

Options:
a. hurdacıya
b. daktiloyu
c. Sedef Hanım

16.
a. Broad Focus: Sınav öncesinde, Nermin Hoca soruları asistana bıraktı, _____ değil. Öyle daha güvenliymiş.
b. Narrow Focus: Sınav öncesinde, Nermin Hoca asistana soruları bıraktı, _____ değil. Öyle daha güvenliymiş.

Options:
a. sekretere
b. cevapları
c. Aslı Hoca

17.
a. Broad Focus: Binanın inşaatında, Müteahhit Ali tavanı çırağa gösterdi, _____ değil. Zahmetsiz bir işmiş.
b. Narrow Focus: Binanın inşaatında, Müteahhit Ali tavanı çırağa gösterdi, _____ değil. Zahmetsiz bir işmiş.

Options:
a. ustaya
b. duvarı
c. mühendis

18.
a. Broad Focus: Haberlere göre, yardım kuruluşu yiyecekleri köylülere dağıttı, _____ değil. Kaynakları bu kadarmış.
b. Narrow Focus: Haberlere göre, yardım kuruluşu yiyecekleri köylülere dağıttı, _____ değil. Kaynakları bu kadarmış.

Options:
a. kasabalılara
b. kıyafetleri
c. bakanlık

19.
a. Broad Focus: Mutfağı temizlerken, görevli kadın tabakları dolaba koydu, _____ değil. Öyle yapması söylenmiş.
b. Narrow Focus: Mutfağı temizlerken, görevli kadın dolaba tabakları koydu, _____ değil. Öyle yapması söylenmiş.

Options:
a. çekmeceye
b. bardakları
c. görevli adam

20.
a. Broad Focus: Sınıfı süslerken, Sema Öğretmen şiirleri panoya astı, _____ değil. Müdür öyle istemiş.
B. Narrow Focus: Sınıfı süslerken, Sema Öğretmen panoya şiirleri astı, _____ değil. Müdür öyle istemiş.

Options:
a. tahtaya
b. resimleri
c.Ayşe öğretmen

21.
a. Broad Focus: Evini toparlarken, Murat Bey ceketi dolaba astı, _____ değil. Böyle daha düzenliymiş.
b. Narrow Focus: Evini toparlarken, Murat Bey dolaba ceketi astı, _____ değil. Böyle daha düzenliymiş.

Options:
a. vestiyere
b. kabanı
c. Deniz Bey

22.
a. Broad Focus: Yazlığa yerleşirken, Aylin Hanım balkona bisikleti koydu, _____ değil. Böylesi daha düzenleymiş.
b. Narrow Focus: Yazlığa yerleşirken, Aylin Hanım bisikleti balkona koydu, _____ değil. Böylesi daha düzenleymiş.

Options:
a. bahçeye
b. kaykayı
c. Aynur Hanım

23.
a. Broad Focus: Yardım kampanyasında, vakıf başkanı kitapları köylere gönderdi, _____ değil. Vakıf kurucusunun isteğiymiş.
b. Narrow Focus: Yardım kampanyasında, vakıf başkanı köylere kitapları gönderdi, _____ değil. Vakıf kurucusunun isteğiymiş.

Options:
a. ilçelere
b. dergileri
c. yönetici

24.
a. Broad Focus: Yemek yaparken, baş aşçı kremayı makarnaya ekledi, _____ değil. Öyle yapması istenmiş.
b. Narrow Focus: Yemek yaparken, baş aşçı makarnaya kremayı ekledi, _____ değil. Öyle yapması istenmiş.

Options:
a. çorbaya
b. salçayı
c. yedek şef

Disguise Broad Focus Fillers and Questions:

1. Teftiş sırasında, Ayşe dönerciyi zabıtaya söyledi, ki hiç _____değil. Herkes zehirlenmiş.

Options:
a. haksız
b. tutarlı
c. garip

2. Kavga sonrasında, Efe arkadaşını annesine ispiyonladı, ki bu _____ değil. Sır tutamazmış.

Options:
a. şaşırtıcı
b. beklendik
c. ayıp

3. Dünkü buluşmada, Eda arkadaşlarına kocasını övdü, ki hiç _____ değil. Genelde kavgalılarmış.

Options:
a. inandırıcı
b. ayıp
c. tuhaf

4. Dans ederken, Aylin arkadaşına barmeni gösterdi, ki bu _____ değil. Epey yakışıklıymış.

Options:
a. garip
b. mantıklı
c. anlaşılır

5. Yemekten önce, babası çocuğu bakkala gönderdi, oysa bu _____değil. Sokaklar karanlıkmış.

Options:
a. güvenilir
b. tehlikeli
c. anlamsız

6. Buluşacakları gün, Selda evine arkadaşlarını çağırdı, ki bu _____değil. Misafir sevmezmiş.

Options:
a. normal
b. şaşırtıcı
c. gereksiz

7. Tiyatrodan sonra, Kaan sahneye seyircileri aldı, oysa bu _____ değil. Platform çökebilirdi.

Options:
a. mantıklı
b. anlamsız
c. tehlikeli

8. Nöbet sırasında, hemşire doktoru acile yönlendirdi, oysa bu _____ değil. Kendisi halledebilirmiş.

Options:
a. doğru
b. yanlış
c. garip

9. Müzayade sırasında, müzayedeci gerdanlığı kadına sattı, ki bu _____değil. Teklifi yüksekti.

Options:
a. yanlış
b. anlamlı
c. uygun

10. Fizik tedavisinde, doktor hastaya koşmayı önerdi, oysa bu _____ değil. Kalbi zorlanabilirdi.

Options:
a. uygun
b. mümkün
c. tuhaf

11. Dövüş salonunda,antrenör çocuklara kareteyi öğretti, ancak hiç_____ değil. Sabır gerekiyormuş.

Options:
a. kolay
b. imkansız
c. mümkün

12. Konser sırasında, sanatçı mikrofonu seyircilere uzattı, ki bu _____ değil. Herkes eğlendi.

Options:
a. sıkıcı
b. mantıklı
c. keyifli

13. Perdeleri asarken, hizmetçi merdiveni duvara yasladı, oysa bu _____ değil. Kayıp düşebilirdi.

Options:
a. güvenli
b. riskli
c. anlamsız

14. Evlilik yıldönümünde, Selim hediyeyi vestiyere sakladı, ancak bu _____ değil. Sürprizi bozulabilirdi.

Options:
a. akıllıca
b. gereksiz
c. tuhaf

15. Eve yerleşirken, Ahmet kolileri mutfağa getirdi, ki bu _____değil. Temizlikçiler sinirlendi.

Options:
a. anlamsız
b. gerekli
c. uygun

16. Telefonu dolunca, Oğuz fotoğraflarını bilgisayara aktardı, ki bu _____ değil. Telefonu hızlandı.

Options:
a. gereksiz
b. anlaşılır
c. normal

Disguise Narrow Focus Fillers and Questions:

1. Dün gezerken, Mehmet çarşıda lise arkadaşına rastladı, _____ değil. Yıllardır görmediğinden tanıyamamış.

Options:
a. sokakta
b. Cahit Bey
c. üniversite

2. Dün konserde, seyirciler sanatçıyı şarkı söylerken keyifle dinledi, _____ değil. Konuşması sıkıcıymış.

Options:
a. sıkılarak
b. bateristi
c. konuşurken

3. Yangın çıkınca, komşular Ahmet dedeyi evinden çıkardı, _____ değil. Herkes çok korkmuş.

Options:
a. itfaiye
b. bahçesinden
c. Akif amcayı

4. Sınav sonrasında, profosör kağıtları göz ucuyla inceledi, _____ değil. Değerlendirmeyi sonra yapacakmış.

Options:
a. özenle
b. optik formları
c. asistan

5. Evden çıkınca, Tuğba anahtarı unuttuğunu fark etti, _____ değil. Çilingir çağırmaları gerekmiş.

Options:
a. Emre
b. kimliğini
c. kaybettiğini

6. Seyahatten sonra, Tuna Bey kanepede dinlenirken uyuyakaldı, _____ değil. Otobüste hiç uyuyamamış.

Options:
a. yatağında
b. otururken
c. Cemal

7. Yaz tatilinde, okul müdürü duvarları maviye boyatmış, _____ değil. Öğrenciler hiç beğenmemiş.

Options:
a. kapıları
b. kırmızıya
c. müdür yardımcısı

8. Kitap fuarındayken, Hilal Hanım yazardan imza alabildi, _____değil. Fuar çok kalabalıkmış.

Options:
a. şairden
b. fotoğraf
c. Gülşen Hanım

APPENDIX D

THE TURKISH EYE TRACKING EXPERIMENT:

EXPERIMENTAL SENTENCES, QUESTIONS AND FILLERS

Experimental Items and Questions:

1.
a. Broad Focus-Congruous Indirect Object: Eleman alımlarında, Sevda Hanım kadını sekretere önerdi, patrona değil. Böylesi daha uygunmuş.
b. Broad Focus-Incongruous Direct Object: Eleman alımlarında, Sevda Hanım kadını sekretere önerdi, adamı değil. Böylesi daha uygunmuş.
c. Broad Focus- Incongruous Subject: Eleman alımlarında, Sevda Hanım kadını sekretere önerdi, asistan değil. Böylesi daha uygunmuş.
d. Narrow Focus-Congruous Direct Object: Eleman alımlarında, Sevda Hanım sekretere kadını önerdi, adamı değil. Böylesi daha uygunmuş.
e. Narrow Focus-Incongruous Indirect Object: Eleman alımlarında, Sevda Hanım sekretere kadını önerdi, patrona değil. Böylesi daha uygunmuş.
f. Narrow Focus-Incongruous Subject: Eleman alımlarında, Sevda Hanım sekretere kadını önerdi, asistan değil. Böylesi daha uygunmuş.

Cümlede "patron" kelimesini gördünüz mü?
a. Evet
b. Hayır

2.

a. Broad Focus-Congruous Indirect Object: Yarınki etkinlikte, kulüp kurucusu öğrencileri sinemaya götürecekmiş, tiyatroya değil. Öyle karar alınmış.
b. Broad Focus-Incongruous Direct Object: Yarınki etkinlikte, kulüp kurucusu öğrencileri sinemaya götürecekmiş, velileri değil. Öyle karar alınmış.
Broad Focus- Incongruous Subject: Yarınki etkinlikte, kulüp kurucusu öğrencileri sinemaya götürecekmiş, yönetici değil. Öyle karar alınmış.
Narrow Focus-Congruous Direct Object: Yarınki etkinlikte, kulüp kurucusu sinemaya öğrencileri götürecekmiş, velileri değil. Öyle karar alınmış.
Narrow Focus-Incongruous Indirect Object: Yarınki etkinlikte, kulüp kurucusu sinemaya öğrencileri götürecekmiş, tiyatroya değil. Öyle karar alınmış.
Narrow Focus-Incongruous Subject: Yarınki etkinlikte, kulüp kurucusu sinemaya öğrencileri götürecekmiş, yönetici değil. Öyle karar alınmış.

Cümlede "öğrenci" kelimesini gördünüz mü?
a. Evet
b. Hayır

3.
a. Broad Focus-Congruous Indirect Object: Film festivalinde, Defne Hanım çiçeği yönetmene verdi, aktöre değil. Organizasyon öyle yapılmış.

b. Broad Focus-Incongruous Direct Object: Film festivalinde, Defne Hanım çiçeği yönetmene verdi, plaketi değil. Organizasyon öyle yapılmış.
c. Broad Focus- Incongruous Subject: Film festivalinde, Defne Hanım çiçeği yönetmene verdi, sunucu değil. Organizasyon öyle yapılmış.
d. Narrow Focus-Congruous Direct Object: Film festivalinde, Defne Hanım yönetmene çiçeği verdi, plaketi değil. Organizasyon öyle yapılmış.
e. Narrow Focus-Incongruous Indirect Object: Film festivalinde, Defne Hanım yönetmene çiçeği verdi, aktöre değil. Organizasyon öyle yapılmış.
f. Narrow Focus-Incongruous Subject: Film festivalinde, Defne Hanım yönetmene çiçeği verdi, sunucu değil. Organizasyon öyle yapılmış.

Cümlede "festival" kelimesini gördünüz mü?
a. Evet
b. Hayır

4.
a. Broad Focus-Congruous Indirect Object: Mutfağı temizlerken, temizlikçi kadın tabakları dolaba koydu, çekmeceye değil. Öyle yapılması söylenmiş.
b. Broad Focus-Incongruous Direct Object: Mutfağı temizlerken, temizlikçi kadın tabakları dolaba koydu, bardakları değil. Öyle yapılması söylenmiş.
c. Broad Focus- Incongruous Subject: Mutfağı temizlerken, temizlikçi kadın tabakları dolaba koydu, bakıcı değil. Öyle yapılması söylenmiş.
d. Narrow Focus-Congruous Direct Object: Mutfağı temizlerken, temizlikçi kadın dolaba tabakları koydu, bardakları değil. Öyle yapılması söylenmiş.
e. Narrow Focus-Incongruous Indirect Object: Mutfağı temizlerken, temizlikçi kadın dolaba tabakları koydu, çekmeceye değil. Öyle yapılması söylenmiş.
f. Narrow Focus-Incongruous Subject: Mutfağı temizlerken, temizlikçi kadın dolaba tabakları koydu, bakıcı değil. Öyle yapılması söylenmiş.

Cümlede "hizmetçi" kelimesini gördünüz mü?
a. Evet
b. Hayır

5.
a.Broad Focus-Congruous Indirect Object: Üniversite yemeğinde, Ceyda Hanım doçenti rektöre tanıttı dekana değil. Ortam öyle gerektirmiş.
b. Broad Focus-Incongruous Direct Object: Üniversite yemeğinde, Ceyda Hanım doçenti rektöre tanıttı, dekanı değil. Ortam öyle gerektirmiş.
c. Broad Focus- Incongruous Subject: Üniversite yemeğinde, Ceyda Hanım doçenti rektöre tanıttı, sekreter değil. Ortam öyle gerektirmiş.
d. Narrow Focus-Congruous Direct Object: Üniversite yemeğinde, Ceyda Hanım rektöre doçenti tanıttı, dekanı değil. Ortam öyle gerektirmiş.
e. Narrow Focus-Incongruous Indirect Object: Üniversite yemeğinde, Ceyda Hanım rektöre doçenti tanıttı, dekana değil. Ortam öyle gerektirmiş.
f. Narrow Focus-Incongruous Subject: Üniversite yemeğinde, Ceyda Hanım rektöre doçenti tanıttı, sekreter değil. Ortam öyle gerektirmiş.

Cümlede "rektör" kelimesini gördünüz mü?
a. Evet
b. Hayır

6.
a. Broad Focus-Congruous Indirect Object: Trafik yoğunluğunda, Ahmet Bey müdürü metroya bıraktı, konferansa değil. Öyle olması gerekmiş.
b. Broad Focus-Incongruous Direct Object: Trafik yoğunluğunda Ahmet Bey müdürü metroya bıraktı, sekreteri değil. Öyle olması gerekmiş.
c. Broad Focus- Incongruous Subject: Trafik yoğunluğunda Ahmet Bey müdürü metroya bıraktı, şoför değil. Öyle olması gerekmiş.
d. Narrow Focus-Congruous Direct Object: Trafik yoğunluğunda Ahmet Bey metroya müdürü bıraktı, sekreteri değil. Öyle olması gerekmiş.
e. Narrow Focus-Incongruous Indirect Object: Trafik yoğunluğunda, Ahmet Bey metroya müdürü bıraktı, konferansa değil. Öyle olması gerekmiş.
f. Narrow Focus-Incongruous Subject: Trafik yoğunluğunda, Ahmet Bey metroya müdürü bıraktı, şoför değil. Öyle olması gerekmiş.

Cümlede "seminer" kelimesini gördünüz mü?
a. Evet
b. Hayır

7.
a. Broad Focus-Congruous Indirect Object: Müze gezisinde, tur rehberi heykelleri sanatçılara anlattı, gazetecilere değil. Program öyle planlanmış.
b. Broad Focus-Incongruous Direct Object: Müze gezisinde, tur rehberi heykelleri sanatçılara anlattı, tabloları değil. Program öyle planlanmış.
c. Broad Focus- Incongruous Subject: Müze gezisinde, tur rehberi heykelleri sanatçılara anlattı, müzeci değil. Program öyle planlanmış.
d. Narrow Focus-Congruous Direct Object: Müze gezisinde, tur rehberi sanatçılara heykelleri anlattı, tabloları değil. Program öyle planlanmış.
e. Narrow Focus-Incongruous Indirect Object: Müze gezisinde, tur rehberi sanatçılara heykelleri anlattı, gazetecilere değil. Program öyle planlanmış.
f. Narrow Focus-Incongruous Subject: Müze gezisinde, tur rehberi sanatçılara heykelleri anlattı, müzeci değil. Program öyle planlanmış.

Cümlede "muhabir" kelimesini gördünüz mü?
a. Evet
b. Hayır

8.
a. Broad Focus-Congruous Indirect Object: Sınıfı süslerken, Sema Öğretmen şiirleri panoya astı, tahtaya değil. Müdür öyle istemiş.
b. Broad Focus-Incongruous Direct Object: Sınıfı süslerken, Sema Öğretmen şiirleri panoya astı, resimleri değil. Müdür öyle istemiş.
c. Broad Focus- Incongruous Subject: Sınıfı süslerken, Sema Öğretmen şiirleri panoya astı, hademe değil. Müdür öyle istemiş.
d. Narrow Focus-Congruous Direct Object: Sınıfı süslerken, Sema Öğretmen panoya şiirleri astı, resimleri değil. Müdür öyle istemiş.
e. Narrow Focus-Incongruous Indirect Object: Sınıfı süslerken, Sema Öğretmen panoya şiirleri astı, tahtaya değil. Müdür öyle istemiş.
f. Narrow Focus-Incongruous Subject: Sınıfı süslerken, Sema Öğretmen panoya şiirleri astı, hademe değil. Müdür öyle istemiş.

Cümlede " sınıf" kelimesini gördünüz mü?
a. Evet
b. Hayır

9.
a. Broad Focus-Congruous Indirect Object: Sırada beklerken, Hasan Bey çocuğu adama bıraktı, kadına değil. Su alıp dönecekmiş.
b. Broad Focus-Incongruous Direct Object: Sırada beklerken, Hasan Bey çocuğu adama bıraktı, bebeği değil. Su alıp dönecekmiş.
c. Broad Focus- Incongruous Subject: Sırada beklerken, Hasan Bey çocuğu adama bıraktı, bakıcı değil. Su alıp dönecekmiş.
d. Narrow Focus-Congruous Direct Object: Sırada beklerken, Hasan Bey adama çocuğu bıraktı, bebeği değil. Su alıp dönecekmiş
e. Narrow Focus-Incongruous Indirect Object: Sırada beklerken, Hasan Bey adama çocuğu bıraktı, kadına değil. Su alıp dönecekmiş.
f. Narrow Focus-Incongruous Subject: Sırada beklerken, Hasan Bey adama çocuğu bıraktı, bakıcı değil. Su alıp dönecekmiş.

Cümlede "kuyruk" kelimesini gördünüz mü?
a. Evet
b. Hayır

10.
a. Broad Focus-Congruous Indirect Object Tiyatro oyununda, Cavidan Hanım bahçıvanı banyoya sakladı, balkona değil. Seyirci çok güldü.
b. Broad Focus-Incongruous Direct Object Tiyatro oyununda, Cavidan Hanım bahçıvanı banyoya sakladı, kahyayı değil. Seyirci çok güldü.
c. Broad Focus- Incongruous Subject Tiyatro oyununda, Cavidan Hanım bahçıvanı banyoya sakladı, hizmetçi değil. Seyirci çok güldü.
d. Narrow Focus-Congruous Direct Object Tiyatro oyununda, Cavidan Hanım banyoya bahçıvanı sakladı, kahyayı değil. Seyirci çok güldü.
e. Narrow Focus-Incongruous Indirect Object Tiyatro oyununda, Cavidan Hanım banyoya bahçıvanı sakladı, balkona değil. Seyirci çok güldü.
f. Narrow Focus-Incongruous Subject Tiyatro oyununda, Cavidan Hanım banyoya bahçıvanı sakladı, hizmetçi değil. Seyirci çok güldü.

Cümlede "seyirci" kelimesini gördünüz mü?
a. Evet
b. Hayır

11.
a. Broad Focus-Congruous Indirect Object: Taşınma sürecinde, Yusuf Bey radyoyu antikacıya sattı, hurdacıya değil. Böylesi daha kârlıymış.
b. Broad Focus-Incongruous Direct Object: Taşınma sürecinde, Yusuf Bey radyoyu antikacıya sattı, daktiloyu değil. Böylesi daha kârlıymış.
c. Broad Focus- Incongruous Subject: Taşınma sürecinde, Yusuf Bey radyoyu antikacıya sattı, yeğeni değil. Böylesi daha kârlıymış.
d. Narrow Focus-Congruous Direct Object: Taşınma sürecinde, Yusuf Bey antikacıya radyoyu sattı, daktiloyu değil. Böylesi daha kârlıymış.

e. Narrow Focus-Incongruous Indirect Object: Taşınma sürecinde, Yusuf Bey antikacıya radyoyu sattı, hurdacıya değil. Böylesi daha kârlıymış.
f. Narrow Focus-Incongruous Subject: Taşınma sürecinde, Yusuf Bey antikacıya radyoyu sattı, yeğeni değil. Böylesi daha kârlıymış.

Cümlede "antikacı" kelimesini gördünüz mü?
a. Evet
b. Hayır

12.
a. Broad Focus-Congruous Indirect Object: Evini toparlarken, Murat Bey ceketi dolaba astı, vestiyere değil. Böyle daha düzenliymiş.
b. Broad Focus-Incongruous Direct Object: Evini toparlarken, Murat Bey ceketi dolaba astı, kabanı değil. Böyle daha düzenliymiş.
c. Broad Focus- Incongruous Subject: Evini toparlarken, Murat Bey ceketi dolaba astı, hizmetçi değil. Böyle daha düzenliymiş.
d. Narrow Focus-Congruous Direct Object: Evini toparlarken, Murat Bey dolaba ceketi astı, kabanı değil. Böyle daha düzenliymiş.
e. Narrow Focus-Incongruous Indirect Object: Evini toparlarken, Murat Bey dolaba ceketi astı, vestiyere değil. Böyle daha düzenliymiş.
f. Narrow Focus-Incongruous Subject: Evini toparlarken, Murat Bey dolaba ceketi astı, hizmetçi değil. Böyle daha düzenliymiş.

Cümlede "gardırop" kelimesini gördünüz mü?
a. Evet
b. Hayır

13.
a. Broad Focus-Congruous Indirect Object: Şantiyeyi gezerken, Ömer Bey teknikeri mühendise övdü, mimara değil. İşçiler buna şaşırmamış.
b. Broad Focus-Incongruous Direct Object: Şantiyeyi gezerken, Ömer Bey teknikeri mühendise övdü, çırağı değil. İşçiler buna şaşırmamış.
c. Broad Focus- Incongruous Subject: Şantiyeyi gezerken, Ömer Bey teknikeri mühendise övdü, usta değil. İşçiler buna şaşırmamış.
d. Narrow Focus-Congruous Direct Object: Şantiyeyi gezerken, Ömer Bey mühendise teknikeri övdü, çırağı değil. İşçiler buna şaşırmamış.
e. Narrow Focus-Incongruous Indirect Object: Şantiyeyi gezerken, Ömer Bey mühendise teknikeri övdü, mimara değil. İşçiler buna şaşırmamış.
f. Narrow Focus-Incongruous Subject: Şantiyeyi gezerken, Ömer Bey mühendise teknikeri övdü, usta değil. İşçiler buna şaşırmamış.

Cümlede "işçi" kelimesini gördünüz mü?
a. Evet
b. Hayır

14.
a. Broad Focus-Congruous Indirect Object: Dün toplantıda, Jale Hanım stajyeri yemeğe çağırdı, partiye değil. Böylesi daha uygunmuş.
b. Broad Focus-Incongruous Direct Object: Dün toplantıda, Jale Hanım stajyeri yemeğe çağırdı, sekreteri değil. Böylesi daha uygunmuş.

c. Broad Focus- Incongruous Subject: Dün toplantıda, Jale Hanım stajyeri yemeğe çağırdı, patron değil. Böylesi daha uygunmuş.
d. Narrow Focus-Congruous Direct Object: Dün toplantıda, Jale Hanım yemeğe stajyeri çağırdı, sekreteri değil. Böylesi daha uygunmuş.
e. Narrow Focus-Incongruous Indirect Object: Dün toplantıda, Jale Hanım yemeğe stajyeri çağırdı, partiye değil. Böylesi daha uygunmuş.
f. Narrow Focus-Incongruous Subject: Dün toplantıda, Jale Hanım yemeğe stajyeri çağırdı, patron değil. Böylesi daha uygunmuş.

Cümlede "asistan" kelimesini gördünüz mü?
a. Evet
b. Hayır

15.
a. Broad Focus-Congruous Indirect Object: Sınav öncesinde, Nermin Hoca soruları asistana bıraktı, sekretere değil. Öyle daha güvenliymiş.
b. Broad Focus-Incongruous Direct Object: Sınav öncesinde, Nermin Hoca soruları asistana bıraktı, cevapları değil. Öyle daha güvenliymiş.
c. Broad Focus- Incongruous Subject: Sınav öncesinde, Nermin Hoca soruları asistana bıraktı, sekreter değil. Öyle daha güvenliymiş.
d. Narrow Focus-Congruous Direct Object: Sınav öncesinde, Nermin Hoca asistana soruları bıraktı, cevapları değil. Öyle daha güvenliymiş.
e. Narrow Focus-Incongruous Indirect Object: Sınav öncesinde, Nermin Hoca asistana soruları bıraktı, sekretere değil. Öyle daha güvenliymiş.
f. Narrow Focus-Incongruous Subject Sınav öncesinde, Nermin Hoca asistana soruları bıraktı, sekreter değil. Öyle daha güvenliymiş.

Cümlede "test" kelimesini gördünüz mü?
a. Evet
b. Hayır

16.
a. Broad Focus-Congruous Indirect Object: Yazlığa yerleşirken, Aylin Hanım bisikleti balkona koydu, bahçeye değil. Böylesi daha düzenleymiş.
b. Broad Focus-Incongruous Direct Object: Yazlığa yerleşirken, Aylin Hanım bisikleti balkona koydu, kaykayı değil. Böylesi daha düzenliymiş.
c. Broad Focus- Incongruous Subject: Yazlığa yerleşirken, Aylin Hanım bisikleti balkona koydu, hizmetçi değil. Böylesi daha düzenliymiş.
d. Narrow Focus-Congruous Direct Object: Yazlığa yerleşirken, Aylin Hanım balkona bisikleti koydu, kaykayı değil. Böylesi daha düzenliymiş.
e. Narrow Focus-Incongruous Indirect Object: Yazlığa yerleşirken, Aylin Hanım balkona bisikleti koydu, bahçeye değil. Böylesi daha düzenliymiş.
f. Narrow Focus-Incongruous Subject: Yazlığa yerleşirken, Aylin Hanım balkona bisikleti koydu, hizmetçi değil. Böylesi daha düzenliymiş.

Cümlede "balkon" kelimesini gördünüz mü?
a. Evet
b. Hayır

17.

a. Broad Focus-Congruous Indirect Object: Mahkeme sırasında, Hakim Bey davacıyı mübaşire sordu, avukata değil. Süreç öyle işliyormuş.
b. Broad Focus-Incongruous Direct Object: Mahkeme sırasında, Hakim Bey davacıyı mübaşire sordu, sanığı değil. Süreç öyle işliyormuş.
c. Broad Focus- Incongruous Subject: Mahkeme sırasında, Hakim Bey davacıyı mübaşire sordu, savcı değil. Süreç öyle işliyormuş.
d. Narrow Focus-Congruous Direct Object: Mahkeme sırasında, Hakim Bey mübaşire davacıyı sordu, sanığı değil. Süreç öyle işliyormuş.
e. Narrow Focus-Incongruous Indirect Object: Mahkeme sırasında, Hakim Bey mübaşire davacıyı sordu, avukata değil. Süreç öyle işliyormuş.
f. Narrow Focus-Incongruous Subject: Mahkeme sırasında, Hakim Bey mübaşire davacıyı sordu, savcı değil. Süreç öyle işliyormuş.

Cümlede "sanık" kelimesini gördünüz mü?
a. Evet
b. Hayır

18.
a. Broad Focus-Congruous Indirect Object: Toplantı sonrasında, Serdar Bey diyetisyeni hastaneye yönlendirdi, kliniğe değil. Öyle gerekli görülmüş.
b. Broad Focus-Incongruous Direct Object: Toplantı sonrasında, Serdar Bey diyetisyeni hastaneye yönlendirdi, psikoloğu değil. Öyle gerekli görülmüş.
c. Broad Focus- Incongruous Subject: Toplantı sonrasında, Serdar Bey diyetisyeni hastaneye yönlendirdi, danışman değil. Öyle gerekli görülmüş.
d. Narrow Focus-Congruous Direct Object: Toplantı sonrasında, Serdar Bey hastaneye diyetisyeni yönlendirdi, psikoloğu değil. Öyle gerekli görülmüş.
e. Narrow Focus-Incongruous Indirect Object: Toplantı sonrasında, Serdar Bey hastaneye diyetisyeni yönlendirdi, kliniğe değil. Öyle gerekli görülmüş.
f. Narrow Focus-Incongruous Subject: Toplantı sonrasında, Serdar Bey hastaneye diyetisyeni yönlendirdi, danışman değil. Öyle gerekli görülmüş.

Cümlede "hastane" kelimesini gördünüz mü?
a. Evet
b. Hayır

19.
a. Broad Focus-Congruous Indirect Object: Binanın inşaatında, Müteahhit Ali tavanı çırağa gösterdi, ustaya değil. Zahmetsiz bir işmiş.
b. Broad Focus-Incongruous Direct Object: Binanın inşaatında, Müteahhit Ali tavanı çırağa gösterdi, duvarı değil. Zahmetsiz bir işmiş.
c. Broad Focus- Incongruous Subject: Binanın inşaatında, Müteahhit Ali tavanı çırağa gösterdi, mühendis değil. Zahmetsiz bir işmiş.
d. Narrow Focus-Congruous Direct Object: Binanın inşaatında, Müteahhit Ali çırağa tavanı gösterdi, duvarı değil. Zahmetsiz bir işmiş.
e. Narrow Focus-Incongruous Indirect Object: Binanın inşaatında, Müteahhit Ali çırağa tavanı gösterdi, ustaya değil. Zahmetsiz bir işmiş.
f. Narrow Focus-Incongruous Subject: Binanın inşaatında, Müteahhit Ali çırağa tavanı gösterdi, mühendis değil. Zahmetsiz bir işmiş.

Cümlede "zahmetsiz" kelimesini gördünüz mü?

a. Evet
b. Hayır

20.
a. Broad Focus-Congruous Indirect Object: Yardım kampanyasında, vakıf başkanı kitapları köylere gönderdi, ilçelere değil. Vakıf kurucusunun isteğiymiş.
b. Broad Focus-Incongruous Direct Object: Yardım kampanyasında, vakıf başkanı kitapları köylere gönderdi, dergileri değil. Vakıf kurucusunun isteğiymiş.
c. Broad Focus- Incongruous Subject: Yardım kampanyasında, vakıf başkanı kitapları köylere gönderdi, asistan değil. Vakıf kurucusunun isteğiymiş.
d. Narrow Focus-Congruous Direct Object: Yardım kampanyasında, vakıf başkanı köylere kitapları gönderdi, dergileri değil. Vakıf kurucusunun isteğiymiş.
e. Narrow Focus-Incongruous Indirect Object: Yardım kampanyasında, vakıf başkanı köylere kitapları gönderdi, ilçelere değil. Vakıf kurucusunun isteğiymiş.
f. Narrow Focus-Incongruous Subject: Yardım kampanyasında, vakıf başkanı köylere kitapları gönderdi, asistan değil. Vakıf kurucusunun isteğiymiş.

Cümlede "kasaba" kelimesini gördünüz mü?
a. Evet
b. Hayır

21.
a. Broad Focus-Congruous Indirect Object: Okul ziyaretinde, Salih Bey öğretmeni müfettişe kötüledi, valiye değil. Kimse bunu beklemiyormuş
b. Broad Focus-Incongruous Direct Object: Okul ziyaretinde, Salih Bey öğretmeni müfettişe kötüledi, müdürü değil. Kimse bunu beklemiyormuş.
c. Broad Focus- Incongruous Subject: Okul ziyaretinde, Salih Bey öğretmeni müfettişe kötüledi, veliler değil. Kimse bunu beklemiyormuş.
d. Narrow Focus-Congruous Direct Object: Okul ziyaretinde, Salih Bey müfettişe öğretmeni kötüledi, müdürü değil. Kimse bunu beklemiyormuş.
e. Narrow Focus-Incongruous Indirect Object: Okul ziyaretinde, Salih Bey müfettişe öğretmeni kötüledi, valiye değil. Kimse bunu beklemiyormuş. ,
f. Narrow Focus-Incongruous Subject: Okul ziyaretinde, Salih Bey müfettişe öğretmeni kötüledi, veliler değil. Kimse bunu beklemiyormuş.

Cümlede "müfettiş" kelimesini gördünüz mü?
a. Evet
b. Hayır

22.
a. Broad Focus-Congruous Indirect Object: Haberlere göre, İçişleri Bakanı askerleri köylere gönderdi, ilçelere değil. Sebebi henüz bilinmiyor.
b. Broad Focus-Incongruous Direct Object: Haberlere göre, İçişleri Bakanı askerleri köylere gönderdi, polisleri değil. Sebebi henüz bilinmiyor.
c. Broad Focus- Incongruous Subject: Haberlere göre, İçişleri Bakanı askerleri köylere gönderdi, başbakan değil. Sebebi henüz bilinmiyor.
d. Narrow Focus-Congruous Direct Object: Haberlere göre, İçişleri Bakanı köylere askerleri gönderdi, polisleri değil. Sebebi henüz bilinmiyor.
e. Narrow Focus-Incongruous Indirect Object: Haberlere göre, İçişleri Bakanı köylere askerleri gönderdi, ilçelere değil. Sebebi henüz bilinmiyor.

f. Narrow Focus-Incongruous Subject: Haberlere göre, İçişleri Bakanı köylere askerleri gönderdi, başbakan değil. Sebebi henüz bilinmiyor.

Cümlede "jandarma"kelimesini gördünüz mü?
a. Evet
b. Hayır

23.
a. Broad Focus-Congruous Indirect Object: Haberlere göre, yardım kuruluşu yiyecekleri köylülere dağıttı, kasabalılara değil. Kaynakları yeterli değilmiş.
b. Broad Focus-Incongruous Direct Object: Haberlere göre, yardım kuruluşu yiyecekleri köylülere dağıttı, kıyafetleri değil. Kaynakları yeterli değilmiş.
c. Broad Focus- Incongruous Subject: Haberlere göre, yardım kuruluşu yiyecekleri köylülere dağıttı, belediyeciler değil. Kaynakları yeterli değilmiş.
d. Narrow Focus-Congruous Direct Object Haberlere göre, yardım kuruluşu köylülere yiyecekleri dağıttı, kıyafetleri değil. Kaynakları yeterli değilmiş.
e. Narrow Focus-Incongruous Indirect Object Haberlere göre, yardım kuruluşu köylülere yiyecekleri dağıttı, kasabalılara değil. Kaynakları yeterli değilmiş.
f. Narrow Focus-Incongruous Subject Haberlere göre, yardım kuruluşu köylülere yiyecekleri dağıttı, belediyeciler değil. Kaynakları yeterli değilmiş.

Cümlede "bütçe" kelimesini gördünüz mü?
a. Evet
b. Hayır

24.
a. Broad Focus-Congruous Indirect Object: Yemek yaparken, baş aşçı kremayı makarnaya ekledi, çorbaya değil. Öyle yapması istenmiş.
b. Broad Focus-Incongruous Direct Object: Yemek yaparken, baş aşçı kremayı makarnaya ekledi, salçayı değil. Öyle yapması istenmiş.
c. Broad Focus- Incongruous Subject: Yemek yaparken, baş aşçı kremayı makarnaya ekledi, garson değil. Öyle yapması istenmiş.
d. Narrow Focus-Congruous Direct Object: Yemek yaparken, baş aşçı makarnaya kremayı ekledi, salçayı değil. Öyle yapması istenmiş.
e. Narrow Focus-Incongruous Indirect Object: Yemek yaparken, baş aşçı makarnaya kremayı ekledi, çorbaya değil. Öyle yapması istenmiş.
f. Narrow Focus-Incongruous Subject: Yemek yaparken, baş aşçı makarnaya kremayı ekledi, garson değil. Öyle yapması istenmiş.

Cümlede "krema" kelimesini gördünüz mü?
a. Evet
b. Hayır

Disguise Broad Focus Fillers and Questions:

1. Teftiş sırasında, Ayşe dönerciyi zabıtaya söyledi, ki hiç haksız değil. Herkes zehirlenmiş.

Cümlede "polis" kelimesini gördünüz mü?
a. Evet
b. Hayır

2. Kavga sonrasında, Efe arkadaşını annesine ispiyonladı, ki bu ilk değil. Sır tutamazmış.

Cümlede "ispiyonladı" kelimesini gördünüz mü?
a. Evet
b. Hayır

3. Dünkü buluşmada, Eda arkadaşlarına kocasını övdü, ki hiç inandırıcı değil. Genelde kavgalılarmış.

Cümlede "yalan" kelimesini gördünüz mü?
a. Evet
b. Hayır

4. Dans ederken, Aylin arkadaşına barmeni gösterdi, ki bu şaşırtıcı değil. Epey yakışıklıymış.

Cümlede "dans" kelimesini gördünüz mü?
a. Evet
b. Hayır

5. Yemekten önce, babası çocuğu bakkala gönderdi, oysa bu güvenli değil. Sokaklar karanlıkmış.

Cümlede "market" kelimesini gördünüz mü?
a. Evet
b. Hayır

6. Buluşacakları gün, Selda evine arkadaşlarını çağırdı, ki bu normal değil. Misafir sevmezmiş.

Cümlede "misafir" kelimesini gördünüz mü?
a. Evet
b. Hayır

7. Tiyatrodan sonra, Kaan sahneye seyircileri aldı, oysa bu mantıklı değil. Platform çökebilirdi.

Cümlede "izleyici" kelimesini gördünüz mü?"

a. Evet
b. Hayır

8. Nöbet sırasında, hemşire doktoru acile yönlendirdi, oysa bu gerekli değil. Kendisi halledebilirmiş.

Cümlede "acil" kelimesini gördünüz mü?
a. Evet
b. Hayır

9. Müzayade sırasında, müzayedeci gerdanlığı kadına sattı, ki bu yanlış değil. Teklifi yüksekti.

Cümlede "kolye" kelimesini gördünüz mü?
a. Evet
b. Hayır

10. Fizik tedavisinde, doktor hastaya koşmayı önerdi, oysa bu uygun değil. Kalbi zorlanabilirdi.

Cümlede "tedavi" kelimesini gördünüz mü?
a. Evet
b. Hayır

11. Dövüş salonunda,antrenör çocuklara kareteyi öğretti, ancak hiç kolay değil. Sabır gerekiyormuş.

Cümlede "tekvando" kelimesini gördünüz mü?
a. Evet
b. Hayır

12. Konser sırasında, sanatçı mikrofonu seyircilere uzattı, ki bu sıkıcı değil. Herkes eğlendi.

Cümlede "mikrofon"kelimesini gördünüz mü?
a. Evet
b. Hayır

13. Perdeleri asarken, hizmetçi merdiveni duvara yasladı, oysa bu güvenli değil. Kayıp düşebilirdi.

Cümlede "tehlikeli" kelimesini gördünüz mü?
a. Evet
b. Hayır

14. Evlilik yıldönümünde, Selim hediyeyi vestiyere sakladı, ancak bu akıllıca değil. Sürprizi bozulabilirdi.
Cümlede "vestiyer" kelimesini gördünüz mü?
a. Evet
b. Hayır

15. Eve yerleşirken, Ahmet kolileri mutfağa getirdi, ki bu mantıklı değil. Temizlikçiler sinirlendi.

Cümlede "kutu" kelimesini gördünüz mü?
a. Evet
b. Hayır

16. Telefonu dolunca, Oğuz fotoğraflarını bilgisayara aktardı, ki bu gereksiz değil. Telefonu hızlandı.

Cümlede "gereksiz" kelimesini gördünüz mü?
a. Evet
b. Hayır

Disguise Narrow Focus Fillers and Questions:

1. Dün gezerken, Mehmet çarşıda lise arkadaşına rastladı, sokakta değil. Yıllardır görmediğinden tanıyamamış.

Cümlede "sokak" kelimesini gördünüz mü?
a. Evet
b. Hayır

2. Dün konserde, seyirciler sanatçıyı şarkı söylerken keyifle dinledi, konuşurken değil. Konuşması sıkıcıymış.

Cümlede "şarkıcı" kelimesini gördünüz mü?
a. Evet
b. Hayır

3. Yangın çıkınca, komşular Ahmet dedeyi evinden çıkardı, itfaiye değil. Herkes çok korkmuş.

Cümlede "komşu" kelimesini gördünüz mü?
a. Evet
b. Hayır

4.Sınav sonrasında, profosör kağıtları göz ucuyla inceledi, özenle değil. Değerlendirmeyi sonra yapacakmış.

Cümlede "soru" kelimesini gördünüz mü?
a. Evet
b. Hayır

5. Evden çıkınca, Tuğba anahtarı unuttuğunu fark etti, kocası değil. Çilingir çağırmaları gerekmiş.

Cümlede "anahtar" kelimesini gördünüz mü?
a. Evet
b. Hayır

6. Seyahatten sonra, Tuna Bey kanepede dinlenirken uyuyakaldı, yatağında değil. Otobüste hiç uyuyamamış.

Cümlede "koltuk" kelimesini gördünüz mü?
a. Evet
b. Hayır

7. Yaz tatilinde, okul müdürü duvarları maviye boyatmış, kapıları değil. Öğrenciler hiç beğenmemiş.

Cümlede "duvar" kelimesini gördünüz mü?
a. Evet
b. Hayır

8. Kitap fuarındayken, Hilal Hanım yazardan imza alabildi, şairden değil. Fuar çok kalabalıkmış.

Cümlede "roman" kelimesini gördünüz mü?
a. Evet
b. Hayır

APPENDIX E

THE ENGLISH SENTENCE COMPLETION TASK:

EXPERIMENTAL SENTENCES, QUESTIONS AND FILLERS

Experimental Items and Questions:

1.
a. Broad Focus: At the premiere, the presenter gave the flowers to the director yesterday, not _____. It was the procedure.
b. Narrow Focus: At the premiere, the presenter gave the director the flowers yesterday, not _____. It was the procedure.

Options:
a. to the actress
b. the prizes
c. the presenter

2.
a. Broad Focus: Before the race, the coach promised the trophy to the winners yesterday, not _____. It was the deal.
b. Narrow Focus: Before the race, the coach promised the winners the trophy yesterday, not _____. It was the deal.

Options:
a. to the competitors
b. the medal
c. the manager

3.
a. Broad Focus: At the orientation, Sally will show the library to the freshmen tomorrow, not _____. It is the plan.
b. Narrow Focus: At the orientation, Sally will show the freshmen the library tomorrow, not _____ It is the plan.

Options:
a. to the seniors
b. the laboratory
c. Sofia

4.
a. Broad Focus: At the party, the waiter offered the cake to the children yesterday, not _____ There were not enough.
b. Narrow Focus: At the party, the waiter offered the children the cake yesterday, not _____. There were not enough.

Options:

a. to the adults
b. the chocolate
c. the waitress

5.
a. Broad Focus: For the vacation, Simon will leave his hamster to his daughter tomorrow, not _____. It is his decision.
b. Narrow Focus: For the vacation, Simon will leave his daughter his hamster tomorrow, not _____. It is his decision.

Options:
a. to his sister
b. his dog
c. Danny

6.
a. Broad Focus: As Christmas gift, the director sent the notebooks to the workers recently, not _____. It was a tradition.
b. Narrow Focus: As Christmas gift, the director sent the workers the notebooks recently, not _____. It was a tradition.

Options:
a. to the customers
b. the calendars
c. the director

7.
a. Broad Focus: At the hospital, the junior doctor prescribed the painkiller to the woman yesterday, not _____. It was hospital policy.
b. Narrow Focus: At the hospital, the junior doctor prescribed the woman the painkiller yesterday, not _____. It was hospital policy.

Options:
a. to the woman
b. the antibiotic
c. the specialist

8.
a. Broad Focus: For the announcement, the assistant sent the e-mail to the parents yesterday, not _____. That was more formal.
b. Narrow Focus: For the announcement, the assistant sent the parents the e-mail yesterday, not _____. That was more formal.

Options:
a. to the students
b. the message
c. the teacher

9.
a. Broad Focus: Before playing snowball, Grandma Polly gave the gloves to the children yesterday, not _____. There were not enough.

b. Narrow Focus: Before playing snowball, Grandma Polly gave the children the gloves yesterday, not _____. There were not enough.

Options:
a. to the teens
b. the scarves
c. Grandpa John

10.
a. Broad Focus: In the ballroom, Mrs. Flores lent her bracelet to her sister yesterday, not _____. It was not planned.
b. Narrow Focus: In the ballroom, Mrs. Flores lent her sister her bracelet yesterday, not _____. It was not planned.

Options:
a. to her cousin
b. the necklace
c. Mrs. Sanders

11.
a. Broad Focus: At the worksite, Mr. Harris showed the ceiling to the builders yesterday, not _____. There was a problem.
b. Narrow Focus: At the worksite, Mr. Harris showed the builders the ceiling yesterday, not _____. There was a problem.

Options:
a. to the painters
b. the balcony
c. Mr. Lewis

12.
a. Broad Focus: For exam safety, the instructor gave the questions to the secretary yesterday, not _____. It was much better.
b. Narrow Focus: For exam safety, the instructor gave the secretary the questions yesterday, not _____. It was much better.

Options:
a. to the trainee
b. the answers
c. the assistant

13.
a. Broad Focus: For graduate applications, the candidates handed the transcripts to the secretary yesterday, not _____. It was the procedure.
b. Narrow Focus: For graduate applications, the candidates handed the secretary the transcripts yesterday, not _____. It was the procedure.

Options:
a. to the professor
b. the resumes

c. their associates

14.
a. Broad Focus: For the publication, the author sent the chapters to the reviewers recently, not _____. It was the process.
b. Narrow Focus: For the publication, the author sent the reviewer the chapters recently, not _____. It was the process.

Options:
a. to the editor
b. the articles
c. the publisher

15.
a. Broad Focus: Doing it voluntarily, Mr. Parker read the poems to the kids yesterday, not _____. This was more fun.
b. Narrow Focus: Doing it voluntarily, Mr. Parker read the kids the poems yesterday, not _____ This was more fun.

Options:
a. to the elderly
b. the stories
c. Mr. Walker

16.
a. Broad Focus: At company dinner, the waiter served the pizzas to the directors yesterday, not _____. It was the arrangement.
b. Narrow Focus: At company dinner, the waiter served the directors the pizzas yesterday, not _____. It was the arrangement.

Options:
a. to the trainees
b.the fries
c.the waitress

17.
a. Broad Focus: As earthquake relief, the charity gave the tents to the children recently, not _____. Their supply wasn't enough.
b. Narrow Focus: As earthquake relief, the charity gave the children the tents recently, not _____. Their supply wasn't enough.

Options:
a. to the adults
b. the blankets
c. the municipality

18.
a. Broad Focus: At the ceremony, the teacher presented the trophies to the graduates yesterday, not _____. It was the tradition.

b. Narrow Focus: At the ceremony, the teacher presented the graduates the trophies yesterday, not _____. It was the tradition.

Options:
a. to the students
b. the diplomas
c. the director

19.
a. Broad Focus: At the court, Mr. Wilson left his house to his sister yesterday, not _____. It was very surprising.
b. Narrow Focus: At the court, Mr. Wilson left his sister his house yesterday, not _____. It was very surprising.

Options:
a. to his daughter
b. his company
c. Mr. Barnes

20.
a. Broad Focus: At the cafe, the waiter passed the coffee to the woman yesterday, not _____. It was not important.
b. Narrow Focus: At the cafe, the waiter passed the woman the coffee yesterday, not _____. It was not important.

Options:
a. to the man
b. the tea
c. the waitress

21.
a. Broad Focus: At the park, Finn threw the frisbee to his babysitter yesterday, not _____. It was so funny.
b. Narrow Focus: At the park, Finn threw his babysitter the frisbee yesterday, not _____. It was so funny.

Options:
a. to his mother
b. his ball
c.Lucas

22.
a. Broad Focus: At the office, the manager gave the petitions to the secretary yesterday, not _____. It was the schedule.
b. Narrow Focus: At the office, the manager gave the secretary the petitions yesterday, not _____ It was the schedule.

Options:
a. to the trainee
b. the receipts

c. the director

23.
a. Broad Focus: Introducing the product, the advertiser told the benefits to the sellers yesterday, not _____. It was company strategy.
b. Narrow Focus: Introducing the product, the advertiser told the sellers the benefits yesterday, not _____. It was company strategy.

Options:
a. to the distributors
b. the drawbacks
c. the producer

24.
a. Broad Focus: During the hearing, the suspect presented the video to the judge yesterday, not _____. That proved his innocence.
b. Narrow Focus: During the hearing, the suspect presented the judge the video yesterday, not _____. That proved his innocence.

Options:
a. to the prosecutor
b. the photograph
c. the lawyer

Disguise Broad Focus Fillers and Questions:

1. At the pub, the bartender poured some tequila for the young man, which was not legal. _____ informed the police.

Options:

a. someone
b. something
c. somewhere

2. The speaker explained his theory to the audience, which was not _____. Unfortunately, everyone stopped paying attention.

Options:

a. engaging
b. boring
c. depressive

3. After the bet, Jimmy owed his friend a bike, which was not good for him. His mother became _____ angry.

Options:

a. really
b. a lot of
c. several

4. At a bookstore, Rob _____ found the magazine for Megan, which was not easy. He searched for it a lot.

Options:

a. finally
b. gradually
c. meanwhile

5. After the war, the company supplied free medicine to the civilians, which was not forgotten. The public was very _____.

Options:

a. appreciative
b. mean
c. impatient

6. At the party, the waiters served only chicken sandwiches to the guests, which was not _____. Some guests were vegetarians.

Options:

a. polite
b. unkind
c. rude

7. For New Years, the company gave a bonus to its workers, which was not _____. It made everyone very happy.

Options:

a. surprising
b. expected
c. amazing

8.
After dinner yesterday, Oliver peeled an orange for his younger sister, which was _____. He is always very thoughtful.

Options:

a. expected
b. shocking
c. funny

9. For the winter, my grandmother knitted my brother a sweater, which was not difficult for her. She really _____ knitting.

Options:

a.hates
b. loves
c. dislike

10. On her birthday, Steve sent his elderly aunt some flowers, which was _____. He is considerate of his family members.

Options:

a. rare
b. weird
c. usual

11. Before the meeting, the secretary forwarded the email to the employees, which was not _____. Everybody was waiting for her.

Options:

a. surprising
b. amazing
c. expected

12. Over the holiday, the teacher assigned the students two projects, which was not reasonable. He was never a _____ person.

Options:

a. thoughtful
b. inconsiderate
c. untactful

Disguise Narrow Focus Fillers and Questions:

1. During the storm, a taxi driver helped a student to find home, not the police. He was a _____ man.

Options:
a. helpful
b. mean
c. rude

2. During their vacation, the couple will visit an ancient city in Egypt, not a village. It is a _____ plan. ,

Options:
a. wonderful
b. boring
c. stupid

3. After the presentation, the speaker was asked a _____ question, not an easy one. He could not answer it quickly.

Options:
a. difficult
b. silly
c. meaningless

4. After the party, Skyler slept on the couch in the living room, not in her bed. She was too _____.

Options:
a. energetic
b. excited
c. tired

5. Over summer break, the principal painted the walls in green, not the doors. _____, the students did not like them.

Options:
a. luckily
b. unfortunately
c. happily

6. At the conference, the scientists presented a new promising study about cancer, not the doctors. The listeners were very _____. ,

Options:
a. impressed
b. shocked
c. unsatisfied

7. At the zoo, the visitors carefully fed the horses with carrots, not ____. They were told to do so.

Options:

a. the cows
b. carelessly
c. the sugar

8. At the playground, the children hid behind the slide laughingly, not the swing. They had _____ fun there.

Options:

a. a lot of
b. several
c. a little

APPENDIX F

THE ENGLISH EYE TRACKING EXPERIMENT:

EXPERIMENTAL SENTENCES, QUESTIONS AND FILLERS

Experimental Items and Qeustions:

1.
a. Broad Focus- Congruous Indirect Object: At the premiere, the presenter gave the flowers to the director yesterday, not to the actress. It was the procedure.
b. Broad Focus- Incongruous Direct Object: At the premiere, the presenter gave the flowers to the director yesterday, not the prizes. It was the procedure.
c. Broad Focus- Incongruous Subject: At the premiere, the presenter gave the flowers to the director yesterday, not the organizer. It was the procedure.
d. Narrow Focus-Congruous Direct Object: At the premiere, the presenter gave the director the flowers yesterday, not the prizes. It was the procedure.
e. Narrow Focus- Incongruous Indirect Object: At the premiere, the presenter gave the director the flowers yesterday, not to the actress. It was the procedure.
f. Narrow Focus- Incongruous Subject: At the premiere, the presenter gave the director the flowers yesterday, not the organizer. It was the procedure.

Does the sentence include the word "actor"?
a. Yes
b. No

2.
a. Broad Focus- Congruous Indirect Object: Before the race, the coach promised the trophy to the winners yesterday, not to the competitors. It was the deal.
b. Broad Focus- Incongruous Direct Object: Before the race, the coach promised the trophy to the winners yesterday, not the medal. It was the deal.
c. Broad Focus- Incongruous Subject: Before the race, the coach promised the trophy to the winners yesterday, not the manager. It was the deal.
d. Narrow Focus-Congruous Direct Object: Before the race, the coach promised the winners the trophy yesterday, not the medal. It was the deal.
e. Narrow Focus- Incongruous Indirect Object: Before the race, the coach promised the winners the trophy yesterday, not to the competitors. It was the deal.
f. Narrow Focus- Incongruous Subject: Before the race, the coach promised the winners the trophy yesterday, not the manager. It was the deal.

Does the sentence include the word "trophy"?
a. Yes
b. No

3.
a. Broad Focus- Congruous Indirect Object: At the orientation, Sally will show the library to the freshmen tomorrow, not to the seniors. It is the plan.
b. Broad Focus- Incongruous Direct Object: At the orientation, Sally will show the library to the freshmen tomorrow, not the laboratory. It is the plan.

c. Broad Focus- Incongruous Subject: At the orientation, Sally will show the library to the freshmen tomorrow, not Sofia. It is the plan.
d. Narrow Focus-Congruous Direct Object: At the orientation, Sally will show the freshmen the library tomorrow, not the laboratory. It is the plan.
e. Narrow Focus- Incongruous Indirect Object: At the orientation, Sally will show the freshmen the library tomorrow, not to the seniors. It is the plan.
f. Narrow Focus- Incongruous Subject: At the orientation, Sally will show the freshmen the library tomorrow, not Sofia. It is the plan.

Does the sentence include the word "juniors"?
a. Yes
b. No

4.
a. Broad Focus- Congruous Indirect Object: At the party, the waiter offered the cake to the children yesterday, not to the adults. There were not enough.
b. Broad Focus- Incongruous Direct Object: At the party, the waiter offered the cake to the children yesterday, not the chocolate. There were not enough.
c. Broad Focus- Incongruous Subject: At the party, the waiter offered the cake to the children yesterday, not the waitress. There were not enough.
d. Narrow Focus-Congruous Direct Object: At the party, the waiter offered the children the cake yesterday, not the chocolate. There were not enough.
e. Narrow Focus- Incongruous Indirect Object: At the party, the waiter offered the children the cake yesterday, not to the adults. There were not enough.
f. Narrow Focus- Incongruous Subject: At the party, the waiter offered the children the cake yesterday, not the waitress. There were not enough.

Does the sentence include the word "waiter"?
a. Yes
b. No

5.
a. Broad Focus- Congruous Indirect Object: For the vacation, Simon will leave his hamster to his daughter tomorrow, not to his sister. It is his decision.
b. Broad Focus- Incongruous Direct Object: For the vacation, Simon will leave his hamster to his daughter tomorrow, not his dog. It is his decision.
c. Broad Focus- Incongruous Subject: For the vacation, Simon will leave his hamster to his daughter tomorrow, not Danny. It is his decision.
d. Narrow Focus-Congruous Direct Object: For the vacation, Simon will leave his daughter his hamster tomorrow, not his dog. It is his decision.
e. Narrow Focus- Incongruous Indirect Object: For the vacation, Simon will leave his daughter his hamster tomorrow, not to his sister. It is his decision.
f. Narrow Focus- Incongruous Subject: For the vacation, Simon will leave his daughter his hamster tomorrow, not Danny. It is his decision.

Does the sentence include the word "holiday"?
a. Yes
b. No

6.

a. Broad Focus- Congruous Indirect Object: As Christmas gift, the director sent the notebooks to the workers recently, not to the customers. It was a tradition.
b. Broad Focus- Incongruous Direct Object: As Christmas gift, the director sent the notebooks to the workers recently, not the calendars. It was a tradition.
c. Broad Focus- Incongruous Subject: As Christmas gift, the director sent the notebooks to the workers recently, not the secretary. It was a tradition.
d. Narrow Focus-Congruous Direct Object: As Christmas gift, the director sent the workers the notebooks recently, not the calendars. It was a tradition.
e. Narrow Focus- Incongruous Indirect Object: As Christmas gift, the director sent the workers the notebooks recently, not to the customers. It was a tradition.
f. Narrow Focus- Incongruous Subject: As Christmas gift, the director sent the workers the notebooks recently, not the secretary. It was a tradition.

Does the sentence include the word "tradition"?
a. Yes
b. No

7.
a. Broad Focus- Congruous Indirect Object: At the hospital, the junior doctor prescribed the painkiller to the woman yesterday, not to the baby. It was hospital policy.
b. Broad Focus- Incongruous Direct Object: At the hospital, the junior doctor prescribed the painkiller to the woman yesterday, not the antibiotic. It was hospital policy.
c. Broad Focus- Incongruous Subject: At the hospital, the junior doctor prescribed the painkiller to the woman yesterday, not the specialist. It was hospital policy.
d. Narrow Focus-Congruous Direct Object: At the hospital, the junior doctor prescribed the woman the painkiller yesterday, not the antibiotic. It was hospital policy.
e. Narrow Focus- Incongruous Indirect Object: At the hospital, the junior doctor prescribed the woman the painkiller yesterday, not to the baby. It was hospital policy.
f. Narrow Focus- Incongruous Subject: At the hospital, the junior doctor prescribed the woman the painkiller yesterday, not the specialist. It was hospital policy.

Does the sentence include the word "nurse"?
a. Yes
b. No

8.
a. Broad Focus- Congruous Indirect Object: For the announcement, the assistant sent the e-mail to the parents yesterday, not to the students. That was more formal.
b. Broad Focus- Incongruous Direct Object: For the announcement, the assistant sent the e-mail to the parents yesterday, not the message. That was more formal.
c. Broad Focus- Incongruous Subject: For the announcement, the assistant sent the e-mail to the parents yesterday, not the teacher. That was more formal.
d. Narrow Focus-Congruous Direct Object: For the announcement, the assistant sent the parents the e-mail yesterday, not the message. That was more formal.

e. Narrow Focus- Incongruous Indirect Object: For the announcement, the assistant sent the parents the e-mail yesterday, not to the students. That was more formal.
f. Narrow Focus- Incongruous Subject: For the announcement, the assistant sent the parents the e-mail yesterday, not the teacher. That was more formal.

Does the sentence include the word "announcement"?
a. Yes
b. No

9.
a. Broad Focus- Congruous Indirect Object: Before playing snowball, Grandma Polly gave the gloves to the children yesterday, not to the teens. There were not enough.
b. Broad Focus- Incongruous Direct Object: Before playing snowball, Grandma Polly gave the gloves to the children yesterday, not the scarves. There were not enough.
c. Broad Focus- Incongruous Subject: Before playing snowball, Grandma Polly gave the gloves to the children yesterday, not Grandpa John. There were not enough.
d. Narrow Focus-Congruous Direct Object: Before playing snowball, Grandma Polly gave the children the gloves yesterday, not the scarves. There were not enough.
e. Narrow Focus- Incongruous Indirect Object: Before playing snowball, Grandma Polly gave the children the gloves yesterday, not to the teens. There were not enough.
f. Narrow Focus- Incongruous Subject: Before playing snowball, Grandma Polly gave the children the gloves yesterday, not Grandpa John. There were not enough.

Does the sentence include the word "snowman"?
a. Yes
b. No

10.
a. Broad Focus- Congruous Indirect Object: In the ballroom, Mrs. Flores lent her bracelet to her sister yesterday, not to her cousin. It was not planned.
b. Broad Focus- Incongruous Direct Object: In the ballroom, Mrs. Flores lent her bracelet to her sister yesterday, not her necklace. It was not planned.
c. Broad Focus- Incongruous Subject: In the ballroom, Mrs. Flores lent her bracelet to her sister yesterday, not Mrs. Sanders. It was not planned.
d. Narrow Focus-Congruous Direct Object: In the ballroom, Mrs. Flores lent her sister her bracelet yesterday, not her necklace. It was not planned.
e. Narrow Focus- Incongruous Indirect Object: In the ballroom, Mrs. Flores lent her sister her bracelet yesterday, not to her cousin. It was not planned.
f. Narrow Focus- Incongruous Subject: In the ballroom, Mrs. Flores lent her sister her bracelet yesterday, not Mrs. Sanders. It was not planned.

Does the sentence include the word "earrings"?
a. Yes
b. No

11.
a. Broad Focus- Congruous Indirect Object: At the worksite, Mr. Harris showed the ceiling to the builders yesterday, not to the painters. There was a problem.
b. Broad Focus- Incongruous Direct Object: At the worksite, Mr. Harris showed the ceiling to the builders yesterday, not the balcony. There was a problem.
c. Broad Focus- Incongruous Subject: At the worksite, Mr. Harris showed the ceiling to the builders yesterday, not Mr. Lewis. There was a problem.
d. Narrow Focus-Congruous Direct Object: At the worksite, Mr. Harris showed the builders the ceiling yesterday, not the balcony. There was a problem.
e. Narrow Focus- Incongruous Indirect Object: At the worksite, Mr. Harris showed the builders the ceiling yesterday, not to the painters. There was a problem.
f. Narrow Focus- Incongruous Subject: At the worksite, Mr. Harris showed the builders the ceiling yesterday, not Mr. Lewis. There was a problem.

Does the sentence include the word "worksite"?
a. Yes
b. No

12.
a. Broad Focus- Congruous Indirect Object: For exam safety, the instructor gave the questions to the secretary yesterday, not to the trainee. It was much better.
b. Broad Focus- Incongruous Direct Object: For exam safety, the instructor gave the questions to the secretary yesterday, not the answers. It was much better.
c. Broad Focus- Incongruous Subject: For exam safety, the instructor gave the questions to the secretary yesterday, not the assistant. It was much better.
d. Narrow Focus-Congruous Direct Object: For exam safety, the instructor gave the secretary the questions yesterday, not the answers. It was much better.
e. Narrow Focus- Incongruous Indirect Object: For exam safety, the instructor gave the secretary the questions yesterday, not to the trainee. It was much better.
f. Narrow Focus- Incongruous Subject: For exam safety, the instructor gave the secretary the questions yesterday, not the assistant. It was much better.

Does the sentence include the word "secretary"?
a. Yes
b. No

13.
a. Broad Focus- Congruous Indirect Object: For graduate applications, the candidates handed the transcripts to the secretary yesterday, not to the professor. It was the procedure.
b. Broad Focus- Incongruous Direct Object: For graduate applications, the candidates handed the transcripts to the secretary yesterday, not the resumes. It was the procedure.
c. Broad Focus- Incongruous Subject: For graduate applications, the candidates handed the transcripts to the secretary yesterday, not their associates. It was the procedure.
d. Narrow Focus-Congruous Direct Object: For graduate applications, the candidates handed the secretary the transcripts yesterday, not the resumes. It was the procedure.

e. Narrow Focus- Incongruous Indirect Object: For graduate applications, the candidates handed the secretary the transcripts yesterday, not to the professor. It was the procedure.
f. Narrow Focus- Incongruous Subject: For graduate applications, the candidates handed the secretary the transcripts yesterday, not their associates. It was the procedure.

Does the sentence include the word "submit"?
a. Yes
b. No

14.
a. Broad Focus- Congruous Indirect Object: For the publication, the author sent the chapters to the reviewers recently, not to the editor. It was the process.
b. Broad Focus- Incongruous Direct Object: For the publication, the author sent the chapters to the reviewers recently, not the articles. It was the process.
c. Broad Focus- Incongruous Subject: For the publication, the author sent the chapters to the reviewers recently, not the publisher . It was the process.
d. Narrow Focus-Congruous Direct Object: For the publication, the author sent the reviewer the chapters recently, not the articles. It was the process.
e. Narrow Focus- Incongruous Indirect Object: For the publication, the author sent the reviewer the chapters recently, not to the editor. It was the process.
f. Narrow Focus- Incongruous Subject: For the publication, the author sent the reviewer the chapters recently, not the publisher. It was the process.

Does the sentence include the word "process"?
a. Yes
b. No

15.
a. Broad Focus- Congruous Indirect Object: Doing it voluntarily, Mr. Parker read the poems to the kids yesterday, not to the elderly. This was more fun.
b. Broad Focus- Incongruous Direct Object: Doing it voluntarily, Mr. Parker read the poems to the kids yesterday, not the stories. This was more fun.
c. Broad Focus- Incongruous Subject: Doing it voluntarily, Mr. Parker read the poems to the kids yesterday, not Mr. Walker. This was more fun.
d. Narrow Focus-Congruous Direct Object: Doing it voluntarily, Mr. Parker read the kids the poems yesterday, not the stories. This was more fun.
e. Narrow Focus- Incongruous Indirect Object: Doing it voluntarily, Mr. Parker read the kids the poems yesterday, not to the elderly. This was more fun.
f. Narrow Focus- Incongruous Subject: Doing it voluntarily, Mr. Parker read the kids the poems yesterday, not Mr. Walker. This was more fun.

Does the sentence include the word "children"?
a. Yes
b. No

16.
a. Broad Focus- Congruous Indirect Object: At company dinner, the waiter served the pizzas to the directors yesterday, not to the trainees. It was the arrangement.

b. Broad Focus- Incongruous Direct Object: At company dinner, the waiter served the pizzas to the directors yesterday, not the fries. It was the arrangement.
c. Broad Focus- Incongruous Subject: At company dinner, the waiter served the pizzas to the directors yesterday, not the waitress. It was the arrangement.
d. Narrow Focus-Congruous Direct Object: At company dinner, the waiter served the directors the pizzas yesterday, not the fries. It was the arrangement.
e. Narrow Focus- Incongruous Indirect Object: At company dinner, the waiter served the directors the pizzas yesterday, not to the trainees. It was the arrangement.
f. Narrow Focus- Incongruous Subject: At company dinner, the waiter served the directors the pizzas yesterday, not the waitress. It was the arrangement.

Does the sentence include the word "arrangement"?
a. Yes
b. No

17.
a. Broad Focus- Congruous Indirect Object: As earthquake relief, the charity gave the tents to the children recently, not to the adults. Their supply wasn't enough.
b. Broad Focus- Incongruous Direct Object: As earthquake relief, the charity gave the tents to the children recently, not the blankets. Their supply wasn't enough.
c. Broad Focus- Incongruous Subject: As earthquake relief, the charity gave the tents to the children recently, not the municipality. Their supply wasn't enough.
d. Narrow Focus-Congruous Direct Object: As earthquake relief, the charity gave the children the tents recently, not the blankets. Their supply wasn't enough.
e. Narrow Focus- Incongruous Indirect Object: As earthquake relief, the charity gave the children the tents recently, not to the adults. Their supply wasn't enough.
f. Narrow Focus- Incongruous Subject: As earthquake relief, the charity gave the children the tents recently, not the municipality. Their supply wasn't enough.

Does the sentence include the word "shelter"?
a. Yes
b. No

18.
a. Broad Focus- Congruous Indirect Object: At the ceremony, the teacher presented the trophies to the graduates yesterday, not to the students. It was the tradition.
b. Broad Focus- Incongruous Direct Object: At the ceremony, the teacher presented the trophies to the graduates yesterday, not the diplomas. It was the tradition.
c. Broad Focus- Incongruous Subject: At the ceremony, the teacher presented the trophies to the graduates yesterday, not the director. It was the tradition.
d. Narrow Focus-Congruous Direct Object: At the ceremony, the teacher presented the graduates the trophies yesterday, not the diplomas. It was the tradition.
e. Narrow Focus- Incongruous Indirect Object: At the ceremony, the teacher presented the graduates the trophies yesterday, not to the students. It was the tradition.
f. Narrow Focus- Incongruous Subject: At the ceremony, the teacher presented the gradautes the trophies yesterday, not the director. It was the tradition.

Does the sentence include the word "ceremony"?
a. Yes
b. No

19.
a. Broad Focus- Congruous Indirect Object: At the court, Mr. Wilson left his house to his sister yesterday, not to his daughter. It was very surprising.
b. Broad Focus- Incongruous Direct Object: At the court, Mr. Wilson left his house to his sister yesterday, not his company. It was very surprising.
c. Broad Focus- Incongruous Subject: At the court, Mr. Wilson left his house to his sisteryesterday, not Mr. Barnes. It was very surprising.
d. Narrow Focus-Congruous Direct Object: At the court, Mr. Wilson left his sister his house yesterday, not his company. It was very surprising.
e. Narrow Focus- Incongruous Indirect Object: At the court, Mr. Wilson left his sister his house yesterday, not to his daughter. It was very surprising.
f. Narrow Focus- Incongruous Subject: At the court, Mr. Wilson left his sister his house yesterday, not Mr. Barnes. It was very surprising.

Does the sentence include the word "brother"?
a. Yes
b. No

20.
a. Broad Focus- Congruous Indirect Object: At the cafe, the waiter passed the coffee to the woman yesterday, not to the man. It was not important.
b. Broad Focus- Incongruous Direct Object: At the cafe, the waiter passed the coffee to the woman yesterday, not the tea. It was not important.
c. Broad Focus- Incongruous Subject: At the cafe, the waiter passed the coffee to the woman yesterday, not the waitress. It was not important.
d. Narrow Focus-Congruous Direct Object: At the cafe, the waiter passed the woman the coffee yesterday, not the tea. It was not important.
e. Narrow Focus- Incongruous Indirect Object: At the cafe, the waiter passed the woman the coffee yesterday, not to the man. It was not important.
f. Narrow Focus- Incongruous Subject: At the cafe, the waiter passed the woman the coffee yesterday, not the waitress. It was not important.

Does the sentence include the word "waiter"?
a. Yes
b. No

21.
a. Broad Focus- Congruous Indirect Object: At the park, Finn threw the frisbee to his babysitter yesterday, not to his mother. It was so funny.
b. Broad Focus- Incongruous Direct Object: At the park, Finn threw the frisbee to his babysitter yesterday, not the ball. It was so funny.
c. Broad Focus- Incongruous Subject: At the park, Finn threw the frisbee to his babysitter yesterday, not Lucas . It was so funny.
d. Narrow Focus-Congruous Direct Object: At the park, Finn threw his babysitter the frisbee yesterday, not his ball. It was so funny.

e. Narrow Focus- Incongruous Indirect Object: At the park, Finn threw his babysitter the frisbee yesterday, not to his mother. It was so funny.
f. Narrow Focus- Incongruous Subject: At the park, Finn threw his babysitter the frisbee yesterday, not Lucas. It was so funny.

Does the sentence include the word "playground"?
a. Yes
b. No

22.
a. Broad Focus- Congruous Indirect Object: At the office, the manager gave the petitions to the secretary yesterday, not to the trainee. It was the schedule.
b. Broad Focus- Incongruous Direct Object: At the office, the manager gave the petitions to the secretary yesterday, not the receipts. It was the schedule.
c. Broad Focus- Incongruous Subject: At the office, the manager gave the petitions to the secretary yesterday, not the director. It was the schedule.
d. Narrow Focus-Congruous Direct Object: At the office, the manager gave the secretary the petitions yesterday, not the receipts. It was the schedule.
e. Narrow Focus- Incongruous Indirect Object: At the office, the manager gave the secretary the petitions yesterday, not to the trainee. It was the schedule.
f. Narrow Focus- Incongruous Subject: At the office, the manager gave the secretary the petitions yesterday, not the director. It was the schedule.

Does the sentence include the word "manager"?
a. Yes
b. No

23.
a. Broad Focus- Congruous Indirect Object: Introducing the product, the advertiser told the benefits to the sellers yesterday, not to the distributors. It was company strategy.
b. Broad Focus- Incongruous Direct Object: Introducing the product, the advertiser told the benefits to the sellers yesterday, not the drawbacks. It was company strategy.
c. Broad Focus- Incongruous Subject: Introducing the product, the advertiser told the benefits to the sellers yesterday, not the producer. It was company strategy.
d. Narrow Focus-Congruous Direct Object: Introducing the product, the advertiser told the sellers the benefits yesterday, not the drawbacks. It was company strategy.
e. Narrow Focus- Incongruous Indirect Object: Introducing the product, the advertiser told the sellers the benefits yesterday, not to the distributors. It was company strategy.
f. Narrow Focus- Incongruous Subject: Introducing the product, the advertiser told the sellers the benefits yesterday, not the producer. It was company strategy.

Does the sentence include the word "advantage"?
a. Yes
b. No

24.

a. Broad Focus- Congruous Indirect Object: During the hearing, the suspect presented the video to the judge yesterday, not to the prosecutor. That proved his innocence.

b. Broad Focus- Incongruous Direct Object: During the hearing, the suspect presented the video to the judge yesterday, not the photograph. That proved his innocence.

c. Broad Focus- Incongruous Subject: During the hearing, the suspect presented the video to the judge yesterday, not the lawyer. That proved his innocence.

d. Narrow Focus-Congruous Direct Object: During the hearing, the suspect presented the judge the video yesterday, not the photograph. That proved his innocence.

e. Narrow Focus- Incongruous Indirect Object: During the hearing, the suspect presented the judge the video yesterday, not to the prosecutor. That proved his innocence.

f. Narrow Focus- Incongruous Subject: During the hearing, the suspect presented the judge the video yesterday, not the lawyer. That proved his innocence.

Does the sentence include the word "hearing"?
a. Yes
b. No

Disguise Broad Focus Fillers and Questions:

1. Before the meeting, the secretary forwarded the email to the employees, which was not surprising. Everybody was waiting for her.

Does the sentence include the word "employee"?

a. Yes
b. No

2. At birthday party, Peter gave a documentary to his girlfriend, which was not strange. He is not a romantic guy.

Does the sentence include the word "weird"?
a. Yes
b. No

3. At the pub, the bartender poured some tequila for the young man, which was not legal. Someone informed the police.

Does the sentence include the word "bartender"?
a. Yes
b. No

4. During the conference, the speaker explained his theory to the audience, which was not engaging. Unfortunately, everyone stopped paying attention.

Does the sentence include the word "boring"?
a. Yes
b. No

5. After the bet, Jimmy owed his friend a bike, which was not good for him. His mother became really angry.

Does the sentence include the word "angry"?
a. Yes
b. No

6. At a bookstore, Rob finally found the magazine for Megan, which was not easy. He searched for it a lot.

Does the sentence include the word "novel"?
a. Yes
b. No

7. After the war, the company supplied free medicine to the civilians, which was not forgotten. The public was very appreciative.

Does the sentence include the word "medicine"?
a. Yes

b. No

8. At the party, the waiters served only chicken sandwiches to the guests, which was not polite. Some guests were vegetarians.

Does the sentence include the word "waitress"?
a. Yes
b. No

9. For New Years, the company gave a bonus to its workers, which was not expected. It made everyone very happy.

Does the sentence include the word "bonus"?
a. Yes
b. No

10. Over the holiday, the teacher assigned the students two projects, which was not reasonable. He was never a thoughtful person.

Does the sentence include the word "vacation"?
a. Yes
b. No

11. At the gym, the trainer taught the young children to kick box, which was not easy. He was very patient.

Does the sentence include the word "trainer"?
a. Yes
b. No

12. After the match, the judges awarded the winner a medal, which was really thrilling. Everyone was waiting for that moment.

Does the sentence include the word "trophy"?
a. Yes
b. No

13. For the winter, my grandmother knitted my brother a sweater, which was not difficult for her. She really loves knitting.

Does the sentence include the word "knitting"?
a. Yes
b. No

14. After dinner yesterday, Oliver peeled an orange for his younger sister, which was not surprising. He is always very thoughtful.

Does the sentence include the word "apple"?
a. Yes
b. No

15. After the assessment, the committee awarded the female student a scholarship, which was not unfair. Every criterion was carefully considered.

Does the sentence include the word "assessment"?
a. Yes
b. No

16. On her birthday, Steve sent his elderly aunt some flowers, which was usual. He is considerate of his family members.

Does the sentence include the word "old"?
a. Yes
b. No

Disguise Narrow Focus Fillers and Fillers:

1. After the presentation, the speaker was asked a difficult question, not an easy one. He could not answer it quickly.

Does the sentence include the word "question"?
a. Yes
b. No

2. After the party, Skyler slept on the couch in the living room, not in her bed. She was too tired.

Does the sentence include the word "sofa"?
a. Yes
b. No

3. During the storm, a taxi driver helped a student to find home, not the police. He was a helpful man.

Does the sentence include the word "helpful"?
a. Yes
b. No

4. During their vacation, the couple will visit an ancient city in Egypt, not a village. It is a wonderful plan.

Does the sentence include the word "country"?
a. Yes
b. No

5. Over summer break, the principal painted the walls in green, not the doors. Unfortunately, the students did not like them.

Does the sentence include the word "principal"?

a. Yes
b. No

6. At the conference, the scientists presented a new promising study about cancer, not the doctors. The listeners were very impressed.

Does the sentence include the word "seminar"?
a. Yes
b. No

7. At the playground, the children hid behind the slide laughingly, not the swing. They had a lot of fun there.

Does the sentence include the word "swing"?
a. Yes
b. No

8. At the zoo, the visitors carefully fed the horses with carrots, not the cows. They were told to do so.

Does the sentence include the word "sheep"?
a. Yes
b. No

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