

**Investigating Focus Constructions in an EFL Context:  
a usage-based approach**

**Nadiah Suliman Al Eraini**

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**Department of Linguistics and English Language**

**Lancaster University**

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## Abstract

By adopting a Construction Grammar framework and following a usage-based approach to SLA, the present study investigated Saudi advanced L2 users' knowledge of focus constructions in English (namely *it*-cleft, *wh*-cleft, reverse *wh*-cleft and *preposing*). Little is known about the acquisition of these constructions in an EFL contexts, as these focus constructions are not very much used in oral and written forms in English (Biber et.al, 1999). One of the objectives of this study was to find out whether Saudi L2 users are aware of the appropriate contextual use of English focus constructions related to object focus in English. Another objective of this study, was to explore the extent to which L2 users of English with L1 Arabic are similar in their knowledge and on-line processing of English focus constructions to native speakers. Further, the study aimed to find some evidence as to when learners, over the course of their interlanguage development, come closer to native-like knowledge of English focus constructions and diverge from L1 norms. Therefore, the study included three proficiency levels (native English speakers, advanced and intermediate L2 users of English with Arabic as their L1).

The present study was conducted in Saudi Arabia with 99 participants. The study utilised an off-line task (which measured knowledge in terms of acceptability ratings) and an on-line experiment (which measured processing costs in terms of reaction times) to collect data. All in all, the results obtained in this study supported the general predictions of usage-based approaches to SLA and shed light on the role of cognitive processes in the acquisition of the target constructions. The data gathered also provide interesting findings on how both learners and native speakers process focus constructions at the syntax-discourse level.

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## CHAPTER 1: Introduction

### 1.0 Overview

Cognitive linguistic approaches unanimously agree that the frequency of constructions in the language input positively impacts their acquisition, and that language acquisition is derived from and informed by language use (Croft & Cruse, 2004; N. Ellis, 2002; Ellis & Cadierno, 2009; Goldberg, 2006; Langacker, 1987; Tomasello, 2003). Nevertheless, there are some constructions that do not frequently occur in the target language input. Among these constructions is the syntactic means of information packaging in English, specifically focus constructions. These are the *it*-cleft, *wh*-cleft, reverse *wh*-cleft (*rwh*-cleft)<sup>1</sup> and preposing constructions, which are exemplified in the following:

- a. The students read the introductory textbook. (Canonical SVO)
- b. It is the introductory textbook that the students read. (*it*-cleft)
- c. What the students read was the introductory textbook. (*wh*-cleft)
- d. The introductory textbook was what the student read. (*rwh*-cleft)
- e. The introductory textbook the students read. (preposing)

The four constructions (b-e) carry the same proposition as their canonical counterpart in (a) but present the information differently. In other words, “These constructions characteristically have a more basic counterpart differing not in truth conditions or illocutionary meaning, but in the way the informational content is presented” (Ward et.al, 2002, p.1365). Their use is optional in English and at the same time is highly restricted to context (Lambrecht, 1994). Knowledge of these constructions, as is the case with any linguistic construction, involves form-function mapping. This process of form-function

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<sup>1</sup> Following Callies (2008), the present study adopts this abbreviation *rwh*-cleft for the reverse *wh*-cleft.

mapping requires cognitive processes such as attention and awareness that are involved in how learners process linguistic input (Ellis, 2005). Due to the important place that these processes have in the learning process, a plethora of research in the second language acquisition (SLA) field has been devoted to exploring how attention and awareness may influence the type of learning product (Schmidt, 1999, 2001, 2010; VanPatten, 2007, 2015). That is, whether the resulting knowledge is implicit or explicit in nature.

Having said this, the study presented in this thesis attempted to investigate the knowledge and processing of English focus constructions related to object focus by Saudi L1 Arabic learners of English as a foreign language (EFL) at advanced and intermediate proficiency levels. It also explored the involvement of several cognitive mechanisms involved in second language (L2) users' ability to develop knowledge of the target constructions. The study uses an off-line task (which measures knowledge in terms of acceptability ratings) and an on-line task (which measures processing costs in terms of reaction time) to collect data. These data are then analysed and theories developed about the knowledge and processing of the target constructions by three groups of participants with a different proficiency in English (native speakers, advanced L2 users, and intermediate L2 users). All in all, the results obtained and analysed in this study support the general predictions of usage-based approaches to SLA and shed light on the role of cognitive processes in the acquisition of the target constructions. The data gathered also provide interesting findings on how both learners and native speakers process focus constructions at the syntax-discourse level.

## 1.1 Motivation and background of the study

The motivation behind this study comes from several observations that I made when I started teaching a group of undergraduate learners of EFL with Arabic as their first language (L1). The learners were at an advanced level and were majoring in English language at the Department of Linguistics in one of the universities in Saudi Arabia. Even though they are at an advanced level of language proficiency and their written production is mainly free from grave grammatical errors, these advanced learners often face problems when trying to package information in the written mode in English. I have often observed students working in groups, discussing the appropriate ways of expressing an idea in English. In these groups students often explain to one another their intended message in Arabic and then work together to formulate this message in English. One of the communicative intentions they often struggle with is emphasising an idea or point of view in writing. On very few occasions, I have found them using the *it*-cleft construction where there is no obvious need to emphasise a specific sentence constituent. Also, I have often found attempts to use the *wh*-cleft to explicitly introduce their ideas in writing (*What I want to say ...*, *What I want to express is...*). As a teacher of English grammar, this sparked my interest in trying to find out what these learners know about the syntactic means of information packaging that are available in English to highlight information.

It has been found that one of the factors that distinguishes advanced L2 users from native speakers is the way they use linguistic structure to organise information in a discourse (Carroll et al., 2000). Previous research has shown that information structure management is problematic even for advanced proficiency L2 users, and that they have a limited awareness of the appropriate use of the syntactic means of information highlighting in the target language (Callies, 2008). The focus constructions under investigation are not found in Arabic, except for the preposing construction (see section 2.4.2.2). It has been

argued that L1 can influence adults' L2 acquisition (Dekeyser, 2005, p. 2; N. Ellis, 2002). According to the usage-based approaches adopted in this study, L2 users are likely to construct a second language 'on top of' their L1 concepts and constructions, which they have already acquired (Tyler, 2012, p.89). This motivated me to explore the extent to which L1 had an impact on Saudi learners' knowledge, if any, of these constructions (specifically of the preposing construction).

As I have mentioned above, some advanced L2 learners did show, although not appropriately, evidence of familiarity with some of the target constructions. This inspired me to explore when over the course of their interlanguage development advanced L2 users come close to native-like knowledge of the target construction. Moreover, given that the constructions under investigation are not highly frequent in either written or spoken L1 English, let alone in learners' language (Schachter, 1988, p. 224), I decided to investigate the type of knowledge that advanced L2 learners rely on when dealing with English focus constructions based on evidence from experimental data.

## **1.2 Theoretical background of the study and focus of the study**

The cognitive approaches that the present study follows are usage-based approaches that view language as a means of making meaning in a social context (Croft & Cruse, 2004; Ellis & Cadierno, 2009; Goldberg, 2006; Tomasello, 2003). Moreover, these approaches hold that language acquisition, both first and SLA, is derived from and informed by language use (N. Ellis, 2002, 2006; Tomasello, 2003). Based on insights from cognitive approaches to language, the present study set out to investigate English users' knowledge of the appropriate contextual use of English focus constructions by adopting a construction grammar framework. According to this framework, constructions (or grammar patterns) carry their own meanings, independently of the words they contain (Goldberg, 1995, p. 152). This allows for a better understanding of how the different focus constructions under

investigation come to share some sort of semantic and pragmatic relationship (Lambrecht, 1994).

The focus constructions under investigation share a similar discourse function (i.e. highlighting a focal element in a sentence). However, it requires more than mere knowledge of language rules and surface structure to identify the appropriate contextual use of these constructions. According to Lambrecht (1994), the most elaborate and psychologically plausible account to date of information structure and knowledge of these constructions requires taking into account the formal features of a sentence and a speaker's assumptions about the hearers' state of knowledge at the time of utterance. In other words, knowledge of the appropriate contextual use forms part of what makes these constructions grammatical, that is part of the process of form-function mapping that is crucial for language learning (N. Ellis, 2002). Since usage-based approaches to language learning involve intention reading and pattern finding (Littlemore, 2009, p. 7; Tomasello, 2003), the study attempts to find out whether English users are sensitive to the contextual effects when dealing with these focus constructions. This sensitivity is likely to highlight the role of some of the cognitive processes that are involved in language acquisition (N. Ellis, 2002, 2006). One of these processes is attention, which is recognised as a crucial factor for language acquisition (Gass, 1997).

There have been several attempts in the field of SLA to explain how attention assists language learning (e.g., Schmidt, 1990, 2001, 2010; VanPatten, 1997). Moreover, there are different arguments with regard to the involvement of awareness in input processing. Schmidt, (1990, 1993, 2010) argues that attention and awareness are necessary conditions for L2 acquisition, while Tomlin and Villa (1994) do not consider awareness to be a necessary condition. Instead, Tomlin and Villa propose that learning can take place outside of conscious awareness (see section 2.6.1 & 2.6.2).

Existing studies in the field of SLA agree that attention to certain features in the language input is necessary for language development (Gass & Schmidt, 2012; Leow, 2013; Schmidt, 1995; VanPatten, 1996). Work carried out to investigate information packaging constructions in SLA has mainly been interested in investigating cross-linguistic influence by comparing the use of these constructions in the learners' L1 to their use in the target construction. The aim was thus to identify any effect of the learners' L1 on advanced L2 users' acquisition of the target constructions (Boström Aronsson, 2001, 2002, 2003; Hinkel, 2002; Rowley-Jolivet & Carter, 2005; Zimmerman, 2000). However, there is still a gap in the literature, especially when it comes to investigating the cognitive processes involved in the L2 acquisition of optional and highly L2-specific phenomena. To the best of my knowledge, no experimental research investigating the knowledge and processing of English focus constructions by L2 users of English with L1 Arabic exists.

Recent years have shown a growing interest in the conscious status of knowledge acquired as a result of different learning conditions (e.g. Rebuschat, 2013; Rebuschat & Williams, 2012), which included theoretical elaborations on the defining characteristics of explicit versus implicit knowledge (R. Ellis, 2004, 2005). However, it is also generally recognised that the majority of the language learning process, of both L1 and L2, takes place as a result of processing input for meaning (N. Ellis, 2002; VanPatten & Williams, 2007, 2015). As such, investigating the type of knowledge that English users have about the target constructions and how this knowledge develops in relation to language proficiency might serve to elucidate the constraints on what might be learnt on the basis of the evidence in the input.

Previous studies that have looked in to the types of knowledge that L2 learners have about English focus constructions are, at least to my knowledge, seldom, except for one study by Callies (2008). In his study, Callies' main concern was to find out whether German

L2 learners of English had explicit knowledge of English focus constructions. In his study, retrospective interviews were used to collect data related to participants' explicit knowledge of English focus constructions after they had completed a written questionnaire (Callies, 2008). Such methods have been criticised for giving extra processing load to the participants since they have to verbalise what they have noticed in the given task, and also for the possibility that the learner might not be able to recall what he or she had noticed accurately. An interesting aspect of the present study is that it attempted to investigate the conscious status of participants' knowledge of the appropriate contextual use of the target construction by using subjective measures of awareness (Dienes, 2004, 2008, 2010, 2013; Rebuschat, 2013; Rebuschat et al., 2013), namely confidence rating (see section 2.10.2). This allowed for a more refined view of the type of knowledge that the participants have about the target constructions as they completed the off-line task.

In summary, this study will attempt to fill four main gaps in the existing research. These are: (1) the lack of knowledge on what English users (Saudi L2 users with L1 Arabic) know about the appropriate contextual use of focus constructions in English; (2) introducing data collection methods to investigate the type of knowledge that English users utilise when dealing with the target constructions; (3) the nature of the on-line processing of these grammatical constructions by English users.

### **1.3 Aim and Design of the study**

This thesis presents the findings of two empirical studies that explored the knowledge and processing of a number of English focus constructions by EFL learners, in light of experimental data. Although it is generally accepted that learners draw upon both types of knowledge, implicit and explicit, to complete the task at hand (DeKeyser, 2009; N. Ellis, 2005), there is also a general acceptance of the fact that the nature of the task itself

can motivate the use of either implicit or explicit knowledge in L2 performance (Bialystok, 1982, 1986).

According to R. Ellis and colleagues (R. Ellis, 2004, 2005; R. Ellis et al., 2009; Godfroid et al., 2015) tasks that are untimed, i.e. those that allow the participants enough time to complete the task at hand, are reflective of explicit knowledge, while tasks that are timed, allowing limited time for the participants to complete the task, are more likely to reflect implicit knowledge. This was based on the suggestion that implicit knowledge is likely to be available for automatic processing and explicit knowledge is available for controlled processing (N. Ellis, 2005; R. Ellis, 2004, 2005; R. Ellis et al., 2009), which is discussed in detail in section 2.7, 2.8 and 2.9. Thus, the off-line task in this study can be regarded as an untimed task and hence most likely to elicit more explicit knowledge. In contrast, the on-line experiment involved a timed task that is most likely to reflect more implicit knowledge.

Ninety-nine English language users from different proficiency levels (native speakers  $n=31$ , advanced L2 user  $n=33$ , intermediate L2 user  $n=35$ ) were tested on their knowledge of four English focus constructions (*it*-cleft, *wh*-cleft, reverse *wh*-cleft, and the preposing construction). The first study investigated their knowledge of the appropriate contextual use of these constructions by collecting data on their sensitivity to the contextual effect with the use of an off-line task (in the form of a questionnaire). The degree to which the participants' level of awareness was involved when testing their knowledge of the appropriate contextual use in the off-line task was measured through a subjective measure of awareness (confidence-rating task). The second study investigated how the participants processed the target construction on-line by analysing their reaction times in a self-paced reading task.

## 1.4 Research questions

The research questions guiding the current research were as follows:

**Research Question 1:** What do Saudi L2 users of English and native speakers know about the appropriate contextual use of focus constructions in English?

SubQ1: Do proficiency (native speaker, advanced L2, intermediate L2), type of context (felicitous vs. infelicitous) and type of construction (*it*-cleft, *wh*-cleft, reversed *wh*-cleft, preposing) have an effect on participants' knowledge of the target constructions?

**Research Question 2:** To what extent are Saudi L2 users of English and native speakers conscious of their knowledge that guided their decision in the off-line task?

SubQ1: Is there a difference in participants' confidence level between the felicitous and infelicitous contexts?

SubQ2: Is there a relationship between participants' knowledge of the use of focus constructions and their level of confidence?

**Research Question 3:** How do Saudi L2 users of English and native speakers process focus constructions, as measured by an on-line experiment?

SubQ1: Do proficiency (native speaker, advanced L2, intermediate L2) and type of context (felicitous vs. infelicitous) have an effect on participants' on-line processing of the target constructions?

## 1.5 Organisation of the thesis

The present thesis is organised into six chapters. Chapter 1 provided a brief introduction of the thesis and presented the research questions. Chapter 2 provides the theoretical background to the present investigation. Specifically, it discusses usage-based approaches to information structure and SLA. The chapter also sets out the defining features of implicit and explicit knowledge and provides an overview of theoretical models that account for how implicit and explicit knowledge interface in their development. Chapter 3 of this thesis presents the research methodology used to collect and analyse the data. It

describes the research design, participants and instruments. Chapter 4 presents the results of the study. This chapter is followed by Chapter 5, which presents the interpretation of the findings of the research in light of the literature reviewed in Chapter 2. Finally, the thesis ends with Chapter 6, which presents the conclusion of the thesis and provides a summary of the findings. This chapter highlights the contributions of the present study to the field of SLA. It also discusses theoretical and pedagogical implications of the findings for SLA and reviews the limitations of the study. The chapter ends by addressing possible directions for future research.

## **CHAPTER 2: Literature review**

### **2.0 Introduction**

As mentioned in the introduction, Chapter 2 of this thesis provides the theoretical background to the present study. Since the present study is motivated by a cognitive and constructionist approach to the study of focus constructions in English, the chapter starts (section 2.1) with a review of the literature on cognitive linguistics and construction grammar. This is followed by a review on usage-based approaches to information structure (section 2.2), which includes a presentation related to focus as an information structure category, focus types and focus realisation. After that, I attempt to give a cross-linguistic perspective on the nature of focus constructions in order to identify relevant constructions in both Arabic and English (section 2.3). The chapter proceeds (section 2.4) to present the theoretical background related to usage-based perspective on language acquisition.

Following this, the focus of the present chapter shifts to the theoretical background of issues surrounding the role of attention and awareness in SLA (section 2.5). After this, an overview on the nature of input processing and related processing models is presented (section 2.6). This section is followed by an outline of how implicit and explicit knowledge have been classified and defined in the literature (section 2.7). This is followed by an overview on various interface positions that have attempted to explain the manner in which implicit knowledge and explicit knowledge interact in their development (section 2.8). The chapter precedes by presenting an overview on some of the measurement of implicit and explicit knowledge (section 2.9). The present chapter concludes with an outline of some empirical research on information highlighting in SLA research (section 2.10) and of the on-line processing of focus constructions (section 2.11).

## **2.1 Theoretical background: Cognitive linguistics**

As mentioned in the previous chapter, the main aim of this study is to investigate English users' knowledge of the use of focus constructions in English. This involves exploring how English users determine structure from usage. In doing so, the study follows a cognitive linguistic account, which views language use and learning as learning about all aspects of the world (Ellis & Robinson, 2008).

According to cognitive linguistics, the cognitive processes governing language use and learning are basically the same as those involved in all other types of knowledge processing (Littlemore, 2009, p. 2). In other words, the cognitive processes that we employ to make sense of our surroundings are the same as those we use when dealing with and learning languages. The set of key cognitive processes that is thought to be involved in language learning and use includes comparison, categorisation, pattern finding, remembering an utterance and episodes, the generalisation of conceptual schemas and prototypes (Ellis & Robinson, 2008, p. 3; Littlemore, 2009, p. 2). To illustrate, Croft and Cruse (2004, p. 2) state that:

the organization and retrieval of linguistic knowledge is not significantly different from the organization and retrieval of other knowledge in the mind, and the cognitive abilities that we apply to speaking and understanding language are not significantly different from those applied to other cognitive tasks, such as visual perception, reasoning, or motor activity.

Cognitive linguistics offers a linguistic approach to syntax and semantics, which I found helpful in investigating how lexically partially specific, syntactically complex patterns are paired with certain conventional meanings. Cognitive linguistics adopting a

number of closely related theories of language based on some key claims, will be examined in detail in the following section. The main hypotheses on which cognitive linguistics are built are stated by Croft and Cruse (2004, p.1):

- i. language is not an autonomous cognitive faculty
- ii. grammar is conceptualisation
- iii. knowledge of language emerges from language use

The first hypothesis opposes one of the basic hypothesis proposed by generative grammar, which considers language as an innate cognitive component of human cognition independent of other cognitive abilities. Cognitive linguists directly challenge the concept of Universal Grammar offered by generative linguists such as Chomsky (1965) and others (e.g. Fodor, 1983). Their claims about language are based on the conviction that the human mind includes a 'language acquisition device' that is responsible for language acquisition and language processing (Littlemore, 2009, p. 2). From a cognitive linguistics perspective, linguistic knowledge is essentially conceptual in nature, representing both form (phonology, syntax and morphology) and function (semantics and pragmatics). This linguistic knowledge relates to a syntactic, phonological and semantic representation that is considered to be conceptual as it is subject to processes and mechanisms of comprehension and production in the human mind, which are also involved in other non-linguistic cognitive abilities (Croft & Cruse, 2004). Cognitive linguistics is mainly concerned with developing a framework for the analysis of linguistic structures based on general cognitive processes, such as attention, comparison, categorisation and abstract thoughts (Littlemore, 2009).

The second hypothesis, about grammar being conceptualisation, is best expressed by Croft and Cruse's (2004, p. 3) statement that it "refers to a more specific hypothesis

about conceptual structure, namely that conceptual structure cannot be reduced to a simple truth-conditional correspondence with the world”. Accordingly, an experience can be “construed” in different ways, and grammar permits language users to convey these different conceptualisations by selecting expressions that best serve their communicative needs. Each language contains special ways of “conventionally” constructing phenomena and events, and these are sometimes different from the way they are constructed in other languages (Littlemore, 2009, p. 4). In this respect, languages differ in the way they categorise things differently, highlighting different elements of a situation or looking at them from a different angle. These differences reflect differences in the way in which phenomena are viewed, which in turn affects the way they are talked about. For example, in English one is usual to tell people to keep *off* the grass, whereas in Japan people would be more likely to be told not to go *into* the grass (Littlemore, 2009, p. 5). This point is important as it leads to the argument that the fact that languages differ in relation to the ways in which they construct an event or a phenomenon is likely to suggest that this might be a source of difficulty for second language learners (Littlemore, 2009, p. 6; Taylor, 1993).

The third hypothesis in the cognitive linguistic approach to language suggests that all linguistic categories and structures “are built up from our cognition of specific utterances on specific occasions of use” (Croft & Cruse 2004, p. 4). Based on this hypothesis, the cognitive approach is a usage-based approach that views language as a part of human cognition used for making meaning in a social context (Ellis & Cadierno, 2009; Tomasello, 2003). The language that language users encounter every day serves as input, from which they can draw inferences about form-meaning relationships, typical patterns and schemas (Littlemore, 2009). As such, language users constantly modify their linguistic knowledge in response to the language that they hear or use. Thus, language knowledge and learning

are usage-based, in that knowledge of a language is “derived from and informed by language use” (Evans & Green, 2006, p. 111).

A key aspect that plays an important role in the usage-based analysis of linguistic structure and meaning is frequency of occurrence. Frequency strengthens the representation of linguistic elements in memory, which in turn facilitates the activation and processing of words and constructions (Diessel, 2017). As such, the frequent use of a particular linguistic expression in a special context motivates its entrenchment in human cognition (see Tomasello, 2003), which has various effects on language use, acquisition, and change (see Bybee 1985; Croft 2000; Croft & Cruse 2004; Tomasello 2003). Importantly for this thesis, its effects on acquisition extend to SLA as well (see Robinson & Ellis 2008) in the way that frequencies of forms and constructions can interact to produce and determine learning outcomes (Bybee & Hopper, 2001; N. Ellis, 2002; Goldberg et al., 2004). The more frequent a piece of language is found in the input, the more likely it is that it will be learned (N. Ellis, 2002). This view is crucial for usage-based interpretations of language structure and language acquisition, which will be discussed in more detail below.

## **2.2 Usage-based construction grammar**

Cognitive linguistics holds that linguistic structure and conceptual structure are related; but the relationship between them is indirect—it is mediated by language development, which in turn is driven by language use (Croft and Cruse, 2004; Ellis & Cadierno, 2009; Goldberg, 1995, 2003; Langacker, 1987, 1990, 1999, 2005; Tomasello, 2003). This view of grammar underlies the “usage-based approach”—a term that Langacker (1988) proposed to stress on the importance of usage and development for the analysis of linguistic structure.

Usage-based theories represent an approach to linguistic knowledge based on the idea that (a) meaning is use and (b) syntactic structure emerges from use (e.g., Bybee &

Beckner, 2010; Tomasello, 2003). In other words, a usage-based approach assumes that language is shaped by the way in which it is used. As Bybee (2010, p. 1) explains:

the structural phenomena we observe in the grammar of natural languages can be derived from domain-general cognitive processes as they operate in multiple instances of language use. The processes to be considered are called into play in every instance of language use; it is the repetitive use of these processes that has an impact on the cognitive representation of language and thus on language as it is manifested overtly.

There is evidence that the existence of particular sentence types, word order patterns, and certain kinds of expressions are motivated by interactive processes of language use (Givón, 1979; Tomlin, 1986; Diessel, 2006). Like any other grammatical theory, the usage-based model rests on particular assumptions about the nature of grammatical elements and the overall organization of the grammatical system. Diessel (2017: p.2) argues that there are two general principles that underlie or constrain the analysis of linguistic structure in this approach: “First, linguistic structure can be analysed in terms of complex signs, i.e. constructions, combining a specific structural pattern with a particular function or meaning. Second, all linguistic signs (i.e. lexical signs and grammatical signs) are connected with each other by various types of links so that grammar (or language in general) can be seen as a dynamic network of interconnected signs.” Building on previous arguments on a usage-based approach (cf. Bybee 2010; Langacker 2008), Diessel (2017: p.1) states that the main idea in this approach is that “Grammar is a dynamic system of emergent categories and flexible constraints that are always changing under the influence of domain-general cognitive processes involved in language use.”

Accordingly, it is not possible to posit the existence of particular syntactic categories prior to grammatical analysis (Diessel, 2017).

Usage-based approaches reject the notion that syntactic analysis presupposes a set of primitive categories such as subject and noun phrases, which in other grammatical theories are often used as a “toolkit” for linguistic analysis (Jackendoff, 2002, p. 75). In other words, a usage-based approach challenges and stands in opposition to generative grammar principles that assume that lexical items “project” syntactic representations. Instead, usage-based approaches suggest that the relation between the lexicon and grammar is language-particular and depends on usage and conventionalization (Behrens, 2000; Croft, 2000). Reali (2017) is a recent study that attempted to explore these ideas for the particular case of dative constructions in Spanish. Dative constructions in English alternate between prepositional dative constructions, as in a) *Sam gave a book to Mary*, and double object constructions, as in b) *Sam gave Mary a book*. In Spanish dative constructions, the recipient may be realized as a prepositional dative construction or as an indirect object doubled by a dative clitic (*le*), referred to as a clitic doubling construction (for a detailed comparison see Reali, 2017, p. 2172). The presence or absence of a dative clitic (*le(s)*) formally distinguishes one construction from the other. Moreover, Spanish allows flexibility in the order of surface constituents. Using data from a corpus analysis and an acceptability rating task, the findings suggest that dative alternation in Spanish depends on conventionalization and entrenchment rather than the semantic properties of verbs, thus supporting the notion that dative structures in Spanish and other languages such as English are not necessarily equivalent. The author argues that the grammaticality of a dative argument structure is likely to be described as a probabilistic and graded phenomenon that varies between languages, rather than being derived from universal operational transformations.

Croft and Cruse (2004, p. 225) state that “the cognitive linguistic approach to syntax goes under the name of construction grammar”. Construction grammar introduced a new grammatical model to describe a language user’s grammatical knowledge. This model differs from the model proposed by generative grammar, which claims that linguistic knowledge is organised into separate components that “are intended to be highly general rules that apply to all structures of the relevant type” (Croft & Cruse, 2004, p. 187). Moreover, generative grammar views complex multi-word constructions and idiosyncratic properties as being stored in the lexicon. In contrast, construction grammar has proposed a number of explanations for the occurrence of grammatical patterns, whether with universal or language-specific properties. These are based on general cognitive principles (such as categorisation and focus of attention) and regular communicative strategies (concerned with, for example, information flow, the nature of speaker-hearer relations and text-cohesion strategies) (Fried, 2009). This approach to grammar has made it possible for linguists to account for the peculiarity of such structures as idioms (see especially Fillmore et al., 1988). In construction grammar, language users’ grammatical knowledge is represented in the form of constructions (Croft & Cruse, 2004; Goldberg, 1995; Tomasello, 2003), where constructions are defined as pairings of form with meaning. For instance, an imperative sentence such as *Close the door!* can be seen as a construction, i.e. a complex linguistic sign. This particular structural pattern (imperative sentence) is associated with a particular illocutionary force (a directive speech act).

Based on construction grammar’s core argument, constructions are considered to be the basic unit for linguistic analysis and representation (Cruse & Croft, 2004, Ch.9). These constructions represent conventional patterns of usage that directly pair form (syntactic, phonological, morphological or prosodic features) with meaning/function (semantics, pragmatics and discourse structure) (Fried & Östman, 2004, pp. 18-22). Accordingly, any

linguistic item, from the smallest meaningful linguistic unit (i.e. a morpheme) to a complex sentence structure, is regarded as a “construction” with its own form and meaning.

Goldberg defines constructions thus:

Any linguistic pattern is recognized as a construction as long as some aspect of its form or function is not strictly predictable from its component parts or from other constructions recognized to exist. In addition, patterns are stored as constructions even if they are fully predictable as long as they occur with sufficient frequency.

(Goldberg, 2006, p. 5)

Constructional approaches are basically motivated by the idea that a linguistic form is directly linked “to its meaning and its communicative function and that this connection must be the basis for any descriptively and explanatorily adequate theory of linguistic structure” (Fried, 2009, p. 1). Accordingly, construction grammar is non-reductionist: an understanding of an expression cannot be reduced to ‘form’ only, ‘meaning’ only, or ‘function’ only (Fried & Östman, 2005). This is supported by the work of a number of pioneering figures in cognitive linguistics and construction grammar, such as: Langacker (1987), Lakoff (1987), Goldberg (1995), Croft & Cruse (2004) and Tomasello (2003). It is worth stressing that “meaning” in construction grammar represents “all the conventionalized aspects of a construction’s function, which may include not only properties of the situation described by the utterance, but also properties of the discourse in which the utterance is found . . . and of the pragmatic situation of the interlocutors” (Croft & Cruse, 2004, p. 258).

Another aspect of construction grammar that is worth mentioning, as it is of relevance to this study, is that it accounts for the conditions under which a given construction can be used felicitously, since this is considered to be part of language users’ knowledge of the language (Goldberg, 1995, p. 6; Langacker, 1991). This led to the

conviction that semantic and pragmatic factors are important for understanding the constraints on grammatical constructions. In this respect, construction grammar rejects the notion of a strict division between semantics and pragmatics, in that “information about focused constituents, topicality, and register is represented in constructions alongside semantic information” (Goldberg, 1995, p. 7).

There has been an interest within the framework of construction grammar in the information design of utterances, specifically how information is structured on a sentence level (Lambrecht, 1994). Lambrecht (1994) presented the most elaborate and psychologically plausible account to date of information structure, along with researchers such as Fillmore (1991), Goldberg (1995) and other developers of construction grammar. He introduced the term ‘information structure’ on the basis of the observation that construction alternatives (that are available but unused for expressing a given proposition) in a given language (e.g., active vs. passive sentences, canonical vs. clefted sentences) are motivated by constraints on how new information can be introduced into the discourse so that the listener can relate it to previously shared (old) information and to the interactional context. Importantly, Lambrecht clearly states that information structure is not concerned with words and their meanings, but is mainly concerned with “pragmatic construal of the relationship between entities and state of affairs in a given discourse situation” (Lambrecht, 1994, p. 215). For Lambrecht, information structure, in addition to being part of the construction grammar, is an explanatory tool for accounting for the special syntactic means that are utilised to organise information in a sentence with the aim of conveying a communicative purpose.

Generally speaking, information structure can be described as the way in which a speaker utilises cues from sentence structure to guide a hearer’s attention to what is more or less important in a sentence. The connections between what is more and less prominent

among the constituents of an utterance take the form of topic, focus, presupposition and assertion relations (Lambrecht, 1994, 2001, 2010; Reichle, 2010). A detailed discussion on information structure and related terms is presented in the following section.

### **2.3 Information structure from a usage-based perspective**

One of the main factors that is thought to play a role in establishing the coherence and cohesion of a discourse is the existence of ‘informational links’ between utterances and a preceding context (Ward & Birner, 2004, p. 153). These links facilitate the processing of discourse by helping language users to make relationships between different entities in the discourse. In this regard, there are a number of linguistic forms that signal such relationships (Ward & Birner, 2004). For instance, in English, “the use of the definite article marks the referent of a noun phrase as being individuable within the discourse model (Birner & Ward 1994), and thereby cues the listener to the likelihood that the entity in question has been previously evoked and individuated; thus, the listener will look for an appropriate referent among his or her store of already evoked information rather than constructing a new discourse entity” (Ward & Birner, 2004, p. 153). To help illustrate how articles are used in English, the following example (1) presents a context followed by two sentences.

(1) A researcher was presenting his work for the first time in a conference. He wanted to appear in the local newspaper.

(a) The researcher invited a journalist to the conference.

(b)# The researcher invited the journalist to the conference.

From the example above, it can be shown that the indefinite article *a* precedes the noun whenever the entity introduced in the discourse is *new*-information, whereas the definite article *the* precedes the noun when the entity introduced in the discourse is *old*-information. As such, *the researcher* in 1*a* is considered as the *old* -information constituent that has already been mentioned in the context and hence is accompanied by the definite article, whereas the *new*-information element *journalist*, which is unknown to the language user, is accompanied by the indefinite article. In contrast, in 1*b* the informationally *new* discourse element *the journalist* is preceded by *the* and, therefore, is considered inappropriate.

On a similar vein, language users use a wide selection of non-canonical syntactic constructions to signal the information status (*new/old*) of the discourse elements (Ward & Birner, 2004, p. 153). According to Prince (1992), information status is subdivided into four different categories that interact with each other (cf. Table 2.1) (Prince, 1992, p. 313).

Table 2.1 Information Structure distribution (Prince, 1992, p. 315)

	Hearer-old	Hearer-new
Discourse-old	Previously evoked	(Non-occurring)
Discourse-new	Not evoked but known	Brand-new

Table 2.1 shows that there are two different views of the categorisation of information. On the one hand, information is categorised from a discourse point of view that considers the information as *discourse-old* if it has already been mentioned in the previous context, but as *discourse-new* if it is novel in the discourse. On the other hand, information is categorised from the point of view of the hearer's knowledge, which considers information as *hearer-old* if it is already known to the hearer, or *hearer-new* if the hearer has not come

across it before. To help in the understanding of these concepts, the following example is taken from Ward and Birner (2004, p. 156):

(2) *The President gave a speech today, and in it he offered a new tax plan.*

In the example above, the NP *the President* represents the information that is *discourse-new* but *hearer-old*, whereas the NP *a speech* represents information that is both *discourse-new* and *hearer-new*, and the pronoun *it* represents information that is *old* to both the discourse and hearer. It is worth mentioning that despite the seeming simplicity of the examples above, givenness has been found to be an indefinable concept in that many research studies have failed to identify a unitary notion of *oldness* that works for all of the non-canonical constructions (Callies, 2009). Prince (1981) describes this notion in terms of *assumed familiarity*, based on the fact that a language user structures information within discourse based on what he or she assumes is known to the hearer. Prince's taxonomy of givenness covers several statuses, which are rephrased according to discourse-old/new and hearer-old/new (cf. Table 2.1) (Prince, 1992). This notion is important in that it relates to some of the concepts of information structure, namely focus and topic, which will be discussed below.

The focus constructions that are the object of study in this thesis, namely the cleft constructions and the preposing constructions, are non-canonical constructions. These constructions are also called information packaging constructions and they “characteristically have a more basic counterpart differing not in truth conditions or illocutionary meaning, but in the way the informational content is presented” (Ward et al., 2002, p. 1365). To illustrate, compare the following sentences:

## CANONICAL

a. *Laura baked a cake.*

## NON-CANONICAL

b. *It was a cake that Laura baked.*

In the above example, *b* is an instance of an information packaging construction, whereas *a* represents its canonical (SVO) counterpart. In this pair, the truth condition is the same. Therefore, language provides different syntactic means to convey the same truth condition, with “the various versions differing in the way the content is organised informationally” (Ward et al., 2002, p. 1365). Thus, according to Ward, Birner and Huddleston (2002, p. 1366) “the non-canonical version can be regarded as less basic than its default counterpart in that the order is not only less frequent but subject to pragmatic constraints that do not apply to the default version”. However, the choice of one construction over another by language users is thought to be context dependent (Lambrecht, 1994). Information packaging (Chafe, 1976), sometimes referred to as information structure (Halliday, 1967), is mainly concerned with organising meaning by connecting old information with new information. Information packaging is understood “as a structuring of sentences by syntactic, prosodic, or morphological means that arise from the need to meet communicative demands of a particular context or discourse” (Vallduví & Engdal, 1996, p. 460).

Lambrecht argues that some grammatical structures “arise diachronically from information structure constraints” (1994, p. 29). He suggests that an information structure is understood as being in the domain of discourse pragmatics, which “is concerned with the question of why one and the same meaning may be expressed by two or more sentence forms” (1994, p. 4). He defines information structure as follows:

**INFORMATION STRUCTURE:** That component of sentence grammar in which propositions as conceptual representations of states of affairs are paired

with lexicogrammatical structures in accordance with the mental states of interlocutors who use and interpret structures as units of information in given discourse contexts

(Lambrecht, 1994, p. 5)

The above definition refers to sentence-level constructions whose function is to express differences in information structuring. These constructions are semantically similar, “but formally and pragmatically divergent surface manifestations of given propositions” (1994, p. 35). Lambrecht argues that these constructions express the same proposition, which refers to the complex meaning carried by the sentence. This proposition is made up of old information and new information, which Lambrecht refers to as “pragmatic presupposition” and “pragmatic assertion” respectively (1994, p. 52). He defines these two terms thus:

**Pragmatic presupposition:** The set of propositions lexicogrammatically evoked in a sentence which the speaker assumes the hearer already knows or is ready to take for granted at the time the sentence is uttered.

**Pragmatic assertion:** The proposition expressed by a sentence which the hearer is expected to know or take for granted as a result of hearing the sentence uttered.

(Lambrecht, 1994, p. 52)

These two terms relate to the constructions under discussion, namely focus constructions (see section 2.°), which consist of parts that are linked to either old or new information. These constructions mainly serve to ensure successful communication by organising a proposition within a discourse, depending largely on context. These constructions are usually described as serving an information packaging purpose. Using

such constructions has a positive impact on language processing: “as soon as hearers can identify a given information packaging construction, they know immediately which part of the construction will convey new information to which they should pay the most attention” (Marten, 2013, p. 170).

The choice of one particular information structure construction over another is determined by several integrated factors. Of these factors through which linguistic information is structured in the exchange between speaker and hearer are: (1) the speaker’s assumption concerning the hearer’s knowledge or belief state at the time of utterance; (2) the hearer’s temporary state of consciousness; and (3) the hearer’s level of interest in the topic under discussion (Lambrecht et al., 2006). Lambrecht points out that speakers undergo a process of predicting what the hearer already knows and what could be new information, thus taking into consideration the hearer’s consciousness and awareness of the idea being conveyed in the present context (Lambrecht, 1994, p. 53).

Lambrecht refers to the presence of ideas in the hearer’s consciousness as activation. The activation notion refers to those ideas in the hearer’s mind that are assumed by the speaker to be more or less active. This notion is thought to be formally reflected in the construction chosen by a speaker (Chafe, 1987, p. 26; Lambrecht, 1994). This activation occurs in relation to the subject matter of current interest, which is referred to as the topic of the sentence. In his approach to information structure, Lambrecht (1994) presents a new description for the pragmatic relations of topic and focus in a sentence. He defines topic and focus as relating to pragmatic presupposition and pragmatic assertion respectively. Focus can be defined as the “element of information whereby the assertion differs from the presupposition” and topic as the constituent “relative to which a prediction is to be assessed as relevant information” (Lambrecht, 1994, p. 207; Lambrecht et al., 2006). In this regard, a discussion of the term focus, which is central to this study, will be presented in the next

section (for a detailed discussion on the topic, the reader is referred to Lambrecht 1994, p. 117, see also Lambrecht et al., 2006).

### **2.3.1 Focus as an information structure category**

Sentence-like utterances (utterances by which language users express a proposition) consist of a presupposition (an identification of the entity being talked about) and an assertion (a phrase that expresses what is being said about it). This latter part of the utterance, which carries and provides the new information, is called the ‘focus’. ‘Focus’ is that ‘portion of a proposition which cannot be taken for granted at the time of speech. It is the unpredictable or pragmatically non-recoverable element in an utterance’ (Lambrecht, 1994, p. 207). Focus has been considered a universal information structural category to which many formal linguistic phenomena in many languages, such as pitch in prosody, and word reordering in syntax, often refer (Zimmerman & Onea, 2011). Focus, from a cognitive linguistic perspective, can be defined as the special attention that the speaker draws to a particular part of a sentence by evoking a set of alternatives that relates to an asserted utterance (Chen, 2003, 2013; Zimmerman & Onea, 2011).

Focus in grammar has frequently been associated with the notion of new information and emphasis (Kiss, 1998; Lambrecht, 1994, Ch. 5). Lambrecht takes an information structure approach, relevant to this study, to define the concept of focus as “that element of a pragmatically structured proposition whose occurrence makes it possible for the sentence to express a ‘pragmatic assertion’, i.e. to convey new information to an addressee” (2001, p. 612). The key feature that distinguishes focus in an utterance is that it is associated with the semantic component of the proposition, which is being pragmatically structured, whereby the assertion differs from the presupposition (Lambrecht, 1994, p. 213).

Based on Lambrecht's definition of focus, presupposition and assertion (mentioned in the previous section), Li (2008, p. 760) proposed the following formula to identify the notion of focus:

$$\text{Focus} = \text{Assertion} - \text{Presupposition}.$$

Lambrecht (1994) illustrates his definition of focus by providing a wh-question and answer such as the following:

(3) Q: Where did you go last night?

A: I went to the MOVIES. (Lambrecht, 1994:209)

Lambrecht argues that what can be inferred from the answer is the presupposition that the speaker went somewhere and the assertion provides a specification of the place by introducing the word "MOVIES". Lambrecht (1994, p. 210) states that what makes the word MOVIES the focus of the sentence is its relation to the proposition (that the speaker went somewhere). This relation, which Lambrecht calls the 'focus relation', creates what is perceived as a piece of new information needed to answer the question. Accordingly, Lambrecht (1994) analyses example 2, taken from Akmajian (1973), as follows:

(4) Sentence: MITCHELL urged Nixon to appoint Carswell.  
Presupposition: x urged Nixon to appoint Carswell  
Assertion: x=Mitchell  
Focus: Mitchell (Lambrecht, 1994, p. 213)

The sentence in (4) has a presupposition, and in this case Lambrecht claims that the focus is a pragmatic relation that evokes an understanding of the "focus of the assertion", which in turn facilitates the presentation of new information (Lambrecht, 1994, p. 213).

The notion of focus has often been relevant to information structural issues related to discourse management and organisation (Al-Jurgani, 1984; Birner & Ward, 1998; Kiss, 1998; Lambrecht, 1994, 2001; Zimmerman & Onea, 2011). Zimmerman and Onea (2011) state that focus belongs to common ground management as it assists information structure in the updating of common ground. They argue that "focus imposes an ordering relation on the overall set of possible worlds that serve as the general background for interpretation, such that a subset of worlds is identified as being relatively more important for the interpretation of a given utterance" (2011, p. 1652). In an attempt to establish a unified information structure for the characterisation of focus, they argue that focus indicates the presence of alternatives that hearers rely on in the process of updating common ground. From a communication perspective, these alternatives are evoked by an utterance carrying a proposition, which speakers produce based on their presuppositions or assumptions about what the hearer knows and/or needs to know (Lambrecht, 1994, 2001; Stalnaker, 2002).

From the previous discussion, then, it can be observed that focus is associated with notions such as introducing new or a missing bit of information to the discourse and evoking the existence of a set of alternatives to the focal element. In other words, focus is basically concerned with raising interlocutors' attention to new or relevant piece of information about the topic of an utterance or to the exclusion of other possible options that contrast with the focal element. As such, this suggests that focus is not restricted to one type, as it either carries an informational meaning or a contrastive sense. This in turn leads to the discussion of the types of focus, which will be presented in the following section.

## 2.3.2 Focus types and focus realisations

### 2.3.2.1 Focus types

Focus has been assigned different classifications in the literature (Zimmerman & Onea, 2011). The most widely discussed types are contrastive focus and non-contrastive focus (Kiss, 1998; Krefika, 2008; Zimmerman & Onea, 2011). Again, these types are given different names in the literature. Kiss (1998) in his treatment of focus uses the terms identificational focus and informational focus. These two types of focus serve as the part of the pragmatic proposition by which the assertion is different from the presupposition. However, identificational focus has been associated with the notion of exhaustiveness and exclusiveness (Kiss, 1998), which is not found in information focus. In this regard, it is worthwhile noting that the two terms, namely contrastive focus and identificational focus, are used interchangeably in this thesis. Li (2008, p. 760), adopting the term contrastive focus instead of identificational focus, explains that exhaustiveness refers to the idea that “the constituent under contrastive focus in a sentence is a complete list of the entities that makes the truth value of the proposition true”, while exclusiveness means that “those and only those entities under contrastive focus will make the truth value of the proposition true, excluding other entities”. This can be illustrated by considering the *it*-cleft construction in the following example taken from Li (2008):

(5) It was a hat and a shirt that Mary bought yesterday. (Li, 2008; 760)

In this example, the truth value of the *it*-cleft construction is true if a hat and a shirt are the things (exhaustiveness) that Mary bought and nothing else (exclusiveness). In other words, if Mary had bought a hat, a shirt and something else such as a pair of shoes, this makes the sentence above false (Li, 2008; 760).

On the other hand, information focus is usually associated with topic presentation and newness, generally referring to non-presupposed information (Halliday, 1967; Kiss, 1998; Zimmerman & Onea, 2011).

- (6) a. It was a hat that Mary picked for herself.  
b. Mary picked herself a HAT. (Kiss, 1998, p. 251)

Comparing the two sentences above, English *it*-cleft constructions evoke an exhaustive interpretation as in (6a), which means that Mary did not pick other items with the hat (this contradicts other possible alternatives as explained in 5) and in this case the sentence conveys identificational focus. The sentence in (6b) expresses the non-presupposed nature of information and hence conveys information focus (Kiss, 1998, p. 251).

Kiss (1998) argues that the two types of focus differ in the way they are pragmatically and semantically used. She proposed a distinction between the two focus types based on the claim that an instance of identificational focus has different syntactic and semantic properties to a case of information focus. She suggests that the contrastive value in identificational focus facilitates the identification of an appropriate alternative that best refers to the asserted constituent in the utterance and excludes the remaining alternatives evoked. In contrast, information focus carries a presentational value and requires less formal marking, making it suitable for introducing a piece of new information into the discourse (Kiss, 1998; see also Zimmerman & Onea, 2011 for discussion). According to Zimmerman and Onea (2011), the distinction between the two focus types is recognised through both formal realisation and their pragmatic functions, which will be discussed below.

### 2.3.2.2 Focus realisation

The grammatical realisation of focus constituents in languages varies and includes specific prosodic realisation, special morphological realisation and syntactic reordering. In the case of the focus constructions that are under investigation, the grammatical realisation of focus constituents is realised through both syntactic reordering and the insertion of additional lexical material (e.g. *It is ...that...*), apart from the preposing construction that consists of reordering only. Zimmerman and Onea (2011) provide examples for the realisations that they have taken from different languages. The following example is taken from English to illustrate the prosodic realisation of an object and a verb focus, respectively, by means of accent placement:

- (7) a. Q: What did Peter sell?  
A: Peter sold [the CAR\]FOC.
- b. Q: What did Peter do with the car?  
A: He [SOLD\]FOC the car.

(Zimmerman & Onea, 2011, p. 1658)

Focus realisation by means of syntactic reordering is evident in Hungarian, where the constituent focused on is realised by placing it immediately before the verb. Zimmerman & Onea (2011) provide the following example taken from Szabolcsi (1981) to illustrate this kind of focus realisation:

- (8) a. Pe´ter [a padlo´n]FOC aludt.  
Peter on floor slept  
'Peter slept on the FLOOR'.

- b.     A     padlo'n     [Pe'ter]FOC   aludt.  
        on     floor         Peter         slept  
        ‘PETER slept on the floor’.

(Zimmerman & Onea, 2011, p. 1661)

Zimmerman and Onea’s (2011) assumption is based on the fact that focus involves unexpected facts or a discourse shift that are/is difficult for the hearer to accommodate. Therefore, the speaker tries to assist the hearer with updating their background assumption by choosing “to use a non-canonical, i.e., a structurally more complex sentence that comes with additional grammatical marking in the form of, for instance, a particular intonation contour, syntactic movement, a cleft structure, or the insertion of morphological markers” (Zimmerman & Onea, 2011, p. 1661), as shown above.

Following a constructional grammar approach, Lambrecht (1994, 2001, 2010) argued that the dominant strategies for indicating focus vary as a function of language-specific constraints on syntax and prosody. In English, for example, the predominant means of realising or marking focus (i.e., the new or relevant information about the topic of an utterance) is through the use of word-level stress accent (i.e., stress or pitch accent) (Lambrecht, 1994; Reichle, 2010), which has relative freedom in its placement (Reichle & Birdsong, 2014). To exemplify, in the sentence “I’m eating PIZZA for dinner”, the spoken language marks “pizza” as focal through the stress or pitch accent, which in turn carries either an informational meaning (e.g. it evokes new or relevant information, perhaps in response to a preceding question within the discourse) or a contrastive sense (e.g., the speakers contrast pizza with other dining alternatives that may be already present in the discourse). However, English also provides syntactic means for realising focus, which will be discussed in the following section.

## 2.4 Focus constructions in English and Arabic

When investigating the nature of focus constructions in English and Arabic, attention must be paid to two main dimensions: their form (morphosyntax) and function (semantics and pragmatics). The formal dimension of focus constructions is represented by the type of structure. Focus constructions in English have non-canonical word order as their main structural feature (Biber et al., 2002, p. 398), a part from the *wh*-cleft construction. This structural feature is also found in the Arabic focus construction, namely preposing. In this regard, the present thesis focuses on English focus constructions that involve changes in the canonical word order and aim to highlight the object in the sentence. There are two reasons for this; firstly, Arabic uses the preposing construction to focus the attention on the object only, and uses lexical means in addition to fronting to highlight the subject (Al-Jurgani, 1984). Another reason is to control for the type of focused element in the sentence (i.e. highlighting the object of the sentence not the subject or other element) in the present study to give a better understanding of the findings. It is important to highlight that the present study focuses on different English users' knowledge of the appropriate use of focus constructions in the written mode only. Given that practical reasons did not allow for data collection on the basis of sound files, prosodic marking of focus in English will not be considered in the current work.

In English, the reordering may take several different forms: focus constructions may be represented by structures that undergo a syntactic reordering of words such as preposing (Birner & Ward, 1998), or cleft constructions, which do not only involve different word orders but also extra elements. English cleft constructions are considered as being among the most formally marked representations of focus constructions (Lambrecht, 2001; Zimmerman & Onea, 2011) (see section 2.4.1, below).

In Arabic, the non-canonical word order is the main feature of focus constructions, as the focus element is preposed to occupy an initial position in a sentence (Al-Jurgani, 1984, examples are presented in section 2.5.2, below). From a functional point of view, the focus constructions being dealt with in this study are of both the identificational focus type and the information focus kinds (see section 2.3.2.1, above). Below, more will be said about how these functions are linked to specific structures in the two languages.

#### **2.4.1 Focus constructions in English**

The range of English focus constructions covered in this study is illustrated by 8b-e, below, with 8a representing their canonical word order counterpart. These constructions, as pointed out in chapter 1, do not carry propositional meaning different from the canonical transitive construction. They basically serve a communicative function. Following a construction grammar framework, these constructions are viewed as carrying their own meaning independently of the words they contain (Goldberg, 1995). However, they are context dependent and share a similar discourse function that is highlighting the focal element. The focus constructions under investigation are presented in the following examples (9b-e).

- (9) a. The students read the introductory textbook. (Canonical SVO)  
b. It is the introductory textbook that the students read. (*it*-cleft)  
c. What the students read was the introductory textbook. (*wh*-cleft)  
d. The introductory textbook was what the student read. (*rwh*-cleft)  
e. The introductory textbook the students read. (preposing)

Following Lambrecht (1994, 2001) in his analysis of information structure, it can be said that all of the above sentences (9a-e) convey the same proposition. However,

sentences 9b-e each have their own information structure that differs from 9a. In other words, each of these constructions packages the information differently without affecting the basic semantic structure of the sentence in 9a. Following Lambrecht (1994), the proposition shared by the constructions in 9 can be represented in 10:

- (10) a. Presupposition (Background): The students read X.  
b. Highlighted (Foreground or focus): the introductory textbook  
c. Assertion: X is the introductory textbook.

The choice of using a focus construction in a communicative situation is pragmatically motivated, depending on the discourse context (Lambrecht, 1994, 2001; Zimmerman & Onea, 2011). For example, some *wh*-questions permit special focus constructions to occur as an answer and therefore 11 b-c serve an information focus function (Kiss, 1998):

- (11) a. What did the student read?  
b. The introductory textbook the student read.  
c. The introductory textbook read the student.  
d. \*It was the introductory textbook that the student read.

The above *wh*-question (11a) requires an answer that represents the information focus type (see section 2.3.2, above) which 11b and 11c serve to represent, but 11d does not. The reason is that the *it*-cleft construction is often analysed as being exclusively associated with identificational focus by evoking alternatives (Kiss, 1998; Zimmerman & Onea, 2011). To illustrate, if the *wh*-question provided alternatives one of which is the correct answer, then

the use of the *it*-cleft would be considered an appropriate answer in this context. For example:

- (12) a. What did the student read, the article or the textbook?  
b. It was the textbook that the student read.

#### **2.4.1.1 Clefts**

Clefts are constructions that are present in many languages of the world and which serve as focus markers (Kiss, 1998; Lambrecht, 2001; Zimmerman & Onea, 2011). Lambrecht describes cleft constructions as follows:

A CLEFT CONSTRUCTION (CC) is a complex sentence structure consisting of a matrix clause headed by a copula and a relative or relative-like clause whose relativized argument is coindexed with the predicative argument of the copula. Taken together, the matrix and the relative express a logically simple proposition, which can also be expressed in the form of a single clause without a change in truth conditions.

(Lambrecht, 2001, p. 467)

Generally speaking, cleft constructions involve the separation of two clauses, namely a cleft clause and a relative-like clause (Biber et al., 2002, p. 419). Their function is to bring a particular element of the construction in to focus. Lambrecht (2001, p. 468) introduced the basic structural cleft types of English as well as the canonical sentence, exemplified in the following example:

- |      |                                       |                          |
|------|---------------------------------------|--------------------------|
| (13) | a. I like <b>coffee</b> .             | Canonical sentence       |
|      | b. It is <b>coffee</b> (that) I like. | <i>it</i> - cleft        |
|      | c. What I like is <b>coffee</b> .     | <i>wh</i> -cleft         |
|      | d. <b>Coffee</b> is what I like.      | reverse <i>wh</i> -cleft |

These three types of cleft constructions serve to package information differently but share common pragmatic aspects (Lambrecht, 2001). Lambrecht suggests that the choice of one cleft construction over another is determined by four main factors: the speaker's assumption about the hearer's knowledge in the current context, the end-weight principle, topicality and construction-specific constraints (see also Hilpert, 2014, p. 181). Accordingly, Hilpert (2014, p. 181) argues that the use of cleft constructions is closely related to the activation of a pragmatic presupposition in the context and the constituent under focus is often syntactically light. Although *wh*-cleft constructions take in to account the speaker's assumption about the hearer's knowledge in the current context (activation), it can possibly occur in a situation with a semi-active pragmatic preposition. Consider the following example:

- |      |  |
|------|--|
| (14) | What did you buy from the flower shop? |
|      | a. What I bought was a red rose.       |
|      | b. It was a rose that I bought.        |

One might find 14a more appropriate because it does not convey a notion of contrast like 14b. *It*-clefts are commonly considered to be syntactic markers of contrast in English (Kiss, 1998; Lambrecht, 2001; Zimmerman & Onea, 2011). Biber et al. argue that "*It*-clefts are typically contrastive; the contrast is often quite explicit" (1999, p. 962). The syntactic

structure of the *it*-clefts clause can be further analysed into the pronoun *it*, the copula and the focused constituent, as exemplified in 14b, above. Fronting the focused element within the *it*-cleft gives it an emphasising effect, which is less salient in the *wh*-cleft. This emphasis relates to the idea that *it*-clefts carry identificational (contrastive) focus (presented in section 2.3.2.1). This feature makes the *it*-cleft appropriate in contexts in which a pragmatic proposition is highly activated.

The *wh*-cleft plays a role in discourse management. It serves to indicate explicitly what is taken as background information (Biber et al., 1999, p. 963). The *wh*-cleft consists of a clause introduced by a *wh*-word, a form of the verb BE and a specially focused nominal element (Biber et al., 2002, p. 421). The *wh*-cleft typically presents the verb at the beginning of the sentence as in canonical sentences. This facilitates the presentation of a major point in the focus sequence (Callies, 2008, p. 47). In a *wh*-cleft the background information is given first, in a *wh*-clause, followed, after the copula, by a focus constituent occurring at the end of the sentence. It can be noted then that a *wh*-cleft is in line with the information flow principle, end-focus and end-weight (Biber et al., 2002, pp. 398-399; Callies, 2008, p. 57). Unlike an *it*-cleft, a *wh*-cleft does not exhibit the pragmatic meanings of exclusiveness and/or exhaustiveness but rather expresses information focus (Callies, 2008, p. 57).

Generally speaking, a reversed *wh*-cleft is similar to an ordinary *wh*-cleft except that its syntactic structure differs. The *wh*-clause is placed at the end of the sentence while the element under focus is in the initial position. This construction is similar to the *it*-cleft constructions and preposing constructions in the way it also places the focus element in initial position. Thus, this construction is expected to convey identificational focus and to be sensitive to syntactic weight, where a light focus constituent is permitted in the sentence's initial position.

### 2.4.1.2 Preposing

Preposing is broadly defined as a “sentence type in which a canonically post verbal phrase constituent appears in preverbal position” (Birner and Ward, 1998, p. 31). However, the subject still occupies its preverbal position before the verb. Preposing has often been referred to as fronting or topicalisation (Callies, 2008; Chen, 2013). Preposed constituents are not restricted to a particular phrasal category, but the most commonly preposed elements are nominal, often objects (Callies & Keller, 2008, p. 252). An example of preposing is as follows:

(15) *Brains* you’re born with. *A great body* you have to work at.

(Ward & Prince, 1991, p. 170)

Preposing links the preposed constituent to the previous discourse, depending on the kind of context in which 15 would occur, i.e. whether *Brains* have already been introduced into the discourse. Preposing is often used to contrast or emphasise a particular element in a given context (Callies & Keller, 2008, p. 252). As far as the function is concerned, preposing has been associated with contrastive emphasis (Kiss, 1998; Chen, 2003), specifically in oral production.

### 2.4.2 Focus constructions in Arabic

As in English, changes in the basic word order in Arabic serve to express a particular meaning that cannot be properly conveyed by the basic word order (Suleiman, 1989): “when either the subject or the object is placed before the verb, these shifts in word order are motivated by a purpose” (216). Sulaiman argues that “the function of utterances can’t be judged solely by referring to their linguistic form” (1989, p. 233). It is worth noting that this thesis follows Suleiman (1989) in his pragmatic approach by considering the functional

aspects of Arabic structure when dealing with types of sentences. Preposing is considered one of the meaning-sensitive movements<sup>2</sup> that affects the internal structure of Arabic sentences and which serves to add emphasis by drawing attention to the preposed element, as in the following example from Suleiman (1989, p. 218):

- (16)            daraba            aliyyun            zaydan (VSO)  
                  hit                    Ali                    Zayd  
                  ‘Ali hit Zayd.’

#### **2.4.2.1 Obligatory preposing**

It is worth noting that Arabic allows two kinds of preposing (of either subject or object) to take place: obligatory preposing and optional preposing (Suleiman, 1989). Obligatory preposing “is an inherent pattern of the Arabic sentence structure in which case the meaning is normally intact and there are no special interpretations of sentence meaning incurred by preposing” (Suleiman, 1989, p. 219). Suleiman argues that this kind of preposing does not involve transformational movements<sup>3</sup>, which often “call for a reinterpretation of language functions in a discourse perspective” (1989, p. 219). Major cases of obligatory object preposing are discussed by Suleiman (1989, p. 221). One case of obligatory object preposing is when a subject contains a pronoun that refers to the object, as in the following example:

---

<sup>2</sup> My use of the term “movement” here (and of “preposing” elsewhere) does not reflect a commitment to a transformational model of grammar (for my general theoretical stance see section 2.2.1, above, on construction grammar). At this point, its use is motivated by the fact that the term is so commonly used in the literature for these kinds of constructions.

<sup>3</sup> Please note the difference in theoretical approach between Suleiman and the present study; see fn.2, above.

(17)	V	O	S
	qara'	al-kitaaba	saahibu-hu
	read. Past	def. book	owner its
	The owner of the book read it.		
	Or		
	The book was read by its owner.	(Suleiman, 1989, p. 221)	

#### 2.4.2.2 Optional preposing

On the other hand, optional preposing “is characterized by transformations which change the internal order of the sentence elements” (Suleiman, 1989, p. 222). In this kind of preposing, the reason for a speaker to prepose an element in a sentence such as an object is “to convey an additional meaning which would have been unattainable if the original order of the sentence elements, i.e. VSO, had not been changed into SVO, or OVS” (Suleiman, 1989, p. 222). Preposing a subject of a sentence in Arabic (to yield SVO) has a different function from preposing an object (resulting in OVS, or VOS). Preposing the subject serves to bring a new topic in to a discourse, which functions similarly to the canonical word order of Arabic (VSO) as they both follow the information flow principle (Biber et al., 1999, p. 896). This principle refers to the distribution of information in a sentence. It holds that given or old information is presented in the sentence initial position followed by new information (Callies, 2008, p. 14). However, although given information often appears initially in a sentence, this is not an unviolated principle (Callies, 2008, p. 14). It is worth mentioning here that Arabic SVO is often referred to as a nominal sentence (Abdul-Hafiz, 2005, p. 102; Kalil, 1999, p. 245).

There are two optional object preposing constructions in Arabic: one is when an object precedes the subject of the sentence (VOS), and the other occurs when the object precedes the verb occupying the initial position in the sentence (OVS). In both cases, the verb of the sentence must agree with the subject in gender. Suleiman describes optional

object preposing as “a complex process which is realized through a movement transformation and based on some semantic, functional and discourse considerations that help interpret the enclosed message” (1989, p. 330). He argues that optional object preposing in Arabic serves pragmatic functions, such as identification:

(18)	V	O	S	
	daraba	Aliyyan	muhammadun	
	hit	Ali	Muhammad	
	‘Muhammad hit Ali.’			(Suleiman, 1989, p. 219)

Suleiman (1989, p. 229) argues that the object *Aliyyan* receives more attention by being placed before the subject *Muhammad*. More precisely, in the above example *Aliyyan* is optionally preposed to convey that *Aliyyan* and not anyone else was hit, so this is a case of identificational focus.

In line with Suleiman (1989), Ouhalla (1999, p. 338), citing Moutawakil (1989), argues that this preposing construction indicates the exclusion of other members involved in the discourse. He also points out that preposing in Arabic serves to contradict existing information (e.g. a speaker correcting a statement) and hence conveys identificational focus (1999, p. 338). He refers to object preposing in which a sentence takes the order OVS and gives the following example with a negative continuation to illustrate his argument:

(19)	O	V	S	
	LAYLA	ashiqat	Qays-un	(la-ZAINAB)
	Layla	loved-he	Qays-NOM	(not Zainab-ACC)
	“It was LAYLA that Qays loved (not Zainb).”			

(Ouhalla, 1999, p. 338)

## 2.5 Usage-based perspective on language acquisition

A basic principle of all usage-based research is that linguistic structure consists of constructions. Hence, if language is basically a system composed of constructions, then language learning is a matter of construction learning (Ellis, 2003). A construction is a complex linguistic sign that combines particular patterns of lexical, morphological, syntactic and/or prosodic form with particular semantic, pragmatic, and discourse functions (Bates & MacWhinney, 1989; Goldberg, 2006; Robinson & Ellis, 2008; Tomasello, 2003).

In cognitive linguistics, sentences are not seen as the product of applying a rule that strings a number of words in to a particular order, rather they are the product of combining a number of constructions in a particular way. As such, a construction (a pairing of form and meaning/function) is a symbolic unit and is characterised as:

a structure that a speaker has mastered quite thoroughly, to the extent that he can employ it in largely automatic fashion, without having to focus his attention specifically on its individual parts for their arrangement [...] he has no need to reflect on how to put it together.

(Langacker, 1987, p. 57)

For a construction to attain this symbolic status, the speaker must have been able to form one or more generalisations (Gries, 2008). These generalisations can apply to all aspects of language; such as highly specific elements such as morphemes or words, intermediately specific elements like partially lexically filled constructions, for example the *way*-construction (e.g., *He made his way through the crowd*), and highly abstract elements such as lexically unfilled constructions, such as the ditransitive construction (e.g., *He gave her a book*). Another condition for an expression to reach entrenched status is that the construction must have occurred in the input frequently enough for it to be entrenched

and stored in a language user's linguistic system (Croft and Cruse, 2004; Goldberg, 1995, 2003; Gries, 2008; Robinson & Ellis, 2008, p. 409; Langacker, 1987, 1990; Tomasello, 2003). These entrenchments of constructions are modified over time by exposure to new experiences (see Tomasello, 2003).

One of the usage-based tenets is that language learning emerges from the same general cognitive mechanisms (e.g. pattern finding, abstraction, generalisation) that are involved in all aspects of learning (e.g. Bybee, 2006; Langacker, 1987; Tomasello, 2003), which is driven by many aspects of input (frequency in particular) (Tyler & Ortega, 2018). The cumulative experience of interacting with a language results in language learning. Nick Ellis and colleagues argue that statistical learning constrains all language learning (as well as the learning of a second language) (Ellis et al., 2015), because humans are sensitive to the frequencies and contexts in which they encounter linguistic units. The research done on frequency to date suggests that frequency effects are evident in different aspects of language learning (Ambridge et al., 2015). According to usage-based theories, all facets of grammar, including words and syntactic structures, are probabilistically interconnected on the basis of one's experience with language (e.g. Diessel, 2015). In this respect, the present study is interested in examining language users' sensitivity to the frequency with which focused information is expressed formally in English.

In usage-based approaches, grammar consists of conventionalised patterns of form and meaning (i.e. constructions) that are interconnected by various types of links that reflect language users' experience with particular grammatical patterns (see Diessel 2015). Goldberg and Casenhiser (2008) claim that there is potential interference or transfer from existing language when learners are asked to assign a familiar meaning to a new form, in that learners may attempt to assimilate the novel construction into their already known construction. This is because speakers rarely assign the same meaning to two distinct formal

patterns (Casenhiser, 2004, 2005; Goldberg, 1995). This claim is of interest to the present study, as the target constructions have different structural features but share the same discourse function (highlighting information). As mentioned previously, focused information (contrastive focus in particular) is often associated with the use of the *it*-cleft construction and to a lesser degree with the *wh*-cleft (with the reverse *wh*-cleft and preposing being comparatively the least used focus constructions). To the best of my knowledge, there is no study that has investigated whether usage-based effects are apparent in language users' knowledge of how focused information (object focus) is expressed by different formal constructions in English. Therefore, the present study set out to fill this gap by investigating language users' knowledge of English focus constructions related to object focus.

A usage-based approach views frequency-driven learning as involving implicit learning processes and category formation (e.g. prototypes), constructed by the learner in a bottom-up way on the basis of contextualised language use. As learners move from knowledge of individual linguistic items and make generalizations based on several instances of language form, they are likely to reach stages in their category formation which are overly general, leading them to go display a temporary U-shaped behaviour (explained in detail below). This feature is taken as evidence that their established categories are dynamic and are used to interpret new input and create new forms (Tyler & Ortega, 2018). As such, it is assumed that this feature is likely to be evident when investigating L2 users' knowledge of English focus constructions, as knowledge of these constructions requires more than just surface features. That is, knowledge of these constructions involves not only a realisation of their structural and semantic feature, but also an understanding of their discourse function and hence contextual appropriateness.

Although there is general agreement in a usage-based approach that frequency is an important role in determining language users' linguistic knowledge, and frequency effects are evident in different aspects of language learning (Ambridge, Kidd, Rowland, & Theakston, 2015), nevertheless, its exact role has yet to be understood because of its interaction with other factors (e.g. semantics, pragmatics and perceptual salience) (Ellis, 2002; Ellis & Collins, 2009; Gass & Mackey, 2002). More specifically, the cognitive mechanisms behind the many frequency effects in language are not (yet) fully understood, especially when it comes to discourse context and information structuring. Most input frequency distribution studies provided the target construction (input) as a decontextualized single item at the sentence level (McDonough & Nekrasova-Becker, 2014; McDonough & Trofimovich, 2013). This item-by-item experimental setting may not reflect a real situation where learners are usually exposed to a series of contextualized conversations or texts. A related suggestion made by McDonough et al. (2014) is worth mentioning: in their study comparing the effect of input frequency distribution on the comprehension of a ditransitive construction, they argued for the need to "explore whether the processes of category formation and expansion are affected by discourse contexts" with the target construction "embedded in more situated language use, such as longer texts or conversations." (p.435). This suggestion highlights (although not directly) the role that information structure plays in comprehension, since after all it is part of construction grammar (Lambrecht, 1994). To illustrate, according to construction grammar, certain aspects of information structure can be stored as parts of our knowledge of constructions. In this regard, the current study aims to provide empirical evidence that can be complemented by work in theoretical linguistics by exploring the effect of discourse context on the acceptability of the focus construction under investigation.

From the previous synthesis, then, it can be understood that in cognitive linguistics, frequency, generalisation, and categorisation are viewed as essential for understanding how language users learn a language. The following section presents usage-based view with regards to first language acquisition.

### **2.5.1 Usage-based approaches to L1 acquisition**

From a cognitive linguistics perspective, first language acquisition involves the acquisition of constructions that map linguistic form and function from language usage and experience with specific exemplars of constructions. In this sense, language is acquired from actual instances of language use in their full contextual understanding (Ellis & Cadierno, 2009; Goldberg, 1995; Langacker, 2000). From this perspective, competence and performance emerge from the memorised exemplars of the use of these constructions (N. Ellis, 2002, 2003; Tomasello, 2003), with competence being the integrated collection of previous usage and performance being its contextualised activation (N. Ellis, 2006). Previous studies have revealed evidence of the extent to which language users retain specific information about their experience with the language (for reviews see Bod et al., 2003; Barlow & Kemmer, 2000; Bybee & Hopper, 2001; McRae et al., 1994; N. Ellis, 2002). Language acquisition, thus, involves the learning of constructions on the basis of input together with general cognitive processes (Goldberg & Casenhiser, 2008).

In this respect, a distinction must be made between token and type frequency. Token frequency represents the number of times a linguistic unit appears in the input, such as a particular consonant [s], a syllable [ba], a word [cat], a phrase [take a break] or even a sentence such as *I do not know* (Bybee, 1995, 2008). Type frequency is a different kind of count, in that only patterns of language have type frequency because this refers to how many distinct items are represented by the pattern. Type frequency might apply to phonotactic sequences as it would be the count of the number of words that start with [sp].

It also applies to morphological patterns such as stem + affix combinations. For example, the English past tense pattern in verbs such as *break, broke, blow, blew* have a lower type frequency compared to the regular past tense pattern that requires an addition of the *-ed* suffix. Syntactic patterns, or constructions, have type frequency as well. For example, the type frequency of the ditransitive construction in English is normally thought of as being based on the inventory of verbs that can be used in this construction (*She gave me the book, She offered me the book, She sent me the book*, and so on). N. Ellis (2002) proposed that token frequency leads to the entrenchment of a particular form, while type frequency drives the productivity of a particular pattern (see also Bybee 1985, who this suggestion ultimately goes back to). Type frequency promotes the process of generalisation by signifying to the learners that within the context of the same construction (pattern) other concrete items may serve the same function (a detailed discussion on the nature of generalisation will be presented below).

As mentioned earlier, these constructions (linguistic units) are form-function pairings that are learnt on the basis of their frequency in the input. They are gradually entrenched and modified over time by exposure to new experiences (e.g. Tomasello, 2003). As such, the more frequently a construction is encountered in the input, the more likely it is for this construction to be acquired and hence ready for use (Bybee, 1985, 2001, 2006; Langacker, 1987, 2000; Tomasello, 2003). Studies of children's speech have found that the more frequently children hear a particular linguistic unit (e.g., morpheme or word) in the language used by adults to address them, the earlier they acquire it (Theakston et al., 2004, 2005; Tomasello, 2002, 2003, 2006; Wilson, 2003). Moreover, the effect of frequency has been found to extend to children's development of complex syntax (e.g., relative clauses), since children are found to have a tendency to stick closely to and use

patterns that they have heard frequently (Levine, 2002; Matthews et al., 2005, 2007; Tomasello, 2002, 2003).

Usage-based approaches to first language acquisition (L1) hold that knowledge of grammar emerges as children create linguistic constructions from their analysis of recurring sequences of language (Ambridge & Lieven, 2011; Theakston & Lieven, 2017; Tomasello, 2003). After observing how children use language to communicate, Theakston and Lieven (2017) argue that much of child language can be described in terms of the reuse of multiword strings, which they hear in the speech of their caregivers. The researchers observed how children rely on multiword strings by looking into children's error patterns, such as when children make more me-for-I errors (e.g. Me do it) when their caregivers frequently use sentences in which me appears pre-verbally (e.g. Let me do it). Their observations highlight the significance of learning abstractions over these sequences, which results in slot-and-frame type schemas (e.g. generalizing Where's mommy? to Where's PERSON?).

N. Ellis and Ogden (2017) were interested in testing the usage-based claim that multiword expressions are learned as patterns of language from language usage and that knowledge of these patterns underlies language processing. The authors explored these claims by looking at verb-argument constructions such as "Verb *about* noun phrase", as these constructions bind syntax, lexis and semantics. Ellis and Ogden then reported the results of corpus analyses showing that children's use of these constructions closely matched the frequency with which they occurred in the speech heard by them from the adults around them. The authors argue that this construction is highly patterned in usage, this patterning drives language acquisition and language processing is sensitive to its forms and distributional statistics. They also argue that language users have rich implicit knowledge of the frequency of multiword sequences. In this regard, the present study explores if this

claim is evident in language users' sensitivity to the appropriate use of the target constructions, since the focus constructions consist of multiword sequences.

Children create and learn form-function mappings as a result of repeated exposure to many incidents of language use, in which they go through a process of comprehending and producing language (Tomasello, 2000). Input frequency has been shown to be one of the most important factors in explaining the pattern of children's linguistic development. However, although frequency is a main factor in the acquisition of language in a cognitive linguistic account, it is not just the frequency of encounter of a construction that determines its acquisition (Ellis, 2008). Consistency of form is another factor that is found to have a role in the language acquisition process. Consistency refers to the reliability of the form as a predictor of an interpretation, which in turn contributes to its acquisition (Ellis, 2007; Goldberg & Casenhiser, 2008; Levine & Tomasello, 2006; MacWhinney, 1987). Thus, if one function maps to many forms or if one form has different functions, this is likely to cause problems in the acquisition of the target construction (Bates & MacWhinney, 1989; Levine & Tomasello, 2008). For example, the use of verb + *-ed* is presented when a speaker intends to indicate past tense. This consistent use of such a cue to indicate a past event is likely to encourage a form-function mapping in the mind of the child hearing the form (Levine & Tomasello, 2008). On the other hand, an unreliable mapping between form and function is likely to cause some sort of difficulty in the process of language acquisition, which in turn motivates the application of general learning mechanisms in order to deal with such difficulty (Ellis, 2006; Shanks, 1995). An example is found in the use of *word* + *-s* in English, as in its interpretations as plural *-s* '*books*', or third-person singular present *-s* '*Sam likes books*' and possessive *-s* '*Sam's book*'.

From a usage-based approach to language acquisition, constructions can be acquired regardless of their length, with the process being strongly dependent on context and

language users' communicative needs (Tomasello, 2003). Once the constructions are acquired, knowledge about language is stored in the form of a rich interconnected network (Goldberg & Casenhiser, 2008). In this respect, the combination of lexical items into sentences is controlled by the stored constructions (Goldberg, 2006; Lieven & Tomasello, 2008), as they form patterns that specify how predicates (verb, adjectives) can combine with their arguments (MacWhinney, 2005). For example, the adjective 'nice' is linked to the construction: [*nice* X]. This item-based construction can be combined with other lexical items to produce full productivity in language, as in “*my nice kitty*” (for detailed explanation of item-based learning, see MacWhinney, 2005).

According to the constructionist perspective, abstract constructions (combinations of form and meaning) are argued to be learnt as generalisations over item-specific utterances (Langacker, 1987; Olguin & Tomasello, 1993; Tomasello, 2003). In other words, usage-based accounts emphasise that generalisations are made over learnt instances (Goldberg, 1995; Langacker, 2000; Tomasello, 2002, 2003). Thus, generalisation is part and parcel of learning a language in the cognitive linguistic account (Goldberg & Casenhiser, 2008; Robinson & Ellis, 2008, p. 198). Goldberg & Casenhiser (2008) argue that speakers of a language have some idea of what an utterance might mean even without knowing the meaning of the novel verb in this utterance. For example:

- (20) She blicked him.
- (21) She blicked him something.
- (22) She blicked him silly.

(Robinson & Ellis, 2008, p. 198)

In these examples above, speakers could infer that the first utterance refers to an action in which a female acts as the agent and a male acts as a patient, that the second sentence is

likely to mean that she gave him something, and the last sentence that she did something to cause him to become silly. Goldberg and Casenhiser (2008) also argued that in order for children to make generalisations over utterances they hear in order to produce and understand new utterances, they need to learn the constructions of their language (i.e., to learn how meaning is expressed formally in their language). It has been shown that children and adults alike are able to recognise the form and meaning of a novel construction with quite minimal training, which has been taken to suggest evidence of generalisation over previously acquired knowledge about the constructions of the language (Casenhiser & Goldberg, 2005; Goldberg, 1995; Goldberg et al., 2004; Goldberg & Casenhiser, 2008; Levine & Tomasello, 2008; Tomasello, 2002, 2003).

As has been mentioned above, children acquire the constructions of their language as a result of frequency and generalisation about incidents of use. However, the forms they identify and the functions that they are mapped to may not initially be similar to those of the adult language (Levine & Tomasello, 2008). According to usage-based accounts, the difference between children's language and that of adults is thought to involve a difference in the amount of experience with the language in use (Tomasello, 2003). As such, the ability of children to quickly generalise when learning novel constructions by mapping form and meaning is a developmental achievement that is largely dependent on the amount of input and learnt instances (Tomasello, 2002, 2003). In this regard, it should not be expected to find quicker generalisations in older children than younger children, if they are all exposed to the same amount of input.

It has been shown that learners of different ages (old and young) have equal abilities to generalise when they are exposed to the same amount of input (Goldberg & Casenhiser, 2008). Moreover, children's ability to learn complex sentences in later stages is an indication of their linguistic development, as they build up their knowledge from previously

learnt constructions (Diessel & Tomasello, 2000, 2005; Tomasello, 2000). Diessel and Tomasello (2000) suggest that relative clauses are acquired by children through assimilating a new structure to structures they already have in their construction inventory. For example, they claim that children are likely to attach relative clauses to predicate nominals of a copula construction, which children have been producing for many months (*Here's a mouse*) and the relative clause modifying this (*Here's the mouse go sleep*).

As has been shown so far, first language acquisition is based on language use, in that children learning their first language are able to extract expressions from the language they hear around them (Tomasello, 2003). Most important in this process, is that children use their intention-reading skills (i.e., their ability to work out from the context what meaning the person addressing them is trying to convey) to infer form-meaning pairings (constructions). They also use their pattern-finding skills to infer different sorts of constructions to which they are exposed (Littlemore, 2009). As such, the acquisition of 'grammar' consists of the constructions (form and meaning pairs) that children have found in the language input that they have frequently encountered (Goldberg, 1995; Littlemore, 2009, p. 33; Tomasello, 2000). According to the cognitive linguistic account, these types of pattern-finding skills that L1 learners employ are also available for second language learners (N. Ellis, 2002, 2003).

Also, for learning an L2, there are usage-based approaches that build on the idea that frequency is an important factor (N. Ellis, 2002, 2003). Using a phrasal decision task and four-word combinations (*I have to say*), Hernández et al. (2016) examined phrase frequency effects in L1 speakers and L2 learners. The findings indicated that L1 speakers were found to be sensitive to multiword frequency. Crucially, L2 learners demonstrated multiword frequency effects similar to natives, irrespective of their English language proficiency (advanced or intermediate), suggesting parallels between phrasal processing in

L1 and L2 speakers. However, SLA has been found to be less successful than first language acquisition due to some special factors that are presented below (N. Ellis, 2002, 2003).

### **2.5.2 Usage-based approach to L2 acquisition**

Usage-based approaches to L2 acquisition hold that most of the processes involved in learning and developing an L1 are likely to be applied in learning an L2 as well, with the latter being associated with a further “layer of complexity” (Ellis & Cadierno, 2009, p. 12). Langacker (2005) argued that learners tend to learn the L2 in the same way as children learn their native language; the forms that they learn first and learn well are the forms that they frequently encounter. However, while children are eventually able to acquire the grammatical competence of their L1 from naturalistic exposure (Lieven & Tomasello, 2008; Tomasello, 1992, 2003), adults’ ability to acquire native-like competence in a second language from such exposure is more limited and often requires resources related to explicit learning (N. Ellis, 2007).

A usage-based approach to language acquisition does not require or assume any fundamental differences in terms of the underlying cognitive processes involved in L1 and L2 development. Therefore, in principle, the stages through which early L1 acquisition goes through should, at least to some extent, be comparable to those experienced by L2 learners in the beginning of their language learning and, reasonably, the more proficient a language learner becomes the more native-like linguistic behaviour they are expected to show. Nevertheless, L2 acquisition is different from L1 acquisition in several aspects, such as L1 transfer and learned attention (Ellis, 2008).

According to usage-based approaches, learning a second or even a third language depends on the same processes as learning a first language, and a major difference for the L2 learner is that special categories of the L1 already exist in the mind of the language user (Ellis, 2006), and hence all languages of the L2 learner will interact in usage and in learning

(Javis, 2016). As a result, L1 categories that are already established in the learner's mind will impact on recategorization, either by facilitating or inhibiting the learning of new categories in the second language. That is, some aspects of the L2 will be more salient to the learner and others will be less so (Cintron-Valentin & Ellis, 2016). Cintron-Valentin and Ellis (2016) explored learned attention effects whereby learners' prior experience with adverbial cues in their L1 block their processing of verb inflections in the L2. Chinese native speakers who had not previously learned Latin or Italian participated in this study. The results revealed that L1 had a negative impact on the learning process.

Frequency of use, according to the usage-based approach, has been claimed to be a fundamental factor in the process of learning L1. Also, for learning an L2, there are usage-based approaches that build on the idea that frequency is an important factor (N. Ellis, 2002, 2003). Almulla (2015) investigated the role of frequency in L2 structure accuracy among L1 Arabic learners, with a focus on English infinitive and gerund constructions. Participants were classified into two proficiency groups: a high proficiency group and a low proficiency group. They were instructed to complete a word by-word self-paced reading task and a grammaticality judgement test. The findings revealed that both groups were more accurate in reading sentences with an infinitive construction, which was considered a high type frequency construction, than those with a gerund construction, which was considered a low type frequency construction. Almulla (2015) argues that a high type frequency construction was easier for L2 learners to acquire because learners were exposed more frequently to this construction type.

Building on Almulla's (2015) findings, Keawchaum and Pongpairroj (2017) explored the effects of frequency on the acquisition of English infinitive and gerund complements by L1 Thai learners from low and high proficiency groups. They utilized a Word Selection Task (WST) and a Grammaticality Judgement Test (GJT). Their findings

revealed that L1 Thai learners acquired infinitive complements before gerund complements, which they claim to be in line with usage-based theory. They explained their findings by stating that learners acquired infinitive complements first because they were considered a high type frequency construction, and gerund complements later because they were considered a low type frequency construction. They assumed that the high type frequency construction was easier for L2 learners to acquire because they were exposed more often to this construction type.

There are many ways in which L1 and L2 acquisition are similar, however, two distinguishing factors are named prominently in the literature: firstly, second language learners have already acquired one language and secondly, second language learners have already acquired many of the concepts (or world knowledge) that first language users are having to learn along with learning the language (N. Ellis, 2002, 2003; Goldberg, 1995). In other words, the difference between the processes involved in learning an L1 and those involved in learning an L2 lies in the fact that in the former case language and cognition develop at the same time, while in L2 acquisition the language users have already learnt a fully-fledged L1 system and a fully developed cognitive system. Therefore, it is likely that second language learners would use this existing linguistic and conceptual knowledge to assist them in their learning of the second language (Littlemore, 2009, p. 34).

One of the most important variables that impacts the construction of form-meaning mapping in an L2 is the role that the learner's L1 plays in that process (N. Ellis, 2006; Robinson & Ellis, 2008). As pointed out above, L2 learners construct a second language 'on top of' their L1 concepts and constructions, which they have already acquired (Tyler, 2012, p. 89). From a usage-based perspective, this suggests that L2 learners may transfer the L1 meanings, which they had established during the process of L1 acquisition, to the process of form-meaning connections in their L2.

According to Odlin (1989), transfer is defined as “the influence resulting from similarities and differences between the target language and any other language that has been previously (and perhaps imperfectly) acquired” (Odlin, 1989, p. 27). L1 transfer occurs when the influence observed in learning the target language results from the learners’ native language. This transfer involves semantic, pragmatic and conceptual influences from L1, which in turn impact learners’ L2 comprehension and production (Odlin, 2008; Slobin, 1993, p. 242). As such, adult L2 users go through a process of revising the semantic/pragmatic concepts in order to construct the L2 grammar (Slobin, 1993, p. 242). In this sense, then, the patterns (constructions) of the learner’s native language that are different from (or similar to) those of the L2 are likely to interfere with the way of learning the second language, making it easier when the two languages share the same linguistic features and more difficult when the two languages differ (N. Ellis, 1999, 2008; Robinson & N. Ellis, 2008, p. 384). In the case of learning L2 constructions that are similar to those in a learner’s first language, L1 is likely to serve as the basis for the L2 construction.

Paquot (2015) investigated French and Spanish EFL (English as a foreign language) learners’ preferred use of three-word lexical bundles with a discourse or stance-oriented function, with the aim of exploring the role of first language (L1) frequency effects in foreign language acquisition. Word combinations were extracted from learner performance data (i.e. argumentative essays), and the frequency of their translation equivalent forms was analysed on the basis of French and Spanish L1 corpora. The findings indicated that there was a strong and positive correlation between the frequency of a lexical bundle in EFL learners’ written production and the frequency of its equivalent form in the learners’ first language. Moreover, the authors suggest that different patterns of use across the two L1 learner populations may be explained by frequency differences in L1 French and Spanish.

It has been shown that second language learning, most prominently at early stages, is likely to be influenced by the first language (N. Ellis, 2006; MacWhinney, 1997). The extent to which the L1 interferes with the acquisition of L2 differs to some degree in accordance with the learner's proficiency level. In particular, it has been argued that lower proficiency L2 learners often have a tendency, less found in the case of advanced learners, to construct form-meaning mappings in L2 based on their already established L1 constructions (Cadierno, 2008; Ellis, 2002, 2005). Moreover, L1's influence on L2 input processing and parsing has also been found to decrease as proficiency develops (VanPatten, 2004), as will be discussed below.

According to usage-based approaches, second language learners' attainment of native-like knowledge of the conventional ways of using constructions comes about gradually through long-term practice with the target language, which is similar to the process of learning the L1. In this regard, the L1's influence on second language learners decreases as the learners build up L2 networks from increased exposure to L2 data (R. Ellis, 2008). These networks, which organise learners' grammatical knowledge, are increasingly independent of the L1 network. In this view, then, the effect of L1 is most evident at early stages of learning the second language, gradually giving way to a process called "restructuring" (R. Ellis, 2008). Restructuring' refers to the qualitative changes that take place in learners' interlanguage at certain stages of development (Mclaughlin, 1990). Interlanguage is a term that Selinker (1972) coined to refer to both the internal linguistic system that a learner constructs at a single point in time and to the series of interconnected systems that identify learners' progress over time (R. Ellis, 2008, p. 409).

As can be seen from the above, usage-based theories view learners' L1 as both a help and a hindrance to SLA (Robinson & N. Ellis, 2008, Römer, et al., 2017). In this sense, the acquisition of L2 constructions in all its forms is acknowledged to be partly based on

prior learned content and associations in the L1 pattern (Robinson & N. Ellis, 2008). This in turn highlights how selective attention contributes to two main processes that play a particular role in shaping language users' attention to language: *overshadowing* and *blocking* (N. Ellis, 2006). Overshadowing refers to a case where two cues are associated with one outcome, with the more salient of the cues overshadowing the weaker one. For example, adverbials that express temporal reference (e.g., *yesterday*) are more salient than tense and aspectual markers (e.g., past *-ed*). Furthermore, learners may know from their L1 that adverbials can express temporal meaning and are effective in communicating temporality (e.g., *Yesterday, Nina walked home*).

However, if overshadowing continues over a period of time, it leads to blocking. As N. Ellis (2006, p. 178) describes it, "blocking is the result of automatic learned inattention". This can be found in learners who are able to acquire adverbials to express time reference but fail to acquire the tense marking it (i.e. in the sentence *The girl walked to school yesterday*, learners rely on *yesterday* but less so on the tense marker *-ed*). As such, learners' L1 motivates overshadowing and blocking by making those L2 forms that are similar to L1 forms more salient (N. Ellis, 2006; R. Ellis, 2008, p. 471).

There is a general agreement that the effect of the L1 is most likely to be evident in the early stages of L2 learning, and as exposure to the second language increases, other processes that do not rely on L1 influence, such as entrenchment and generalisation, take on a more prominent role (N. Ellis, 2002, 2006; Littlemore, 2009, p. 34). Although there are other factors such as age and motivation where SLA will usually differ from first language acquisition (DeKeyser, 2000; DeKeyser et al., 2010; Dornyei, 2000, 2009) these factors will not be considered in this thesis.

The process of language learning, as has been discussed in the previous section, is aided by frequent exposure to language input, which facilitates the entrenchment of

constructions over which language learners can make generalisations about other constructions that they come across. Langacker (2005) argued that the process of language learning is aided by many generalisations, which language speakers become eventually aware of. N. Ellis (2002) also argued that learners analyse the sequences they have learnt, abstracting structural regularities from them, and hence bootstrap themselves to grammar. He claimed that ‘the knowledge underlying fluent language is not grammar in the sense of abstract rules or structures but a huge collection of memories of previous experienced utterance’ (N. Ellis, 2002, p. 166). According to this perspective, L2 learners’ knowledge of the target language develops under diverse conditions of exposure (Long, 1990), which reflect systematic interlanguage development (Robinson & N. Ellis, 2008, p. 7). This development is thought to be reflected in the systematic production of non-target-like forms, which indicates ‘that learners do not simply echo input but go through successive stages of cognitive analysis and representation of the input’ (Robinson & N. Ellis, 2008, p. 7).

In the process of developing L2 knowledge, U-shaped learning behaviour is likely to occur (e.g. ‘went’- ‘goed’- ‘wented’- ‘went’), which indicates that learners take a considerable amount of time and language use to be able to construct the target language representation. To illustrate, the process of learning the use of a construction in the target language by L2 users involves an initial target-like usage. For example, learners initially learn the complete word ‘walked’ as one chunk (i.e. as a construction in that its formal composition is connected to semantic, pragmatic and discourse meaning). Later on, they learn that it is composed of a stem plus *-ed*. Then, they learn that the *-ed* signals a past tense and they attach it to all kinds of regular verbs, which is similar to the use of native speakers. As L2 users develop more advanced linguistic knowledge, such as the knowledge of irregular verb tense forms like *went*, their knowledge of the target construction changes and becomes less

native-like (i.e. learners might produce wrong forms such as *goed and wented*). This behaviour reflects L2 users' tendency to overgeneralise (R. Ellis, 2008). After more experience with the target language their knowledge once again develops in to a native-like knowledge, which brings the curve in to the 'up' curve of the U-shape again. As such, learners' attempts to overgeneralise are likely to be evident in higher levels of language proficiency (N. Ellis, 2006; Robinson & Ellis, 2008, p. 396; Taylor, 1975, p. 87). Thus, restructuring occurs as a result of these qualitative changes that take place in the L2 users' interlanguage development (Mclaughlin, 1990).

The previous section has emphasised the role of frequency in the process of language acquisition. However, it has been acknowledged in the field of SLA that not all input is acquired (R. Ellis, 2008). In other words, not all L2 input becomes intake for language learners. One of the reasons for this that has been widely discussed in SLA is the role of attention in L2 acquisition (R. Ellis, 2008; Schmidt, 1994, 2001). From the previous discussion, it can be seen that attention to both form and meaning is equally important for learners to comprehend the input. This point shifts the focus on to a discussion of the role of awareness in SLA, which will be presented in the following section.

## **2.6 The role of awareness in SLA**

From a usage-based perspective, language learning involves frequent exposure to language input, which facilitates the entrenchments of constructions, over which generalisations are made to learn new constructions of the language. On the one hand, first language acquisition is often cited as a process that takes place implicitly (without awareness) and the resulting knowledge is frequently referred to as tacit (e.g., N. Ellis, 2002, 2008, 2011; Williams, 2009). On the other hand, there has been a debate over whether implicit processes are involved in L2 learning (Andringa & Rebuschat, 2015; Hulstijn & Ellis, 2005; Rebuschat, 2015). Another point that is also included in this debate is whether

the knowledge resulting from different exposure conditions leads to the development of implicit or explicit knowledge.

It is important here to introduce some terminology that is central to the nature of the debate mentioned above. Originally, the role played by attention and awareness in SLA was conceptualised in terms of “consciousness” (R. Ellis, 2008, p. 434). Schmidt (1994) distinguished four senses of “consciousness”. The first level is consciousness as intentionality, in that learners can set out to learn particular elements in the L2 deliberately. In contrast, incidental learning may happen when learners are focused on another aim (for example, while processing input for meaning). As such, this sense highlights the differences between intentional and incidental learning (R. Ellis, 2008; Hulstijn, 2003; Leow, 2015). The term intentional learning refers to learning that occurs with the intent of what is being learned (DeKeyser, 2003), as in the case of learners studying grammatical rules on which they will be tested. In contrast, incidental learning is learning that takes place without the intent to learn, as in the case of learning the grammar of language while the learners’ aim is to communicate (Schmidt, 1994, p. 14).

The second sense considers consciousness as attention. In this sense, learners have to pay conscious attention to form, irrespective of whether learning takes place intentionally or incidentally. Consciousness in this sense encompasses Schmidt’s Noticing Hypothesis, which will be discussed in detail below. The Noticing Hypothesis claims that SLA is largely driven by what learners pay attention to and notice in TL input, and what they understand the significance of noticed input to be (Doughty, 2003). The term noticing is understood as assigning significance to some aspect of form relative to others. It is considered to be one degree of awareness and refers to individual experience which is brought about by drawing learners’ selective attention to a certain linguistic form. According to Schmidt (1990), noticing is necessary for input to become intake, which is necessary for learning an L2.

Schmidt (2001) argues that the minimum requirement for noticing is to pay attention to key grammatical elements in the input with greater than a threshold level of subjective awareness (that is, reportable subsequent to the experience). Noticing is thus a “subjective correlate” (Schmidt, 2001, p.5) of attention. It identifies the level at which stimuli are subjectively experienced. As such, it can be seen as learners’ detection with subjective awareness plus rehearsal in short-term memory (Robinson, 1995).

The third sense relates consciousness to awareness, in that learners may become aware of what they are learning in order to process L2 data (Carr & Curran, 1994; Gass & Schmidt., 2012; Leow, 2013, 2015; Williams, 2013). Leow (2013, p. 3) outlines three ways that awareness can be identified: “some resulting behavioural or cognitive change, a meta-report of the experience but without any metalinguistic description of a targeted underlying rule, or a metalinguistic description of a targeted underlying rule.” The fourth sense relates consciousness to control (knowledge). This is the actual use of knowledge in performance, which involves the conscious processes of selection, assembly and information processing. Schmidt argued that although fluent performance is essentially unconscious, it is likely that it has originated in earlier guided performance, as proposed by Anderson (1993). Schmidt’s work helped in clarifying the role of consciousness in SLA (R. Ellis, 2008).

R. Ellis (2008) noted that SLA researchers have increasingly turned the focus from debating the role of consciousness to investigating the functions of attention in L2 acquisition. The following is a discussion on the current approaches to the role of attention in SLA. Specifically, these are Schmidt’s (1990) noticing hypotheses and Tomin and Villa’s (1994) model of attention in SLA.

### **2.6.1 Schmidt’s Noticing Hypothesis**

In response to Krashen’s (1981) claim that only subconscious processes are involved in successful L2 acquisition, Schmidt (1990) originally proposed the importance

of the conscious mode of learning as a necessary condition for L2 learning. Building on case studies of second language learners, including his own experience of learning Portuguese (Schmidt, 1983; Schmidt & Frota, 1986), Schmidt argued that awareness is facilitative, and perhaps even necessary, in second language acquisition. He also claimed that attention to input is a conscious process (Schmidt, 1990, 1994).

In Schmidt's view (1994), consciousness can be distinguished in different dimensions, such as awareness, intention and knowledge. Schmidt's Noticing Hypothesis (1990) proposes three levels of consciousness as awareness: perception, noticing and understanding. Although Schmidt categorises perception under awareness, he contradicts his own categorisation by arguing that "perceptions are not necessarily conscious" (1990, p. 132). Thus, it is possible to argue that perception is an attentional process that does not involve awareness (i.e., in this, input is registered without being aware of what is being processed). The second level in his model is *noticing*. For Schmidt (1995), awareness at the level of *noticing* is different from *perception* as the former is marked by conscious awareness of, at least, the surface features of the input. Noticing has been described as 'conscious registration of the occurrence of some event' (Schmidt, 1995, p. 29) and requiring focal attention (Schmidt, 1990). According to Schmidt (2001), the objects of noticing are the surface features of the input rather than the abstract underlying rules or patterns of grammar. The third and final level in his model is awareness at the level of understanding, which is a higher level of awareness that includes generalisation across incidents. As such, it reflects further processing of L2 data that takes place consciously in order to try to explain or figure out an observed phenomenon. As Schmidt notes, awareness at the level of understanding "implies recognition of a general principle, rule or pattern" (Schmidt, 1995, p. 29) and is connected "to restructuring, and to system learning" (Schmidt, 1993, p. 213).

In what can be called the strong position of Schmidt's Noticing Hypothesis (1990, 1993, 1995), Schmidt claims that awareness of the form of the input at the level of 'noticing' (that is attention with low level of awareness) is necessary for subsequent processing of L2 data. While perhaps less necessary, understanding is argued to have a facilitating effect on SLA. In opposition to this strong position of Schmidt's claim that attention to input is a sufficient condition for SLA to occur, Gass (1997) has argued that input is not always a necessary condition for learning to take place. Research that investigated the relative clause accessibility hierarchy (Eckman et al., 1988; Gass, 1997, 1982) indicated that learners were able to generalise their knowledge, after receiving instruction on some types of relative clause, to different relative clauses to which they had not been exposed in the input. These studies provided evidence of the possibility of learning in the absence of input, which is contrary to Schmidt's Noticing Hypothesis. Thus, "if no input [to the target structures] existed, how could attention to input be a necessary condition for all aspects of learning?" (Gass, 1997, p. 16).

Considering the contradictory statements to his argument, Schmidt later acknowledged that both awareness at the level of noticing and understanding are facilitative conditions for SLA (Schmidt, 2001, 2010). This is referred to as the weak position of the Noticing Hypothesis, which allows for representation and storage of unattended stimuli in memory but claims that "people learn about the things they attend to and do not learn much about the things they do not attend to" (Schmidt, 2001, p. 30). In line with Gass (1997), Schmidt (2001) noted that not all learning is dependent on input, in that learners are able to infer new knowledge by generalising from their existing knowledge (as has been shown above in the case of relative clauses in English). This view is similar to the usage-based approaches to language acquisition that were discussed in the previous section.

Moreover, Schmidt acknowledged that different aspects of language (for example, syntax or morphology) may differ in their attentional requirements. This argument was supported by Gass, Sevetics and Lemelin's (2003) study of L2 Italian, which showed that focused attention had a significantly greater effect on the learning of syntax than vocabulary. Schmidt also shared similar views to those of Long, Taylor and Etherton (1996), who claimed that only those stimulus attributes that are attended to in processing are encoded, which suggests that attention should focus on whatever evidence is relevant for a particular learning domain. For example, in order to acquire pragmatics, one must attend to the linguistic forms as well as to the contextual features with which they are associated (Schmidt, 2010).

It is important to reiterate that Schmidt (2001, and onwards) has maintained his position regarding the importance of attentional processes in SLA, a view that is also subsumed within a number of theoretical frameworks in SLA (N. Ellis, 2005; Leow, 2015). Schmidt acknowledged that it is not possible to separate attention from awareness completely. However, Schmidt (2010) argues that 'what we are aware of is what we attend to, and what we attend to determines what enters phenomenal consciousness' (p. 725). Accordingly, this argument implies that attention is inseparable from awareness and consciousness, which is a position that is also advocated in Schmidt's (1990) Noticing Hypothesis.

Some earlier studies in SLA have lent empirical support for the Noticing Hypotheses (e.g., Leow, 1997, 2000, 2001; Rosa & Leow, 2004). In these studies attention is measured by using think-aloud protocols. A study by Leow (1997, 2000) used a crossword puzzle task, as mentioned in details below, to manipulate participants' attention when exposed to instances of Spanish stem-changing verbs. The findings indicated that the participants who showed a higher level of awareness (awareness at the level of

understanding) learnt the most, followed by participants who noticed instances but did not show any generalisation, however no evidence of learning was found for participants who did not notice any instances. All in all, the findings from these studies indicated that attention that subsumes a low level of awareness (such as at the level of noticing) seems to contribute to subsequent processing of grammatical information in the input, and that higher levels of awareness (such as at the level of understanding) is more likely to lead to more learning.

However, the role of awareness in language acquisition and possibility of learning without awareness has continued to receive considerable consideration over the past years (Godfroid & Winke, 2015; Hama & Leow, 2010; Leow, 2015; Leow & Hama, 2013; Leung & Williams, 2011; Williams, 2005, 2009). Moreover, this interest has also extended to include methodological issues on how to measure awareness (Godfroid & Schmidt, 2013; Hamrick & Rebuschat, 2012; Rebuschat, 2013; Williams & Rebuschat, 2014).

Schmidt's Noticing Hypothesis is of relevance to this thesis, as ideas related to attention, noticing and understanding are compatible with the constructional and usage-based approaches adopted in the present study (Bybee & Eddington, 2006; Goldberg, 1995). Schmidt (2010) made an attempt to show the relevance of his position with regard to the role of attention by citing Bybee (2010). According to Bybee (2010), who argued for exemplar-based representations of language, learners experience specific instances or tokens of constructions, with similar tokens (repeated occurrences) being mapped together to form exemplars. These exemplars are "rich memory representations ... [containing] at least potentially all the information a language user can perceive in a linguistic experience" (Bybee, 2010, p. 14). These are subsequently grouped together to form categories that represent both fixed (token frequency) and open slots (type frequency) in constructions. Accordingly, Schmidt (2010) noted that this indicates a role for "noticing" when registering

exemplars, and both explicit (aware) and implicit (unaware) processes of generalisation when constructions take on a more abstract meaning.

Schmidt's Noticing Hypothesis has been considered within some theoretical frameworks in SLA (N. Ellis, 2005), particularly in relation to the distinction between implicit and explicit knowledge (discussed below). Moreover, his hypothesis was influential as it promoted other models of attention proposed by other researchers, as in Tomlin and Villa's model discussed below.

### **2.6.2 Tomlin and Villa's model of attention**

Tomlin and Villa (1994) proposed a model of attention that they claimed might lead to a better understanding of the attentional process in SLA. In this model attention does not correspond to awareness (cf. Schmidt, 1990) and it is not necessary for SLA to take place. According to Tomlin and Villa, attention consists of three separate but interrelated processes. These are alertness, orientation and detection. Alertness, which is the first level in this model, relates to the overall mental readiness to deal with the incoming information.

Tomlin and Villa claim that alertness is essential in SLA because input is more likely to undergo further processing when learners are prepared mentally to deal with the input. The second level of their model is orientation, which relates to the result of the process of allocating attentional resources to stimulus material. In this stage, learners orient their attention to one type of input (such as visual information) at the expense of other types of input (for example, auditory information). Tomlin and Villa argued that the input the learners are oriented towards is likely to reach the next stage of attention, namely detection. Detection is the final stage of this model and has been described as the process 'that selects, or engages, a particular and specific bit of information' (Tomlin & Villa, 1994, p. 192). For Tomlin and Villa, detection is necessary for further processing of incoming input. In addition, they argued that it is at this level that language acquisition must take place.

In an early attempt to design a way to empirically distinguish attention as alertness, orientation, and detection, Leow (1997) set out to do so in a study involving learners of L2 Spanish. The study asked participants to complete a crossword that required attention to be given to the irregular third-person singular and plural preterite forms of stem-changing –ir verbs. His study consisted of four groups, each of which represented different conditions that varied according to the degree of orientation and detection. Orientation was operationalised through the instruction ‘Please note that some of the forms of the verbs are irregular’. As for the detection, the chance of detection was made possible by ensuring that the irregular forms that needed some of the crossword clues were available in a number of available clues. There were four groups in the study, and all of them were designated as + alertness, but the groups differed with regard to the presence or absence of orientation and detection. The findings of this study indicated that the groups that had the chance of detecting the target forms in the input performed better than the groups that did not. Moreover, the findings indicated that there was no effect of orienting the learners to the occurrence of the target form without the opportunity for detection. As such, the study provided evidence for the role of detection as a crucial attentional process, which seems to support Tomlin and Villa’s claim. In follow-up studies, Leow (2001, 2015) argued that different levels of awareness may lead to differences in processing, and that more awareness contributes to greater recognition and accurate production of targeted forms.

In Tomlin and Villa’s view, detection is closely related to Schmidt’s concept of noticing, but differs from it in that detection does not require awareness. According to their view, "Awareness plays a potential role for detection, helping set up the circumstances for detection but it does not directly lead to detection itself" (Tomlin and Villa, 1993, p. 14). Unlike Schmidt’s Noticing Hypothesis, awareness is not required in any of the levels of Tomlin and Villa’s model (alertness, orientation, detection). In other words, Tomlin and

Villa claimed that attention can take place without awareness. Moreover, for Schmidt (1990, 1993, 1994, 2001, and 2010) awareness at the level of noticing has an important and facilitative role in SLA. On the other hand, Tomlin and Villa claim that detection is sufficient for learning to take place, and that detection (registration of a stimulus) can occur on a conscious and unconscious level. Accordingly, awareness is not identical to attention, and awareness is not a necessary condition for SLA to take place.

However, in response to Tomlin and Villa's claim that attention to input stimuli (including detection) can take place without awareness, Schmidt (2010) argued that detection can occur without awareness only for already established representations, as there is a subliminal perception but no subliminal learning (Schmidt, 1995, 2001). To support his argument, Schmidt cited Williams' (2005) experiment that investigated the learning of form-meaning connections under conditions where the relevant forms (determiners) were attended to and noticed but not the contingencies (whether the head noun was animate or inanimate), Williams' findings did not provide evidence of learning without awareness, but instead showed that implicit learning in this experiment was correlated with the participants' prior language. This, according to Schmidt (2010), suggests that prior experience in language learning is likely to play a role in implicit learning.

To sum up, the theoretical framework of attention in SLA maintains that attention is crucial in the language learning process (Schmidt, 1990; Tomlin & Villa, 1994). More specifically, it follows Schmidt's Noticing Hypothesis (1990, 1994, 1995, 2001, 2010) that holds that awareness of the form of input at the level of "noticing" (that is attention with a low level of awareness) is necessary for subsequent processing of L2 data. As issues related to acquisition are intertwined with those related to processing, the following section begins with an overview of some models that are concerned with how learners process input in their L2.

## 2.7 Input processing

Usage-based approaches view language learning as input dependent, in that language users learn constructions from language use and that knowledge of these constructions underlies fluent language processing (N. Ellis & Ogden, 2017). This indicates that its developmental course is sensitive to external factors – most relevant to this study – such as (but not limited to) frequency, contextual contingency and attention (O’Grady, 2005), as well as to internal factors such as working memory (R. Ellis, 2006). Psycholinguistic research demonstrated that adults’ as well as children’s language processing is sensitive to frequency effects when producing and comprehending language input (Bybee & Hopper, 2001; Ellis, 2002).

The sensitivity to the relative frequency with which specific forms are used in specific contexts in input is referred to as probabilistic processing, that second language learners are thought to rely on in order to turn input into knowledge of how specific forms are used in specific contexts (N. Ellis, 2002, 2006). N. Ellis (2002) argued that language users are sensitive to the probability of occurrence of different constructions in the speech stream. In other words, language users know the constructions that are most likely to be of overall relevance and the particular interpretation of cues that are most likely to be correct (Robinson & Ellis, 2008, p. 347). Accordingly, language comprehension is determined by the language user’s vast amount of statistical information about the behaviour of the constructions in their language. As such, “comprehenders tend to receive the most probable syntactic and semantic analyses of a new utterance on the basis of frequencies of previously perceived utterance analysis” (N. Ellis, 2002, p. 145).

It is well recognised that learners do not integrate all aspects of what they read or hear into their interlanguage system. This points to a distinction between the concept of *input* and *intake* (Corder, 1967). In the second language literature, input refers to the oral

or written forms of linguistic information that the learner is exposed to in the target language. As for intake, it represents the subset of data available in the input that the learner depends on and extracts information from, prior to any learning taking place (Corder, 1967; Gass, 1997; Leow, 2012, 2015; VanPatten, 2004, 2007). In this sense, then, intake represents a middle step between the linguistic data that are available to learners from the input and the integration of some of these linguistic data into the learner's interlanguage system. Input processing is argued to take place at this middle stage between input and intake (Gass, 1997; Leow, 2012, 2015; Schmidt, 2001; VanPatten, 2004, 2007).

Since usage-based approaches view language learning as involving form-function mappings from being exposed to language input and as being dependent on the consistency of these mappings, this has implications for the understanding of language processing. Processing is viewed as being carried out simultaneously on different levels, with semantic and syntactic factors constantly interacting (Ellis, 2002, 2006; Littlemore, 2009). According to VanPatten (2004), input processing refers to a cognitive event in which features of the input, whether meaning or form, are selectively attended to and made available for further processing. VanPatten's input processing theory is an influential model of input processing and it is widely discussed in SLA (1996, 2002, 2004, 2005, 2015). The following section presents an overview of VanPatten's theory of input processing, which is concerned with how learners process input in their L2, followed by a discussion related to psycholinguistic models of input processing.

## **2.7.1 Models of input processing**

### **2.7.1.1 VanPatten's input processing theory**

The degree of learners' sensitivity to language input has been a subject of interest in VanPatten's (1996) input processing theory. VanPatten (1996, pp. 14-15) looked into how learners allocate attentional resources during on-line processing and the reason why

they detect certain stimuli in the input but fail to spot others. In other words, his account attempts to explain biases that learners display towards some features of the input to which they normally attend. As such, VanPatten's input processing account provides a theoretical framework for the manner in which L2 learners make connections between form and meaning when selecting, attending to and processing input in the target language that is the manner in which certain features of the input convert to intake (VanPatten, 2002). Of importance in this regard is that the constructs of processing and noticing are not similar in this framework (VanPatten, 2007, 2015). Crucially, noticing, which is the mere surface attention to features in the input, is distinguished from processing, which involves the learner making connections between form and meaning. As such, the processing of information by learners goes deeper than just noticing features of the input (Leow, 2015). Although it has been argued that noticing can be a component of processing (VanPatten, 2004), input processing can take place without an awareness of what is being processed (N. Ellis, 2002; VanPatten, 2015).

VanPatten proposed a number of input processing principles in an attempt to explain what causes attentional priorities for learners (VanPatten, 1996, pp. 14-15). Some of the main principles of VanPatten's input processing theory relevant to the present study are that:

- a) learners are driven towards meaning before form when attempting to process the input;
- b) learners process more meaningful morphology before less meaningful morphology;
- c) learners prefer to process lexical items to grammatical items (such as morphological markings) for semantic information;

- d) the comprehension of the input in the early stages of language acquisition is cognitively demanding (VanPatten, 2007, 2015).

VanPatten (1990) set up these principles based on findings from his study, which investigated what learners do “when asked to attend to meaning and form together, or just meaning or form” (R. Ellis, 2008, p. 439). The study asked learners to listen to a text in Spanish under four conditions. In one task the learners were instructed to listen to the content only. In another task, the learners listened for content and were instructed to make a check mark each time they heard the word ‘inflación’. The third task asked learners to listen to the content and make a check mark each time they heard the definite article 'la'. In the fourth condition, the learners were instructed to again listen to the content and make a check mark each time they heard the verb morpheme ‘-n’. The findings of this study revealed significant differences in the comprehension scores between the first two conditions on the one hand and tasks three and four on the other hand. However, no significant differences were found between the first two tasks or between the third and the fourth task. Van Patten interpreted these findings as an indication that it was difficult for learners to comprehend the input when they attended to form only. From this study, VanPatten concluded that meaning and form compete for learners’ attention, and that learners’ ability to attend to form is conditioned by their ability to understand input easily.

Worthy of note, although a full discussion of VanPatten’s model is beyond the focus of this thesis, is the fact that a number of these principles seem to be relevant for understanding the development of knowledge of the target constructions in this study (for discussion of VanPatten’s model, see Benati, 2013; Lee, 2015; VanPatten, 1996, 2004, 2007, 2015). The central principle in VanPatten’s model, particularly relevant to the processing of the target constructions in this study, is referred to as the primacy of meaning

principle. This principle holds that learners will first focus their attention on comprehending the meaning of an utterance (VanPatten, 2004). It is of importance to restate that input processing, as set by VanPatten (2004, 2007, 2015), represents an account of the manner through which learners make the initial form-meaning connections and attempt to comprehend the input in the target language (VanPatten, 2007).

VanPatten's claims have found both direct and indirect support (Han & Sun, 2014; Sagarra & N. Ellis, 2013; VanPatten & Cadierno, 1993). However, VanPatten's hypothesis of input processing is not without criticisms, particularly in relation to the degree to which it aligns with the greater body of research on input processing within psycholinguistics (Carroll, 2004; DeKeyser et al., 2002; Harrington, 2004). Some of these criticisms of VanPatten's hypothesis relate to the fact that his hypothesis makes no acknowledgement of the role of L1 in L2 processing (Carroll, 2004), and that it makes no provisions for the role of explicit knowledge in L2 processing (Marsden, 2006). The following section presents some psycholinguistic theories of input processing.

### **2.7.1.2 Psycholinguistic theories of input processing**

In psycholinguistics, the term input processing refers to "any dynamic operation in real time that converts a stimulus into a message or a message into a motor-articulatory plan" (Carroll, 2004: 294). Accordingly, then, processing "includes everything from the subconscious detection of phonetic distinctions relevant to word recognition, through morphosyntactic parsing, and message integration" (Carroll, 2004, p. 294). In this area, research has utilised a number of experimental methods, for example event-related potentials and self-paced reading (for an overview, see Keating & Jegerski, 2015; Roberts, 2012) in order to investigate the mechanisms and limitations that language users, for example adult native speakers and second language learners, employ as they process information in real time, at both word level and sentence level.

The processing research most relevant to this thesis comprises subdomains of processing research that have focused on sentence or syntactic processing, since after all processing research is a broad area of enquiry. Syntactic processing, is concerned with how learners parse the syntactic relationships between various sentence components in real time. In this sense, parsing refers to how learners figure out syntactic information progressively in real time. It is concerned with a real-time process of assigning syntactic roles to perceived strings of words in a sentence. It also aims at investigating how people make predictions in order to recover the meaning of an utterance as it unfolds.

In the context of L2 research, L2 processing has often been the focus of interest as a constraint on the acquisition of linguistic knowledge in the L2 (e.g., Carroll, 1999; VanPatten, 2002). Research interested in L2 processing has looked into the nature of the representations and processes involved in L2 sentence processing. Several researchers have argued that findings from studies on L2 sentence processing may supply insights into the nature of L2 grammatical knowledge (Andringa & Curcic, 2015; N. Ellis, 2016; VanPatten, 2014). To illustrate, evidence of a lack of grammatical knowledge reflected in L2 learners' degraded performance in an *off-line* grammaticality judgement task may possibly be attributed to L2 learners' overall inefficiency in *on-line* grammatical processing, instead of some kind of insufficiency in grammatical representations in the L2 (e.g., Juffs & Harrington, 1995; McDonald, 2006).

Research that investigated syntactic processing has highlighted marked differences in the way that adult native speakers and second language learners process incoming linguistic information (Harrington, 2010; Roberts, 2012; Roberts & Felser, 2011). Previous findings generally suggest that adult second language learners with a good level of proficiency in the L2 do not have difficulty with integrating lexical information and simple word-order information in a native-like manner. However, findings concerning the use of

complex structural information and syntactic information are rather mixed (Dussias & Pinar, 2009).

One of the views on the syntactic aspects of L2 sentence processing holds that the syntactic components of L2 sentence processing are likely to approach native-like as the second language learner's proficiency develops and experience with the target language increases (Dussias & Sagarra, 2007; Rah & Adone, 2010). From this perspective, the apparent differences between L1 and L2 sentence processing are most likely to come from L2 learners' limited processing efficiency and the transfer of L1 processing strategies to the L2 sentence processing. As such, adult L2 learners' processing of the input takes place in a shallower manner than that of adult native speakers (VanPatten, 2014). As a consequence, L2 learners depend more on non-structural items, such as lexical information, that is more readily accessible during on-line sentence processing in the L2. It has been argued that language users' comprehension is determined by the large amount of statistical information they possess about the behaviour of lexical items in their language and that, at least for English, verbs provide some of the strongest constraints on the resolution of syntactic ambiguities (N. Ellis, 2002, p. 144).

A number of studies have indicated that adult second language learners commit to syntactic analysis based on the plausibility of the resulting interpretation (Dussias & Pinar, 2010; Felser & Robert, 2011; Williams, 2006). One of the examples of plausibility effects is found in adult L2 learners' processing of *wh*-questions in English (e.g., Dussias & Pinar, 2010; Williams, 2006; Williams et al., 2001). The *wh*-questions in English consist of a fronted *wh*-phrase that is joined with a verb that takes the *wh*-phrase as its argument or adjunct. In a study by Williams et al. (2001), English native speakers and adult L2 learners of English whose L1 was Chinese, German or Korean read sentences such as 23 and 24

below on a word-by-word basis and were instructed to press a button whenever they believed the sentences no longer made sense.

(23) Which girl did the man push the bike into late last night?

(24) Which river did the man push the bike into late last night?

In both examples the *wh*-phrase must be analysed as the object of the preposition *into* in order to come up with the correct interpretation of the sentence. The main difference between the two sentences is that *which girl* in 23 was a plausible object of the verb *push* but *which river* in 24 was not. In this study, the L2 learners pressed the button to signal the implausibility in the sentence at the verb (e.g., *push*) more frequently when the *wh*-phrase was implausible as the verb's object, as in 24, compared to when it was possible, as in 23. This suggests that they tried to immediately incorporate the *wh*-phrase and the verb. However, a reverse pattern was observed when L2 learners encountered the head noun of the overt object NP (e.g., *bike*), with an increased implausibility detection rate for 23 compared to 24. The results indicated that the L2 learners had greater difficulty revising the initial analysis when it was plausible, rather than when it was implausible. The general pattern of results for L2 learners was fairly similar to that for L1 English speakers. According to these findings, the authors argued that adult L2 learners are like native speakers in inferring a dislocated argument as soon as possible and are sensitive to plausibility information during on-line sentence processing. However, the findings also suggest that L2 learners face greater difficulties with reanalysing an initially plausible analysis compared to native speakers of the language.

From the above section, it can be seen that L2 learners do not seem to differ from native speakers in the manner and time course of using non-structural information such as

lexical properties of words in real-time sentence processing. This point leads to the discussion of processing from another perspective: that of information structure in a second language (L2). This will be discussed in the following section.

In sum, the previous section has presented previous attempts to examine the role of attention and awareness at the point of learning. The next section moves on to address the interest in the investigation of whether the acquired L2 knowledge is explicit or implicit in nature. Specifically, the following section presents the characteristics that differentiate implicit knowledge from explicit knowledge.

## **2.8 The nature of explicit and implicit knowledge**

Whereas the previous section has drawn on the different views of the role of attention in the process of language learning and also on the nature of input processing, the present section focuses on the product of learning and what learners come to know, which is the resulting implicit and explicit knowledge (Leow, 2015a, 2015). It also examines the role of attention in the distinction between explicit and implicit knowledge. Implicit and explicit knowledge are often described as being unconscious and conscious types of knowledge respectively, as will be discussed below. However, there are current attempts to elaborate on the operational characteristics of implicit versus explicit knowledge in order to arrive at a definition for each type of knowledge. This would help to distinguish them and to understand how these two types of knowledge are revealed within linguistic performance (R. Ellis, 2004, 2005, 2008; R. Ellis et al., 2009). R. Ellis (2008, p. 418) defined these two types of knowledge based on some of their distinguishing characteristics, which he identified in his previous work (Ellis, 2004). He defines implicit knowledge as:

intuitive, procedural, systematically variable, automatic, and thus available for use in fluent, unplanned language use. It is not verbalisable. According to some theories it is only learnable before learners reach a critical age (for example, puberty).

R. Ellis's defines explicit knowledge as:

conscious, declarative, anomalous, and inconsistent (i.e. it takes the form of 'fuzzy' rules inconsistently applied) and generally only accessible through controlled processing in planned language use. It is verbalisable, in which case it entails semi-technical or technical metalanguage. Like any type of factual knowledge, it is potentially learnable at any age.

(R. Ellis, 2008, p. 418)

The two definitions included the main contrasting characteristics that relate to the difference between implicit and explicit knowledge. Most importantly, the two types of knowledge differ in their degree of automaticity and the extent to which linguistic knowledge can be verbalised. Moreover, it has been claimed that these two types of knowledge differ in terms of how they are accessed and used, depending on the type of task (R. Ellis, 2005, 2008; Rebuschat & Williams, 2012). Implicit knowledge is unconscious knowledge that cannot be verbalised and, as such, it can only be inferred from behaviour (R. Ellis, 2004, 2005; Loewen, 2015; Reber, 1993). In contrast, explicit knowledge is knowledge that one is aware of possessing and it is often, though not always, verbalisable (DeKeyser, 2009; Dornyei, 2009; Reber, 1993; Williams, 2009). Following DeKeyser (2009), the present study considers the term 'implicit' as being synonymous with unconscious, and 'explicit' as being synonymous with conscious. The following section

presents further elaboration on some of these contrasting characteristics of implicit and explicit knowledge, which are of relevance to this study.

### **2.8.1 Consciousness**

One of the distinctive features between the two types of knowledge is consciousness. As indicated earlier, implicit knowledge is tacit knowledge (R. Ellis et al., 2009; Reber, 1993; Rebuschat, 2013), which speakers are not aware of possessing. By contrast, explicit knowledge is knowledge that speakers are aware of possessing. Moreover, during performance, implicit knowledge is commonly referred to as language users' feelings or intuition about the grammaticality and acceptability of the target linguistic feature (Dienes, 2008, 2010; Dienes & Scott, 2005), while explicit knowledge is often realised through the use of conscious knowledge, such as an underlying grammatical rule or structure (Reber, 1969, 1976). An often-cited illustration of this difference between the two types of knowledge is how a native speaker might judge the grammaticality of a sentence (R. Ellis et al., 2009). When presented with an ungrammatical sentence such as *They have gone to school yesterday*, native speakers of English would know that something about this utterance is unacceptable. When asked how they know that this sentence is ungrammatical they might say that the sentence sounds incorrect. In this way, a native speaker's judgement is based on implicit knowledge, through the feeling of intuition. Contrary to this, a native speaker with a metalinguistic knowledge, for example as a result of studying the grammar of the language as an EFL teacher or a linguist (R. Ellis, 2008), would clearly state that the present perfect construction refers to an event that happened at an unspecified time in the past. As such, the knowledge of this native speaker is conscious, as a native speaker is aware of the knowledge that he or she has about the rule when judging the grammaticality of the sentence. In this case, it is possible that this native speaker could rely on implicit

knowledge to judge the sentence and use his explicit metalinguistic knowledge to justify his decision (Rogers, 2016).

### **2.8.2 Verbalising**

The above discussion on consciousness leads to another operational distinction between implicit and explicit knowledge, related to the issue of whether knowledge can be verbalised. This feature has commonly been used to decide whether knowledge is explicit or implicit in nature (Rebuschat, 2013). According to this operationalisation, knowledge is implicit when it cannot be verbalised but manifests itself in actual language use (R. Ellis et al., 2009, p. 13). As in the example in the previous section, native speakers without metalinguistic knowledge of grammar would not be able to explain the grammatical rule on which they had based their decision. Their implicit knowledge, then, is inferred from observing their performance, from which one can predict that some knowledge is driving their accurate decision. Conversely, explicit knowledge can be verbalised to some degree, by either stating the complete or part of the rule that underlies the grammaticality of a sentence. However, this feature of being able to verbalise knowledge has been criticised on more methodological than theoretical grounds (Leow, 2002; Schmidt, 1994).

### **2.8.3 Automaticity**

Another feature that can be operationalised to distinguish implicit from explicit knowledge is related to the automaticity of these two types of knowledge (DeKeyser, 2009). On one hand, explicit knowledge has been argued to consist of explicit or partial knowledge of rule or facts. These rules pertain either to metalinguistic knowledge or grammatical rules. Accessing this kind of knowledge needs controlled processing; that is, explicit knowledge can be accessed less quickly than is implicit knowledge, and, it is argued to be utilised only when sufficient time is provided to access it. As explicit knowledge consists of complete or partial knowledge of rules, speakers might use it afterwards to edit or monitor their own

production. As such, explicit knowledge may not be readily available in spontaneous language use where there is limited chance for careful on-line planning (R. Ellis et al., 2009). On the other hand, it has been argued that implicit knowledge can be available for automatic and spontaneous (on-line) processing (R. Ellis, 2004, 2005). In this regard, Johnson (1996) details the kind of practice needed to achieve full automatization of linguistic knowledge, arguing that learners need to practise specific forms under 'real operating conditions' (i.e. in actual communication) in order to master them. According to the Skill-Building hypothesis, e.g. Anderson (1976, 1980, 1993), large amounts of input are necessary to provide enough practice to achieve automatization. Skill-building theory implies that language is first acquired consciously through learning individual rules or items, and then knowledge of these rules becomes automatic through output practice (usually in the form of drills or exercises). Moreover, it views full automatized linguistic knowledge as highly specific, with different sets of skills involved in comprehension and production (Anderson, 1993 pp. 37–38).

#### **2.8.4 Task demands**

With regard to language use, implicit knowledge and explicit knowledge can be utilised to a varying degree, depending on the nature of the task at hand. It has been argued that tasks that L2 users find challenging and difficult, or that cause a breakdown in communication (N. Ellis, 2005), are likely to motivate L2 users to access their explicit knowledge. For example, R. Ellis (2004) explains that in a task that asks L2 users to justify their decision in a grammaticality judgement task on a think-aloud task, L2 users are likely to draw on their explicit knowledge if they lack confidence to make a judgement based on their implicit knowledge. The nature of tasks determines whether they encourage automatic or controlled processing (R. Ellis, 2005; Rebuschat & Williams, 2012). Worthy of note is the fact that this operationalisation should not be interpreted as suggesting that certain types

of task encourage the use of one knowledge over another. It is generally agreed that L2 users use both types of knowledge to a varying degree depending on the nature of a task (N. Ellis, 2005; R. Ellis, 2004; Loewen, 2015).

To sum up, the previous section has outlined some of the characteristics of explicit and implicit knowledge. Explicit knowledge has been described as the knowledge that language users know about. Further, it is knowledge that can be verbalised and learnt, and it can be elicited by tasks that permit time for controlled processing. By contrast, implicit knowledge is unconscious, in that language users do not know that they possess this knowledge. Furthermore, it cannot be verbalised, is usually utilised automatically, and is likely to be elicited by tasks that motivate automatic processing. Having presented these differentiating characteristics of explicit and implicit knowledge, the following section shifts the focus towards how these two types of knowledge develop and views regarding their interaction in their development.

## **2.9 Interface between implicit and explicit knowledge**

A number of competing theories related to the role of explicit knowledge in the development of implicit knowledge have received much attention in the field of SLA (for example, N. Ellis, 2005; R. Ellis, 1994). This section will start by presenting the non-interface position, which rejects any link between implicit and explicit knowledge. This is followed by the strong-interface position. Contrary to the non-interface position, the strong-interface position (DeKeyser, 2003, 2007, 2009, 2015) (see section 2.8.2. below) argues for a direct link between explicit knowledge and implicit knowledge. The last position is the weak-interface position (N. Ellis, 2005; R. Ellis, 1994), which holds that explicit knowledge serves to facilitate the development of implicit knowledge, although this is based on several factors (see section 2.8.3). A discussion of these positions is presented below in further detail.

### **2.9.1 Non-interface position**

Krashen's monitor theory (1981, 1982, 1985) postulates that learners have two totally separate systems that are involved in language learning (a 'learned system' and an 'acquired system'). *Learning* is the conscious (explicit) process that is involved when a learner tries to consciously attend to language in an effort to understand and memorise rules, whereas *acquisition* is unconscious (implicit) and occurs as a result of exposure to input. For Krashen, explicitly learnt rules only serve to compare and possibly modify utterances that have been produced by the 'acquired system' (Krashen, 1982). An example of this conscious knowledge, according to Krashen, is knowledge about the rules of language (or metalinguistic knowledge). Of relevance here, Krashen claimed that the 'learnt' knowledge is not connected and cannot be transformed to 'acquired' knowledge. This position indicated that explicit knowledge cannot convert to implicit knowledge, which later became known as the non-interface position (R. Ellis, 2008). Further, he claimed that explicit knowledge does not directly influence the development of implicit knowledge, but that it only plays a role when learners monitor their own output. Moreover, he argued that implicit knowledge is only developed when the learner's attention is focused on conveying a message for communicative purposes.

### **2.9.2 Strong-interface positions**

The strong-interface position does not typically refer to implicit versus explicit knowledge (R. Ellis, 2008), but instead it is related to declarative and procedural knowledge. These two types of knowledge are claimed to operate along a continuum on which declarative knowledge can gradually become procedural or automatic knowledge over time, with sufficient practice (Anderson, 1992, 2000; DeKeyser, 1997, 1998, 2007; R. Ellis, 1993; Ullman, 2004, 2005).

In the strong-interface position, the transition from declarative to procedural knowledge represents a qualitative shift as a result of automatization, which is also referred to as practice (DeKeyser, 2001). Automatization refers to the process of “knowledge change from initial presentation of the rule in a declarative format to the final stage of fully spontaneous, effortless, fast, and errorless use of the rule, often without being aware of it anymore” (DeKeyser, 2007, p. 3). According to this sense, the strong-interface position maintains that automatized declarative knowledge or procedural knowledge can be seen as functionally equivalent to implicit knowledge. However, it should be emphasized that automatized knowledge is not necessarily similar to implicit knowledge, as a lack of awareness is “not a requirement for automaticity” (DeKeyser, 2007, p. 4), i.e. one can possibly attain automaticity of a particular structure while at the same time being fully aware of the underlying rules. Accordingly, automaticity can be a feature that is drawn upon for both implicit and explicit knowledge (DeKeyser, 1998, 2007), with both types of knowledge involving a gradual change from more controlled to more automatic processing.

### **2.9.3 Weak-interface position**

Another position that was proposed for the interface between explicit and implicit knowledge is the weak-interface position (N. Ellis, 2005; R. Ellis, 1993, 1994). The weak-interface position in R. Ellis’s (1993, 1994) work postulates that explicit knowledge can be converted into implicit knowledge, depending on the type of features of the language. The model distinguishes between the acquisition of developmental and variational linguistic features. The developmental features of language, such as the third-person –s, are linguistic features that are acquired sequentially as certain processing strategies are acquired (R. Ellis, 2008). On the other hand, variational features of language, such as the copula “be”, are linguistic features that can be acquired at any time as they are not constrained by acquisition orders.

In his view, R. Ellis argues that explicit knowledge can be transformed into implicit knowledge in the case of variational features, but not in the case of developmental features, unless the learner is developmentally ready to incorporate the feature into the interlanguage system (R. Ellis, 2008, p. 423). Accordingly, the learners' existing knowledge serves "as a kind of filter that sifts explicit knowledge and lets through only that which the learner is ready to incorporate into the interlanguage system" (R. Ellis, 1994, p. 88).

The theory also draws on Schmidt's Noticing Hypothesis (1990) and acknowledges that explicit knowledge and formal instruction can have a facilitative impact on implicit knowledge by helping learners to notice the relevant features in the input and to make a comparison between what they have noticed and their recent interlanguage (R. Ellis, 2008). Based on this view, explicit knowledge then helps learners with "noticing the gap" (Schmidt & Frota, 1986) and facilitates the development of implicit knowledge by informing "the language processor so that it takes account of data in the input" (Schmidt & Frota, 1986, p. 98). Nevertheless, the fact that noticing is considered a conscious process (Schmidt, 1990), as pointed out earlier, indicates that the process of "taking account of data" by the language processor is conscious. However, as noted by Rogers (2016), R. Ellis's model does not explain how noticing, which is linked to conscious awareness, facilitates the development of implicit knowledge, instead of explicit knowledge.

Another perspective on the weak-interface position is N. Ellis's proposal (1993, 1994, 2005, 2011, 2015; N. Ellis & Larsen-Freeman, 2006). This perspective shares some features with both Krashen's (1982) non-interface position and R. Ellis's (1994) weak-interface position. Similar to Krashen's argument, N. Ellis claims that the majority of learning is implicit, and most knowledge is tacit (2005). Moreover, N. Ellis views explicit and implicit knowledge as distinct systems. He also postulates that explicit knowledge

cannot be transformed into implicit knowledge, as the two types of knowledge work together in every cognitive task and during any learning experience (2005, p. 340). However, this should not be understood to mean that implicit and explicit knowledge work independently of one another.

N. Ellis clearly stated that “conscious and unconscious processes are dynamically involved together in every cognitive task and in every learning episode” (2005, p. 340), as well as in both input and output processing. He illustrates the interplay between implicit and explicit knowledge when using language by arguing that we rely mostly on automatic processing but that we also access explicit knowledge when automatic processes fail. As an example of this, N. Ellis mentions the case of when we stumble while walking, or even when communication breaks down. From this perspective, then, explicit knowledge serves as a form of “collaborative conscious support” for automatic processes (N. Ellis, 2005, p. 308).

Apart from explicit knowledge supporting implicit knowledge during language use, N. Ellis also argues that there is a relationship between implicit and explicit knowledge as part of language development. One of the features of N. Ellis’s (2005) weak-interface model is that it stresses the importance of attention in the development of both types of knowledge. According to this model, explicit knowledge develops as a result of conscious and deliberate attempts at learning, while implicit knowledge develops as a result of repeated exposure to patterns within the input accessible to the learner. In the case of implicit knowledge, the repeated exposure leads to the strengthening of connections within a connectionist framework through an unconscious tallying process, which leads to the development of implicit knowledge (N. Ellis, 2005, 2011; Hulstijn, 2002). Within this model, however, attention is necessary for tallying to take place, but awareness is not (N. Ellis, 2005). A key difference, then, between the weak-interface models of N. Ellis and R.

Ellis is that explicit knowledge does not convert in to implicit knowledge (as in the case of R. Ellis's model), but explicit knowledge does have an influential role in the development of implicit knowledge.

In sum, the previous section has outlined the various theoretical accounts that attempted to explain how implicit and explicit knowledge are developed, as well as the way that these types of knowledge might interface in their development and use. In this regard, the following section shifts the perspective towards how implicit and explicit knowledge have been operationalised and measured within SLA. The significance of the following section is that it links the previous discussion on awareness to how it has been measured, before moving on to the methodology chapter.

## **2.10 Measuring implicit and explicit knowledge**

### **2.10.1 On-line and off-line measures of awareness**

A number of instruments have been utilised in an attempt to measure awareness. These can be categorised based on the point at which they are applied within the design of an experiment. One of these instruments is on-line (or concurrent) measures, which are administered during the exposure phase of an experiment (Bowles, 2010; Bowles & Leow, 2005; Leow, 2000, 2015). For example, the on-line measures that have been used in the field of SLA are think-aloud protocols (Bowles, 2008; Leow, 1998, 2000; Rebuschat et al., 2013, 2015) and eye-tracking methodology (Godfroid et al., 2015; Godfroid & Winke, 2015). On-line measures of awareness provide information about a participant's level of awareness during the encoding process, since this type of measurement is taken as a sign that incoming information is being registered (Hama & Leow, 2010). This type of measure provides data that shows participants' level of awareness during the encoding process, and thus it is found to be suitable for experiments that investigate the role of attention and awareness during learning (e.g., Leow, 1998, 2000).

Other measures that contrast with on-line measures are referred to as off-line measures of awareness and are administered after the exposure phase (Rebuschat, 2013). This makes the data they provide regarding the role of attention and awareness during the encoding process less powerful than that of on-line processing, as much of the information that might have been noticed in the encoding stage is unlikely to be recalled after the exposure phase (Leow, 2000, Leow & Hama; 2013). Two of the off-line instruments that have been commonly used to measure awareness in SLA are verbal reports (Rebuschat, 2005) and, more recently, subjective measures of awareness (Dienes & Scott, 2005). For reviews of verbal reports and how they have been utilised to assess awareness in empirical studies within the cognitive science, see Seth et al. (2005), Leow (2015), Rebuschat (2013), and Rebuschat and Williams (2012). I will discuss the use of subjective measures of awareness in more detail below given that this method is used in the current study.

To summarise, on-line assessments are seen as being better indicators of implicit knowledge than off-line measures, because the constraints of processing in real time limit the chances of the participants to access their explicit knowledge when completing a task (R. Ellis, 2004, 2005; R. Ellis et al., 2009; Godfroid et al., 2015; Jegerski, 2014; Norris & Ortega, 2000). Since the present study is concerned with the type of knowledge that learners have about the target constructions (that is the product of learning) and how they process such constructions (access to knowledge), the following section presents a brief discussion on subjective measures of awareness.

### **2.10.2 Subjective measures of awareness**

Subjective measures of awareness have been utilised based on the suggestion that the conscious/unconscious distinction should be defined in terms of subjective thresholds rather than objective thresholds (Rogers, 2016). Objective methods are designed to assess the conscious status of knowledge through tasks that are believed to reflect conscious or

unconscious knowledge. It has been argued within the field of SLA that learners are more likely to depend on implicit knowledge when faced with timed grammaticality judgement tests, contrary to untimed grammaticality judgement tests that are likely to draw on explicit knowledge (R. Ellis et al., 2009; Godfroid et al., 2015).

In contrast to the objective methods that seek to determine the type of knowledge based on task performance alone, subjective measures of awareness essentially compare participants' performance on a task with the extent to which they are able to identify (verbalise) the knowledge that guided their performance. Further, subjective methods assess either first-order or metacognitive levels of awareness (Timmermans & Cleeremans, 2015). First-order awareness refers to knowledge that the learner is able to report, such as the learners' ability to verbalise the underlying grammatical rule. On the other hand, metacognitive levels of subjective awareness refer to participants' awareness of their existing knowledge. An example is when learners are aware that they have learnt something but at the same time are unable to state exactly what they have learnt. In practice, metacognitive awareness might occur when a learner is very sure that an item in a grammaticality judgement task is not correct but he or she is unable to express the knowledge that has guided his or her decision.

It has been argued that the findings obtained from subjective measures of awareness reflect two distinct types of knowledge: structural knowledge and judgement knowledge (Dienes, 2004, 2008, 2010, 2013; Rebuschat, 2013; Rebuschat et al., 2013). Dienes (2004) described structural knowledge as knowledge that participants acquire about the underlying structure of stimuli during the experiment. An example is participants' knowledge of a sequence of letters or word order in an experiment. Later, the participants develop a new type of knowledge when confronted with a new string or word order during the testing phase of an experiment, which is referred to as judgement knowledge. Base on this

knowledge, the participants can judge whether the structures of the new items are similar to the structural features of the items in the training phase (Dienes, 2013). However, it is assumed that conscious structural knowledge leads to conscious judgement knowledge (Deines & Scott, 2005) and that unconscious structural knowledge can lead to judgement knowledge that is either conscious or unconscious (Rebuschat et al., 2013). To illustrate, unconscious structural knowledge and unconscious judgement knowledge are likely to occur in cases in which the participants think that they are guessing, but their performance implies that they have knowledge of the grammatical items being tested. Unconscious structural knowledge and conscious judgement knowledge would consist of a “fringe feeling” of correctness (Norman et al., 2007); that is, the participant would have a feeling that an item is grammatically correct or incorrect but would not know the reason (Dienes, 2010).

Subjective measures of awareness are classified in to two types: source attribution and confidence ratings. The first type, source attribution, is designed to assess judgement knowledge and can be administered alone (Dienes, 2004) or in combination with confidence ratings (Dienes & Scott, 2005; Rebuschat & Williams, 2012). The source attribution task instructs participants to identify the source on which participants based their decision by selecting one of the choices provided (e.g., guessing, intuition, memory, or rule knowledge). Confidence ratings, which is one of the methods employed in the present study, are used to assess the conscious state of judgement knowledge (Dienes et al., 1995). This measure asks participants to indicate their level of confidence in their decision for each judgement they make in the task (i.e., deciding whether a sentence is grammatical or ungrammatical) by selecting one of the choices provided, such as guessing, somewhat confident, or very confident. Dienes et al. (1995; see also Dienes, 2008; Rebuschat, 2013)

argue that knowledge can be considered unconscious if there is no statistically significant relationship between the level of confidence and performance.

Within SLA, a number of recent studies have used subjective measures of awareness in their experimental design to assess the conscious status of participant knowledge (Dienes et al., 1995; Grey et al., 2014; Hamrick, 2013; Hamrick & Rebuschat, 2011, 2012, 2013, 2015; Rebuschat, 2008; Rebuschat & Williams, 2006, 2009, 2012; Serafini, 2013). Most of those studies utilised subjective measures of awareness to investigate how awareness is guiding performance, as well as whether participants develop awareness over the course of the testing phase of the experiment (Hama & Leow, 2010; Rebuschat, 2008). For example, Rebuschat and Williams (2012) investigated the acquisition of grammar under incidental learning and used subjective measure of awareness to find out the nature of the resulting knowledge. Specifically, they investigated whether native English participants can acquire L2 German word order under incidental learning condition. In their study, participants were exposed to a semi-artificial language, which consists of English lexis and a syntactic rule system based on German word order; as in the example *Usually defended Brian many shots during his matches*. In exposure phase, participants were asked to listen to a sentence, repeat it aloud and then place their plausibility judgement based on content of the sentence. After this phase, participants were asked to complete a grammaticality judgement test, which they were not informed about beforehand. They were also instructed to complete confidence intervals and source attributions alongside each judgement on the grammaticality judgement test. At the end of the test, retrospective verbal reports were administered in addition to the subjective measures of awareness. The findings indicated that L2 word order can be acquired through incidental exposure. Moreover, the analysis of the subjective measure of awareness and the

retrospective verbal reports revealed evidence that the observed learning effect was partly driven by unconscious knowledge of the underlying syntactic rule system.

The findings obtained from the subjective measures of awareness used in the previous studies were advantageous in that they were suitable for revealing low levels of awareness, which could be seen as a relationship between the level of confidence and accuracy during performance. Another advantage of the subjective measure of awareness is that it allows for a clear insight in to how awareness is guiding performance, as these types of measures are taken on a question-by-question basis throughout an experiment (Rogers, 2016).

### **2.10.3 Direct versus indirect tests**

The use of direct and indirect tests to distinguish between implicit and explicit knowledge has been supported within the field of SLA. Research attention has been drawn to the fact that some tasks promote the use of implicit knowledge while others are more likely to tap into explicit knowledge (Andringa & Rebuschat, 2015; Bowles, 2011; Doughty, 2003; Han & Ellis, 1998; Norris & Ortega, 2000). Direct tests require participants to make direct use of their knowledge and are indicative of explicit knowledge (Rogers, 2016). An example of such tests is grammaticality judgement tests. As for the indirect measures, they are argued to be accurate measures of implicit knowledge as they measure knowledge indirectly (e.g. through behavioural data) (Rogers, 2016); such as the observed differences in participants' reaction times when reading grammatical versus ungrammatical stimuli. An example of an indirect test is the self-paced reading test, which was employed in the current study (discussed further in Chapter 3).

In their studies, R. Ellis and colleagues (R. Ellis, 2004, 2005; R. Ellis et al., 2009; Godfroid et al., 2015) provided examples of direct and indirect tests. The first study by R. Ellis (2005) indicated that tests of untimed grammaticality judgement and metalinguistic

knowledge are better indicators of explicit knowledge, whereas timed grammaticality judgement tests and oral narration tasks are more likely to tap into implicit knowledge. However, these tests are not without limitations. As mentioned in section 2.8, it is generally accepted that learners draw upon both types of knowledge, implicit and explicit, to complete the task in a GJT (DeKeyser, 2009; N. Ellis, 2005). In addition, the nature of the task itself can motivate the use of either implicit or explicit knowledge in L2 performance because the demands of task type might influence the types of knowledge deployed in terms of the degree of analysis and control. (Bialystok, 1982, 1986). For example, error correction tasks presented in a written mode encourage learners to rely more on explicit knowledge. The same task presented auditorily, however, is more likely to promote the use of implicit knowledge. It should be stressed that no particular task is reflective of purely implicit or purely explicit knowledge.

As mentioned previously, the argument that timed grammaticality judgement is reflective of implicit knowledge and that untimed grammaticality judgement is reflective of explicit knowledge (R. Ellis et al., 2009) is predicated on the suggestion that implicit knowledge is likely to be available for automatic processing and explicit knowledge is available for controlled processing (see section on automaticity). As such, it is believed that time pressure is a better indicator of implicit knowledge than off-line measures, because participants do not have time to access their explicit knowledge to complete the task. However, this interpretation is not without problems, as there is no guarantee that participants are not relying on their implicit knowledge when completing an untimed grammaticality judgement task (off-line task), which is argued to be reflective of explicit knowledge. That is, the results obtained from an untimed grammaticality judgement test might not reflect pure explicit knowledge, as they could have been affected by the participants' reliance on their implicit knowledge as well (Rebuschat, 2013). It is of worthy

to mention here that the off-line task in the present study is not a grammaticality judgement task but is more a judgement of appropriateness of the use of the target construction in a felicitous and infelicitous context.

In sum, as can be gathered from the previous discussion, the measurement of implicit and explicit knowledge is difficult to define and controversial, and hence more research into the effectiveness of measures of awareness is necessary. To my knowledge, no research to date has investigated L2 knowledge of the syntactic means of information highlighting in English, particularly focus constructions, using subjective measures of awareness to examine whether this knowledge is implicit or explicit in nature. The following section presents some empirical research on focus constructions and how language users process focal information.

### **2.11 Empirical research on information highlighting in SLA research**

Although the highlighting of discourse elements using specific linguistic devices, particularly the use of focus constructions, is a potential learning problem even for advanced L2 users, the knowledge of discourse organisation is not well studied in SLA research (Callies, 2008). Empirical research on focus constructions in (English) L2 is sparse. Studies adopting a usage-based approach that investigate the knowledge and processing of focus constructions in English by EFL learners are, to the best of my knowledge, non-existent. The few existing studies on focus construction are mainly interested in cross-cultural investigation. The majority of these studies used a metalinguistic task such as grammaticality judgements as the principle means of data collection, and only rarely have these been supplemented by other data collection methods (such as using material from L2 corpora). In this section, I will first review previous studies on focus constructions and then move on to address the few experimental studies

investigating the on-line processing of focal elements in some constructions that are of relevance to the present study.

In a contrastive study of focus phenomena in English and German conducted by Klein (1998), German undergraduate students were given English *it*-cleft and *wh*-cleft sentences along with German equivalents including clefts and other sentences with focus particles. The participants were instructed to rank the German sentences according to their semantic equivalence to English cleft constructions. The main findings of this study indicated that the participants ranked the German clefts as syntactic equivalents, which suggests an impact of learners' L1 German on their acquisition of these constructions in English.

A study by Zimmermann (2000) employed acceptability judgements only to investigate the *it*-clefts and *wh*-clefts in German-English interlanguage. The results showed that learners' competence in the grammatical restrictions of these two types of clefts is not target-like, particularly with regard to the type of constituent that is permitted in the focus position. The author claims that these L2 users deviate from native norms in a way that suggests continued reliance on an infelicitous strategy, in this case transferred from their L1 German. The major findings are that advanced learners are not fully competent as to the grammatical restrictions of *it*-clefts and *wh*-clefts.

Boström Aronsson (2001, 2003) investigated the use of the *it*-cleft and *wh*-cleft in argumentative writing of Swedish advanced learners of English based on material from the Swedish component of the International Corpus of Learner English (ICLE). She found an over-representation of these constructions in the learners' data compared to native speakers' data. The author argued that the over-use of cleft constructions by Swedish advanced learners of English is most likely explained by the fact that clefts are commonly used in Swedish compared to English, which makes them easily transferable to Swedish-

English interlanguage. The findings also indicated that *it*-cleft constructions are often used in the context where there is no obvious need to emphasise or highlight specific sentence constituents. For instance, the learners often used the structure *It is X that ...It is X to...* in sentence openings. The author hypothesised that learners might have treated these constructions as a formulaic expression that is easy to use to introduce a sentence. She argued that it is possible that learners are not fully aware of the contextual effects of cleft constructions when writing in English.

Rowley-Jolivet and Carter-Thomas (2005) examined the use of the *wh*-cleft and the *it*-cleft, among other constructions such as passive and extraposition, by native and non-native users of English, with different L1 background, in oral conference presentations and written papers. They found out that native and non-native speakers/writers differ in their use of these syntactic structures to package information. While native speakers used the *wh*-cleft more often in speaking than in writing, non-native speakers appeared to misunderstand the function of the *wh*-cleft in information packaging, which was reflected in their over-use of the construction, particularly when it came to information highlighting (Rowley-Jolivet and Carter-Thomas, 2005, p. 52). However, the authors indicated that the use of *it*-cleft constructions was exceptionally rare in both groups.

A study by Callies and Keller (2008) examined a group of advanced German L2 learners' awareness and use of English focusing devices, particularly focus constructions. Learners were given a poem in which focus constructions (such as the *it*-cleft, *wh*-cleft and the preposing construction) abound, and then they were asked to rewrite the poem as a prose text. The main aim of their study was to find out whether advanced learners of English were able to notice, identify and name linguistic devices that were used to highlight information in a text and if so, which devices these were. They were also interested in finding out whether these learners have metalinguistic knowledge of syntactic means of

information focusing, and whether they are able to produce these syntactic means in their writing when given explicit instructions. Their findings show that the advanced L2 users preferred lexical means to indicate emphasis and that they had very limited awareness of the syntactic means of information highlighting as they neither copied nor imitated any of the syntactic focusing devices that were used in the poem. The authors claimed that learners may have perceived these structures as genre-specific stylistic devices and thus avoided using them in a prose text, which suggested that the learners were unaware that they could use them.

In a similar vein, Callies (2009) investigated the knowledge of American native speakers and advanced German L2 learners of English of the lexical and syntactic means of information highlighting in English. His aim was to find out the extent to which advanced L2 users are similar in their knowledge and use of the means of information highlighting to native speakers. He also investigated the effect of L1 German on learners' performance. American native speakers and advanced L2 German learners were given a literary text in English. They were instructed to read the text and then complete two tasks, namely a discourse completion task and a pragmalinguistic judgement task, which was administered in the form of written questionnaires. After completing the English version, the German learners were instructed to complete a similar task in German. Callies also collected introspective data by means of the retrospective interviews to support the results obtained from the written tasks. The findings indicated that advanced L2 learners have limited awareness of focus constructions in English and that their knowledge of these means fall short of being native-like, as was evident from the significant differences between their ratings and those of native speakers. Interestingly, Callies found that the learners gave higher ratings for the preposing construction and attributed this to a positive effect of L1, since a similar construction is used in German.

It is worth mentioning here that the target constructions under study, namely the *it*-cleft, the reverse *wh*-cleft and the preposing construction, present the object (the focal element) in sentence initial position. It has been argued that object-initial clauses (OCs) give their recipients more difficulties than subject-initial clauses (SCs) (Kristensen et.al., 2014). For example, in sentences such as: *a- The boy invited the girl. / b-The girl was invited by the boy. / It was the boy that invited the girl. / It was the girl that the boy invited. /*, they all contain the same lexical elements and all express the same state of affairs. However, due to structural differences, they are not equally easy to read and comprehend. According to previous studies, object-initial clauses are read more slowly and responses to object-initial clauses are slower and more inaccurate compared to subject-initial clauses (acceptability of reformulated content: Bornkessel et al. 2003; comprehension prompts: Ferreira, 2003).

Ferreira (2003) examined English native speakers' comprehension of object-clefts and subject-clefts. Participants were presented with sentences with two entities that were equally plausible as agents and were asked to read the sentences and judge whether they were plausible or implausible. The findings indicated that they more often miscomprehended object-clefts than subject-clefts, as comprehension accuracy for subject-clefts was 94% while accuracy for object-clefts was nearly 77%. In addition, responses to implausible object-clefts (e.g. *It was the mouse that the cheese ate*) were read more slowly and were more inaccurate than implausible subject-clefts (e.g. *It was the cheese that ate the mouse*). It has been argued that one of the reasons for object-initial clauses being comprehended less successfully is the fact that object-initial clauses are produced in a smaller set of contexts than subject-initial clauses (Kristensen et al., 2014). In this regard, if object-initial clauses are routinely misinterpreted by L1 speakers, it is likely to expect them to be difficult to acquire and process by L2 users.

To summarise, the above studies all indicated that learners have limited knowledge of the appropriate use of the syntactic focusing device in the written mode in English. Moreover, the studies also indicated that they are not fully competent in the contextual use and effects of specific syntactic devices (*it*-clefts, Boström Aronsson, 2001, 2003). They also show a lack of knowledge of the functions of *wh*-clefts in information packaging, especially when it comes to information highlighting (Rowley-Jolivet & Carter-Thomas, 2005).

Having presented some of the few comparative works that attempted to explore advanced L2 users' use of English focus constructions in order to investigate their knowledge, the following section addresses experimental work that investigated how L2 users process focal elements in a sentence. Although some of these studies used different on-line measures from the one used in the present study, the work is of relevance to the present study, in that it explored how language users' sensitivity to focus structure violations was reflected in their on-line processing. In addition, they investigated the possibility of native-like processing by L2 users of focal elements embedded in a construction.

## **2.12 Exploring the on-line processing of focus and focus structures**

As has been pointed out earlier in this chapter, information structure relates primarily to the interface between (syntactic or prosodic) form and (discourse or pragmatic) function, and, among other functions, it establishes focal relations between constituents (Lambrecht, 1994). The focus constructions under investigation are syntactic means of instantiating focus (*it*-cleft, *wh*-cleft, reverse *wh*-cleft, and preposing). In these constructions, the object of the canonical sentence is the focal element. Since the structure of these target constructions provides pragmatic and semantic information, they lend themselves to experimental manipulations, which in turn allow for investigation into

processing phenomena that differ from simple semantic and syntactic violations, which have been widely studied (Reichle & Birdsong, 2014).

The focus constructions under investigation are context dependent and hence conditioned by specific discourse requirements (Lambrecht, 1994). Knowledge of these constructions therefore involves sensitivity to their appropriate contextual use, signalling that context is a sentence-external interpretation. Investigating whether L2 users can utilise sentence-external context information during on-line processing can reveal insights about their ability to integrate pragmatic “top-down” information with “bottom up” cues to meaning (i.e. form-meaning mapping). Research on the on-line processing of English focus constructions is relatively scarce. In the following section, I will first present studies that examine native speakers’ processing of focal elements in order to gain a better understanding of how focused information is processed in the L1. Finally, I will present studies that compared L2 learners’ processing of focused elements to that of native speakers.

Investigations using brain-based measures such as the event-related potential (ERP) technique have provided insight into focus processing. An ERP is “the measured brain response that is the direct result of a specific sensory, cognitive, or motor event” (Luck, 2005, p. 21). It is considered to be an on-line measure that measures changes of voltage at the scalp, reflecting the electrical activity of postsynaptic potentials in the cortex (Reichle & Birdsong, 2014, p. 540). Data from this technique are measurements of voltage over time and are often represented as figures plotting voltage over time as a waveform. The timing of the gathered responses is thought to provide a measure of the timing of the brain’s communication or the timing of information processing. In this regard, it has been argued that on-line measures, such as event-related brain potentials (ERPs), allow researchers to

observe the involvement of implicit knowledge in the processing of linguistic information (Hulstijn 2002, p. 209).

Cowles (2003) used the ERP technique to assess whether different types of focus are associated with different ERPs. In other words, Cowles examined whether contrastive focus, which requires a set of references to be active in working memory, elicit different ERPs from information focus, which does not require the activation of a referent set. Cowles used identical setup contexts and target sentences across conditions. The main difference between the conditions was that the question that preceded the target sentence elicited either an instantiation of contrastive focus (*Which referent did X?*) or an informational focus (*Did anyone do X?*) in the response to these questions. Cowles hypothesised that the difference in discourse context created by the questions was likely to elicit different ERPs in the target sentences. His findings supported his prediction. The author argued that items with contrastive focus were associated with an increased working memory load as members of the referent set were kept active in expectation of focus marking at the clefted noun. Given that contrastive focus and informational focus place different processing loads on native speakers' processing – that is, the processing of contrastive focus requires that a set of referents remains active in the working memory, whereas the processing of informational focus does not – it is likely that L2 processing will not resemble the processing of native speakers. Research on L2 processing (Hopp, 2006, 2009) has documented differences in on-line (real-time) sentence processing between advanced L2 learners and native speakers.

Also, Cowles et al. (2007) used the ERP technique, to investigate focus structure violations in *wh*-question and answer pairs containing English *it*-clefts. Adult native speakers were visually presented with a context paragraph that ended with a *wh*-question, asking which member of a set of nouns was the patient of some action. The participants

then read the target sentences consisting of cleft constructions that either congruously marked the patient as focal or incongruously marked the agent as focal, as in example 25 below. It was found that in comprehending the *it*-cleft construction that violated the information structure expectations, as in 25b, a larger amplitude N400 negativity, which relates to an effortful retrieval of conceptual information (VanBerkum, 2009), was elicited, compared to sentences that did not violate the information structure expectations, such as 25a. Accordingly, the findings indicated that when sentences did not meet the appropriate information structure principles more effortful processing became visible (Cowles et al., 2007).

(25) Q: What ate the lettuce in your garden, the deer or the rabbit?

A: a. It was the rabbit that ate the lettuce.

OR

A: b. #It was the lettuce that the rabbits ate. (Wang, 2010, p. 3)

Reichle (2014) investigated the processing of focus structures in French using behavioural data from a self-paced reading task. Native speakers of French read the French *c'est*-clefts (of both types: subject cleft and object cleft) that were either felicitous or infelicitous, depending on the preceding context. His finding indicated that the felicity of the focus constructions facilitated comprehension and that the subject clefts were processed with ease compared to object clefts. The author argued that this result was due to the fact that the use of subject clefts is more frequent in French compared to object clefts (Reichle, 2014, p. 199).

Reichle and Birdsong (2014) examined the event-related potentials (ERPs) elicited by focus processing among first language (L1) speakers and second language (L2) learners of French. The authors were interested in finding out whether L2 proficiency would modulate nativelikeness in the L2 processing of contrastive vs informational focus. Three

participating groups took part in the study: L1 speakers of French and L2 learners of French from two proficiency groups (high-proficiency L2 users and low-proficiency L2 users). All learners spoke English as their L1. Participants were shown photographs of household objects. These images were followed by questions and responses relating to the photographs. Participants read *wh*-questions containing explicit focus marking, followed by responses instantiating contrastive and informational focus. Using a small response box, participants were asked to indicate whether they thought the target sentences would be acceptable in spoken French. An acceptable sentence was defined for the participants as one that they could imagine a person saying that would not seem unusual given the preceding context (question). The results suggested that responses differed between low and high proficiency users. L2 French learners exhibited ERPs comparable to those of L1 French speakers, suggesting the possibility of nativelike processing. At the same time, L2 proficiency modulated the nativelikeness of these responses for the processing of contrastive focus compared to informational focus. In other words, high proficiency L2 users, like native speakers, showed increased negativity when processing contrastive focus compared to information focus, while there was no evidence of a main effect for the focus condition among low-proficiency L2 users. This increased negativity was interpreted as indication of an increase in memory load, which is similar to the suggestion made by Cowles (2003).

However, both L1 speakers of French and L2 users showed an increased positivity regarding focal clefted nouns. The authors interpreted this as a sign that these learners were integrating focused information and thereby resolving uncertainty shortly after reading these constructions. Since the results were comparable to those of native speakers and showed no modulatory effect of L2 proficiency, the authors suggest that this was evidence that all groups resolve this type of uncertainty in the same way. The authors also argue that

it is possible that L1 English learners of French benefit from positive transfer of the focus-marking *it*-cleft in English and that this facilitative effect leads to nativelike focus processing. They further cautiously assume that it is also possible that nativelike processing signatures are simply the result of complete acquisition of the L2 structure. In the current study, the target constructions (*it*-cleft, *wh*-cleft and reverse *wh*-cleft) do not have equivalent constructions in Arabic. As such, it is unlikely that L1 Arabic learners of English would benefit from positive transfer from their L1 when processing the target constructions.

One factor that has been previously related to the processing, as well as the distributional frequency, of cleft sentences in English is the syntactic role of the cleft, i.e., subject clefts versus object clefts (Knoeferle et al., 2005; Roland et al., 2007). Since the present study deals with English focus constructions related to object focus, some studies that were interested in exploring how object-cleft sentences are processed compared to subject focus will be presented below. This will allow the reader to gain a better understanding of how the target constructions are processed. For example:

(26) It was **Vivian** who lectured Terrence for always being late. (Subject cleft)

(27) It was **Vivian** who Terrence lectured for always being late. (Object cleft)

(Hopp, 2016, p. 11)

Many studies have documented that readers display processing slowdowns for object clefts (26) on the main verb ('lectured') compared to subject clefts (e.g. Gennari & MacDonald, 2008; Gibson, 1998; Gordon, et.al., 2001; King & Just, 1991; Traxler, et.al., 2002;). There have been different and partially overlapping causes for the relative difficulty in the processing of object clefts, one of which is the claim that object clefts are more complex than subject clefts (e.g. Clifton & Frazier, 1989). Some approaches argue that subject clefts present less processing difficulty than object clefts because subject clefts correspond to the

near-canonical SVO main clauses in English (MacDonald & Christiansen, 2002) or because they are more frequent in English (e.g. Gennari & MacDonald, 2008; Hale, 2001). Irrespective of the different views of each approach, they all indicate that a less preferred or less frequent object-cleft structure necessitates greater structure building effort or syntactic reanalysis in comprehension (Hopp, 2016, p. 12).

Generally speaking, although a meaningful context is likely to facilitate the processing of linguistic constructions, an appropriate context is crucial for the processing of the focus constructions under investigation, since their appropriate use is context-dependent. Context plays an important role in the process of structuring information in a construction (Lambrecht, 1994). If the target constructions are shown in isolation as part of an experiment, the reader is expected to face some sort of difficulty in trying to process the constructions as a result of the lack of any contextual aid. Several studies have found that context facilitates the online processing of difficult structures (Kaiser & Trueswell, 2004; Leal et al., 2017); among these structures are object-initial clauses. As pointed out in the previous section, some of the focus constructions under investigation, namely reverse *wh*-cleft and preposing construction, present the object (focal element) of the sentence in sentence-initial position. Kaiser and Trueswell (2004) measured Finnish L1 speakers' reading times when reading noncanonical sentences in Finnish, such as sentences with an OVS order. They utilised a self-paced reading task in order to show that the usual difficulty associated with noncanonical constructions is partially attenuated in the presence of appropriate discourse contexts. Their findings confirmed their predictions. Accordingly, they claimed that the interactions between context and word order for reading time measures can be seen as supporting the hypothesis that the processing of object-initial clauses is more dependent on an appropriate context than the processing of subject-initial clauses.

Leal, Farmer and Slabakova, R. (2017) used a self-paced reading experiment to examine the ability of native-English speaking learners to generate expectations for information likely to occur in upcoming portions of an unfolding linguistic signal. They investigated Spanish Clitic Left Dislocation, a long-distance dependency between a topicalized object and an agreeing clitic, whose felicity depends on the discourse context. Learners successfully demonstrated sensitivity to the violation of expectations set up by the syntactic and discourse context. In addition, the behaviour of L2 learners was dependent on proficiency: the higher their proficiency, the more their behaviour mirrored native speaker processing. These results support a view of SLA in which knowledge of L2 discourse-grammatical relationships is acquired slowly over the course of L2 learning.

The target constructions under investigation have different syntactic structures and the focal element (the object) appears in different position in the sentences (see Table 3.1). As such, it is likely to expect an impact of the position of the focused element on the processing of the target constructions. The position of focus in a sentence is relevant in two ways: first, it has been shown that, in English, speakers and writers have a tendency to place new constituents, which receive informational focus, late in the sentence (Li et al., 2018). During processing, perceivers exploit this tendency by expecting the focus to appear late. This expectation about the likely placement of informational focus may not be totally neglected, even when the context question indicates the presence of another more prominent focus (contrastive focus). Secondly, the sentence-final word has more contextual information than the sentence-initial or sentence-medial words (Li et al., 2018). Although the context question clearly “induces” a focus in the answer sentence, the degree of expectation for focus may vary in different positions of the answer sentence. If the focus has already been presented in the sentence-medial position, it is most likely that there will be no focus in the following part of the sentence. The processing of focal information in

the sentence-final position may be influenced by the expectation generated by both the question context and the contextual information provided in the first part of the answer sentence.

Li and colleagues (2018) were interested in finding out how the position of focal information interacts with the processing of focus. Specifically, they explored how Chinese L1 speakers process context-induced focused information, as well as its compatibility with accentuation at different positions in a sentence comprehension task by utilizing an ERP technique. Participants were instructed to listen carefully and comprehend some dialogues comprising a question and an answer in Chinese. Participants listened to dialogues containing a focus (new information) in the middle (NP1) or at the end (NP2) of the first clause, with appropriate or inappropriate accentuations relative to the preceding context. Half of the questions generated expectancy for focus on the middle and the other half on the final word of the first clause in the answers. The critical words in both positions were nouns. Participants were asked to answer *yes* or *no* to a statement such as ‘*The spinach that xiaohua bought to xiaoming was expensive*’ (Li et al., 2018, p. 262) by pressing one of two marked keys on a keyboard. The findings indicated that focus effect was largely modulated by the words’ positions in the answer sentences and that a great ERP effect was evident at the late position in sentences. The authors argue that these effects might relate to accumulated predictions from both the question in the previous context and the information provided in the answer sentences. Their study suggests that listeners make online use of all available cues in order to process focus in a predictive manner.

Generally speaking, behavioural studies that were interested in how focus is processed have looked into how different elements of the same construction are processed when they are in a focal position (as in subject-clefts vs object clefts) (e.g. Gennari & MacDonald, 2008; Hale, 2001). Other studies have examined the effect of context on the

processing of different types of focus (informational focus vs contrastive focus) and how a supportive context can facilitate the processing of the focal information (Cowles, 2003; Kaiser & Trueswell, 2004; Leal et al., 2017). However, it remains of interest to investigate how different English focus constructions that differ structurally but share a similar discourse function are processed in a felicitous and infelicitous context, while at the same time controlling for the focal element (the object of the sentence). The present study is novel in this respect and set out to address this gap and add to the present literature on how focused information is processed.

### 2.13 Summary

To sum up, the processing and learning of English focus constructions is an area that has only received limited attention within SLA research. The present study is influenced by a range of interrelated factors connected with attention and awareness, including learners' first and second languages. Also, it has been pointed out in this chapter that attention to both form and meaning is equally important for learners to comprehend the input, which is in line with usage-based constructionists' view of language learning as a process of form-function mapping.

After presenting the literature review in this chapter, the following chapter will shift the perspective towards research methodology. The next chapter will first provide the aims of the study and then moves on to present details about the methodology used for the present study.

## CHAPTER 3: Methodology

### 3.1 Introduction

The purpose of the present chapter is to give an account of the research methods that were used in the present study based on insight from the scholarly background mentioned in the previous chapter. The chapter is made up of several sections. The first section outlines the research aims (section 3.2) and is followed by a discussion on the methodology adopted in the present study and the motivation for the selection of the research instruments (section 3.3). After that, a detailed description of the pilot study is presented (section 3.4). The next section examines the research context and the participants of the main study (section 3.5). This section also outlines the research instruments and presents a brief overview of the recruitment and consent procedures. The subsequent section describes the quantitative data collection procedure (section 3.6). Finally, the chapter ends with an explanation of the procedures of the quantitative data analysis used in the present study (3.7).

### 3.2 Research aims

The present study aims to contribute to the body of scholarly literature on usage-based approaches to SLA by examining the nature of Saudi L2 learners' knowledge of the use of the syntactic means of highlighting information in the written mode in English. These constructions are known as focus constructions (namely *it*-cleft, *wh*-cleft, *rwh*-cleft and *preposing*). These constructions have different structural features but they share the same discourse function (highlighting information). They were chosen as the linguistic targets for investigation as they have been found to be problematic and difficult to master by ESL learners (Callies, 2008). Knowledge of such constructions requires not only realizing their formal features but also understanding how information highlighting is conventionally expressed. This involves sensitivity to how often focal information is formally expressed

in the target language. In usage-based theories, frequency of input is claimed to be a very influential factor in the process of language acquisition and language users are sensitive to how frequent a particular construction (form-function mapping) appears in the input. Therefore, this study was conducted to further investigate and understand the nature of such effects by examining language users' knowledge of the appropriate contextual use of English focus constructions related to object focus. In the present study, focal information (contrastive focus) is often associated with the use of the *it*-cleft construction and to a lesser degree with the *wh*-cleft (with the reverse *wh*-cleft and preposing being, comparatively, the least used focus constructions). To the best of my knowledge, no study has investigated usage-based effects on language users' knowledge of the target constructions.

Another significant aspect of this research is its attempt to investigate the process of the development of Saudi L2 users' knowledge of these constructions by looking at different proficiency levels, particularly advanced L2 users and intermediate L2 users. The research is novel in terms of its use of subjective measures of awareness to investigate English users' conscious knowledge of these context-dependent constructions. Moreover, the present study is also interested in examining the nature of English users' on-line processing of these constructions when they are presented in writing, which could contribute to understanding any possible differences between native speakers' and L2 users' knowledge of the target constructions.

As mentioned in Chapter 2, the focus constructions under investigation do not carry meaning on their own but serve to package information in order to fulfil a communicative need, specifically to highlight information. The appropriate contextual use of such constructions is part of what makes their use grammatically acceptable (Lambrecht, 1994). Accordingly, the study targets English users' perceptions of the appropriate use of the target constructions in a felicitous and infelicitous context. Looking at different proficiency

levels, this research gives insights into Saudi L2 users' linguistic development and acquisition of knowledge of the use of English focus constructions. Therefore the research contributes by providing evidence of the role of cognitive processes in SLA. According to Ellis (2006), language learners have to learn "the probability of an interpretation given a formal cue in a particular context, a mapping from form to meaning conditioned by context" (Ellis, 2006, p. 8). The following section presents a detailed description on the motivation for the choice of the methodology adopted in the present study.

### **3.3 Methodologies adopted in the present study**

Based on the description of the direct and indirect tests that were discussed in section 2.10.3, specifically the fact that these tests are used in SLA to distinguish between implicit and explicit knowledge (see Rebuschat, 2013 for an overview), the present study utilised both types of tests. The aim of this was to arrive at a better understanding of the nature of English users' knowledge of the constructions under investigation. It has been argued within SLA that some tasks promote the use of implicit knowledge and that other tasks promote the use of explicit knowledge (Andringa & Rebuschat, 2015; Doughty, 2003; Dowles, 2011; Han & R. Ellis, 1998; Norris & Ortega, 2000).

Broadly defined, direct tests require participants to make direct use of their knowledge and allow enough time for the participants to complete the task. They are therefore argued to be reflective of explicit knowledge. In the present study the direct test here will be referred to as 'the off-line task', since these types of tasks are generally considered untimed measures. Examples of similar tasks are sentence-picture matching and the traditional grammatical judgement tasks (GJT), which ask the participant to judge whether a given sentence is grammatical or not (R. Ellis, 2005, 2008; R. Ellis et al., 2009; Godfroid et al., 2015). By contrast, indirect tests target the participants' implicit knowledge and are thought to indirectly measure implicit knowledge by recording behavioural data,

such as differences in participants' reaction times when they are confronted with regular versus irregular stimuli. Reaction time measures the speed of a participant's response to a visual or auditory stimulus in an on-line experiment. An example of indirect tests, or what will be referred to in this study as 'the on-line task', is the self-paced reading (SPR) experiment (discussed in section 3.4.2.), which requires the use of special computer software package in order to record participants' reaction times as they read information on a computer screen.

The researcher designed the two tests based on insight from Lambrecht's (1994) account of information structure. The direct test was in the form of a questionnaire consisting of an acceptability rating task along with a subjective measure of awareness (both are discussed in section 3.4.1.3). The indirect test was an on-line experiment, namely a self-paced reading task (discussed in section 3.4.2). This test was employed to investigate participants' on-line processing while reading the target constructions (Jegerski, 2014).

### **3.3.1 Motivation for the methodological choices**

From a construction grammar perspective, information structure is part of what makes the sentence grammatical (Lambrecht, 1994). As such, it was important to adopt a procedure that tapped in to English users' grammatical knowledge of the use of optionally used syntactic means of information highlighting that share a comparatively similar function. One of the grammatical features of the focus constructions under investigation is that their meaning is context dependent (Lambrecht, 1994). Therefore, a decision was made to utilise some felicitous and infelicitous contexts, which were inspired by Lambrecht's treatment of information structure, in the design of the two tests.

Since the focus constructions are not very frequently used in English (Biber et al., 2009), it was important to apply an acceptability rating task as a direct measure of English users' knowledge of the appropriate contextual use of the target constructions. Most

importantly, it seemed unlikely that other data collection methods, such as authentic discourse or general forms of L2 learners' writing, would provide data that could be of great value for the purpose of the present study, that is, at least, not in sufficient quantities to make meaningful statistical analysis possible. In the current study, the task asks the participants to rate the four focus constructions under investigation on a 6-point Likert scale after reading a preceding context, which either evokes a felicitous or infelicitous use of the target constructions. The choice of an acceptability rating task was also motivated by the fact that theoretically it is possible for multiple options to be equally acceptable (Lambrecht, 1994). A 6-point rating scale was used instead of a 5-point Likert scale to avoid the possibility of the participants selecting the middle (3) or 'neutral' option (Johns, 2005).

As one of the aims of the present study is to find out whether participants are conscious of their knowledge when rating the acceptability of focus constructions in two types of context (Dienes, 2008), it was decided to apply one of the subjective measures of awareness proposed by Dienes (2008) and Rebuschat (2008). The decision was made to utilise a confidence-rating task since it is found to give insights into participants' level of awareness of their judgement knowledge as they complete the test, given that it provides evidence of their level of confidence about their decisions (Rebuschat, 2008). Source attribution tasks that ask participants to indicate the source of their knowledge (e.g. guessing, memory, rule knowledge and intuition) were not considered since they are more likely to delve into participants' structural knowledge, which is often tested after participants have had some sort of training before the testing phase, which is not the case in this study.

The confidence-rating task asks participants to rate their confidence level after rating each focus construction by choosing one of three options provided: *guessing*,

*somewhat confident* and *very confident*. Following Rebuschat and Williams (2012), participants were instructed to select the guess option only if they had no confidence whatsoever in their acceptability decision and believed they were guessing. As for the somewhat confident option, participants were instructed to choose this option if they had a small amount of confidence. If they were very confident and sure of their acceptability rating, they were asked to select the very confident category.

The direct and indirect tests are likely to tap into two different types of knowledge. Therefore, the decision was made to incorporate an on-line task in order to look into the nature of Saudi L2 users' (advanced and intermediate L2 users) and native speakers' processing of the focus constructions and hence arrive at a better understanding of the type of knowledge that they rely on. A self-paced reading task was selected as it is likely to reflect similar cognitive processes to those involved in normal reading and language comprehension (Jegerski, 2014). This task is a computerised technique that requires a special software package. The task asks participants to read individual sentences in segments, either word-by-word or phrase-by-phrase, that appear on a computer screen. Participants have to press a key on a keyboard or on a response pad to read the whole sentence and to proceed to reading other sentences (section 3.4.2). The time spent reading the sentences is referred to as the reaction time and this is recorded by the software package. Sensitivity to a grammatical violation while reading the target sentences takes the form of increased reaction times, and hence provides evidence of the participants' knowledge of the constructions under investigation. A self-paced reading task has been used to investigate several linguistic-related features, such as filler-gap dependencies (e.g. Pickering & Traxler, 2003), pronoun resolution (e.g. Carminati, 2005), and processing of sentences with temporal ambiguity (e.g. Felser et al., 2003; Juffs, 2004). These studies presented evidence that parsing is constrained by several types of information related to lexical-semantic

information, contextual information and prosodic information. Many such studies that have used this type of methodology have involved adult native speakers of different languages. Also, studies concerned with second language learning and acquisition have adopted an on-line task and used it with adult second language learners (e.g. Hopp, 2006, 2009, 2015; Juffs & Harrington, 1995, 1996).

Most importantly for the selection of this task, the participants have a very limited amount of time to think about the meaning of a given utterance, which makes it less likely that they will depend on their explicit linguistic knowledge (R. Ellis, 2008). As such, the task was adopted to assess the participants' sensitivity to the appropriate contextual use of the focus constructions as they process these constructions in the felicitous and infelicitous contexts. Participants' sensitivity to the contextual effect is reflected in their speed of reading (i.e., participants are assumed to read the target construction faster in the felicitous context compared to in the infelicitous context). This in turn is thought to reflect their grammatical knowledge, since after all information structure is part of sentence grammar (Lambrecht, 1994). In this regard, the present study is novel with regard to using an off-line and an on-line method that targets L2 users' sensitivity to information structure violations when reading the target constructions.

Since the two tests were designed by the researcher, it was deemed necessary to pilot the data collection methods applied in this study, in order to see whether they could provide fruitful data that could meet the aim of the present thesis. Moreover, to date, no SLA studies have utilised a self-paced reading task to investigate the processing of English focus constructions. A small-scale pilot study was conducted prior to the main study. It is important to mention here that the methodology in the main study was developed based on the insights gained from the pilot study. Therefore, the following section is devoted to

briefly discussing the pilot study, but with a detailed description for each of the research instruments used.

### **3.4 The pilot study leading to the main study**

Based on the findings from the literature (e.g. Ellis, 1997; Ellis & Collins, 2009; Gass & Selinker, 2001), it was hypothesised that L1 may interfere with L2 acquisition; hence the pilot study initially aimed to find out whether this also applies to Saudi advanced L2 users' knowledge of English focus constructions related to object focus. It is worth noting that the off-line task, which consists of the acceptability rating task along with the confidence-rating task, was piloted first. This was followed by the on-line task, which is a self-paced reading (SPR) experiment. This was thought to be necessary so that I could carefully examine whether the instrument with its stimuli tested what it was supposed to test, specifically the participants' sensitivity to contextual effects. This sensitivity was assumed to be reflected in the off-line task through the significantly higher ratings of the target constructions in the felicitous context compared to in the infelicitous context, and in the on-line experiment through the faster reading times for the target constructions in the felicitous context compared to in the infelicitous one. The following sections present how the pilot study was conducted to validate each of the selected instruments. In each section, I will start with a description of the research context and then present the participants, instruments, data collection methods and the data analysis method. This is followed by an outline of the findings and the general lessons learnt. These provided some insights that have influenced the decisions taken when developing the methodology of the main study.

### **3.4.1 Piloting the off-line task**

#### **3.4.1.1 Context of the pilot study**

Since the main study aimed to find out whether English users have knowledge of the appropriate contextual use of English focus constructions related to object focus, it was necessary to conduct the pilot study with the participation of both native speakers and advanced L2 users of English. The native speakers group was the control group, which created a native base line. The pilot study was carried out at Lancaster University, and this was helpful for approaching both native speakers and advanced L2 users of English.

#### **3.4.1.2 Participants**

The pilot study used a convenience sample consisting of four female native speakers of English and five Saudi female advanced learners of English. The native speakers were undergraduate students at that time and the advanced learners were postgraduate students who were enrolled on a doctoral programme and majoring in linguistics at Lancaster University. The native speakers were between 19 and 22 years of age. All of them were monolingual English speakers (i.e. they had no knowledge of other languages). As for the advanced L2 users, they were Saudi nationality and were 30 to 36 years of age ( $M=34.24$ ,  $SD=1.01$ ). Their International English Language Testing System (IELTS) scores were between 7.0 and 7.5 i.e. they were at an advanced level of English language proficiency. All of them had more than 10 years' experience of using English. None of them had knowledge of other foreign languages, apart from English and their mother tongue was Arabic. At the time they took part in the data collection, they had been living in the UK for 3 to 12 months.

The participants were first contacted via email to obtain their approval for their participation in the test. Consent for participation was obtained by means of a form that was attached to the email along with the information sheet (Appendix A). The information

sheet described the main aims of the study, and outlined the benefits of participation and the option of withdrawal.

### ***3.4.1.3 Instrument used in the pilot study***

As pointed out throughout this thesis, the use of the focus constructions under investigation is context dependent and pragmatically motivated. These constructions do not carry new information on their own; rather they package previously evoked information differently to serve a communicative purpose. They are often associated with the idea of contrasting, correcting and clarifying a misunderstanding in a communicative setting (Biber et al., 1999; Huddleston & Pullum, 2005; Quirk et al., 1985). Therefore, the focus constructions under investigation were presented in contextual settings as responses to a preceding question. Initially, the contexts in the test were designed to provide background information for pairs of questions and responses. This background information, together with the question that followed it, encouraged either a felicitous or infelicitous use of the focus constructions under investigation (see examples 1 & 2 below).

The test was designed based on insights from Lambrecht's (1994) account of information structure in English. Lambrecht (1994) has argued that language users' choice of information packaging constructions is related to the degree of activation of the pragmatic presupposition. In other words, speakers' adequate and successful choice of a particular information packaging construction is motivated by their assumptions about what hearers know (pragmatic presupposition) and what hearers need to figure out (pragmatic assertion) in a discourse.

In designing the appropriate contexts for the acceptability rating task, the activation of the pragmatic presupposition was considered together with communicative intentions, namely to correct or clarify a misunderstanding. The context was built up to include a question-answer format. In order to create suitable conditions for the use of focus

constructions, an active pragmatic presupposition was evoked by questions eliciting a contrastive focus, which was the main interest in this study. This type of focus was encoded in the object focus constructions under investigation. Contrastive focus is elicited by the use of a question in which alternative/s are mentioned (Chafe, 1976). This question comes in the form of *Did you +V+ NP+ or + NP?*

(1) a. Did you break a cup or a plate?

- (1) It was a cup that I broke.
- (2) What I broke was a cup.
- (3) A cup was what I broke.
- (4) A cup I broke.
- (5) I broke a cup.

In addition, an infelicitous condition for the use of the focus constructions was included. The reason for including this context was to find out to what extent the participants were aware of the inappropriate use of these constructions in this kind of context. This aimed to yield further evidence concerning their knowledge of the appropriate contextual use of these constructions. In this condition, no proposition between interlocutors was shared, resulting in an inactive pragmatic presupposition (Lambrecht, 1994). The context created for this condition included a situation that used a direct (open) question that required new information as a response, and hence the use of the target constructions as a response was likely to be inappropriate.

(2) a. Can I help you?

- (1) It was a phone that I lost.
- (2) What I lost was a phone.
- (3) A phone was what I lost.
- (4) A phone I lost.
- (5) I lost my phone.

As mentioned before, the off-line task employed in the present study consisted of two tasks: an acceptability rating task and a confidence-rating task. The task included 16 contexts; eight contexts evoked a felicitous use of the focus constructions and the other eight evoked an infelicitous use. Each context contained a question followed by five responses. The responses were the four focus construction and a canonical word order sentence, i.e. a non-focus sentence. The reason for including the latter was to provide an acceptable response in situations where the use of the target constructions was a dis-preferred option, as in their use in the infelicitous context. The focused element in all the focus constructions was the object (patient) of the sentence. The constructions were presented in a randomised order in each context to avoid promoting systematic answers (Dörnyei, 2007).

In conjunction with the acceptability rating tasks a confidence-rating task was utilised (see Figure 3.2). Participants were asked to indicate their level of confidence after rating each response.

#### **3.4.1.4 Procedure**

After receiving the participants' agreement to participate, the questionnaire was administered via email. The email contained a consent form and a link that opened a new window to the questionnaire on a survey website (Qualtrics). The participants were instructed to click on the link to complete the questionnaire. They were asked at the beginning of the questionnaire to indicate what their native language was by choosing one of two options: Arabic or English (see Figure 3.1). They were presented with instructions on how to perform the two tasks, supported by an example (see Figure 3.2). The participants were asked to rate the appropriateness of each of the given sentences on a 6-point Likert scale. They were also asked to indicate their level of confidence after rating each response

by choosing one of the three options provided (*guessing, somewhat confident, very confident*).

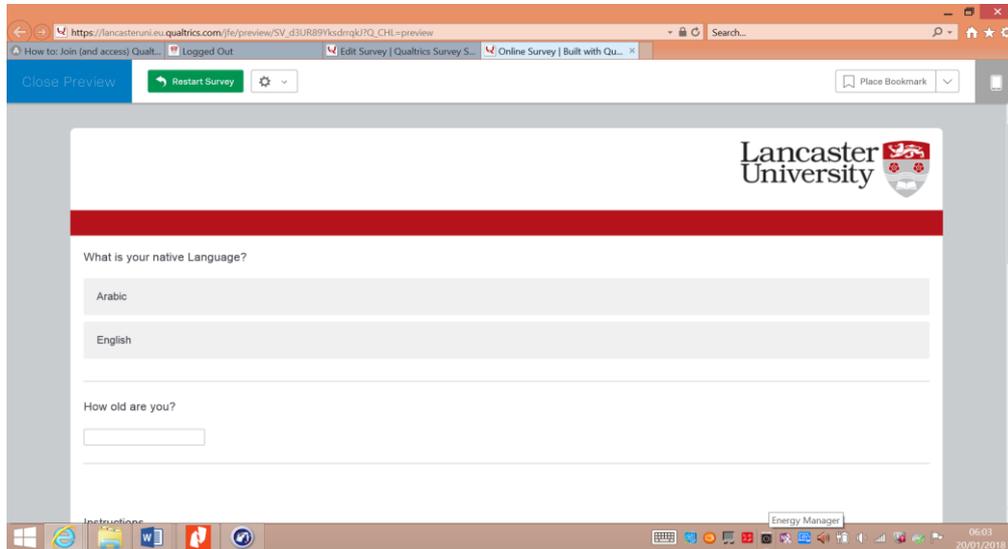


Figure 3.1 *Participants' background information in pilot study (on Qualtrics)*

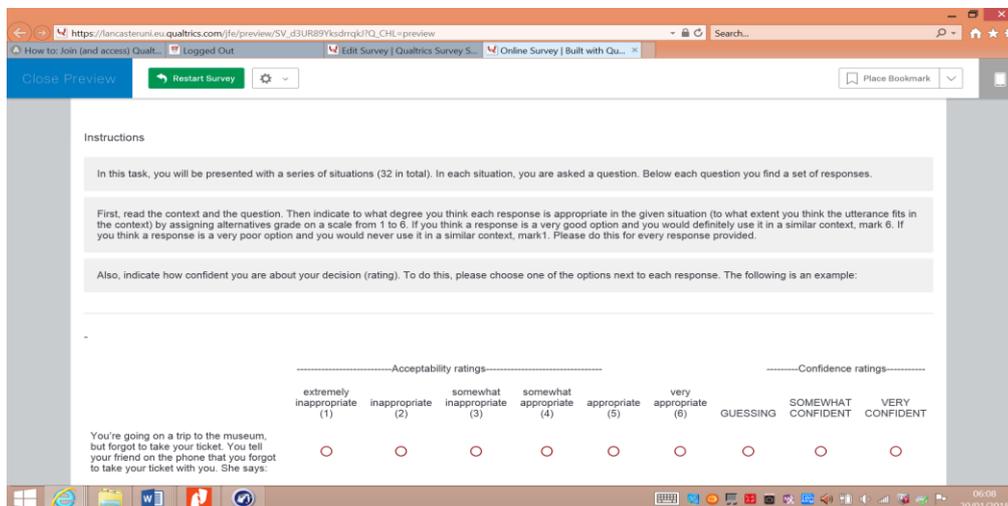


Figure 3.2 *The instructions for the questionnaire in the pilot study (on Qualtrics)*

After they had answered and sent back (via email) the questionnaire, the researcher sent the participants an email to thank them and to ask them to kindly write suggestions and feedback with regard to the nature of the task (i.e. whether the instructions were clear, or if

the number of examples was sufficient). The researcher also asked the participants to indicate the approximate time it took them to complete the task and to report any sort of difficulties they had encountered when performing the tasks.

#### **3.4.1.5 Data analysis and results**

The results of the pilot study proved to be beneficial in several respects. To start with, the results of the pilot study, although they cannot be conclusive due to the small number of participants, presented positive evidence with regard to advanced L2 users' knowledge of focus constructions. Descriptive statistics were carried out in order to visualise the general patterns of the participants' performance. The analysis indicated that both groups gave higher ratings to the target constructions in the felicitous contexts compared to the infelicitous contexts. The participants' high ratings of the focus constructions in the felicitous context, compared to their low ratings in the infelicitous context, suggest that they had knowledge of the appropriate contextual use of the target constructions. Moreover, the results also indicated a high level of awareness, as evident from their choice of '*very confident*' when asked to rate their confidence in their rating of the focus constructions.

With regards to the similarities between the two groups, the results obtained from the pilot study indicated that native speakers and advanced L2 users gave similar ratings for some focus constructions. Interestingly, both groups rated the *preposing* construction as inappropriate in both types of contexts (felicitous vs. infelicitous). Contrary to expectations, advanced L2 users did not show any preference for the *preposing* construction. Moreover, the results indicated that native speakers and advanced L2 users had similar preferences for the use of some focus constructions, as both groups gave high ratings in the felicitous context for the *it*-clefts and *wh*-clefts, compared to the ratings of the *rwh*-cleft and the *preposing* construction. On the other hand, advanced L2 users seemed

to differ slightly in their ratings of focus constructions compared to native speakers. This was observed from native speakers' consistency in rating the *it*-cleft construction as being more appropriate (on a few occasions equally appropriate) than the *wh*-cleft in the felicitous condition; however, the reverse pattern was observed for advanced L2 users. Interestingly in this regard, this observation was confirmed in the results of the main study.

As for the results of the confidence ratings, the findings showed that the native speakers were more confident in their ratings when compared to the advanced L2 users, as native speakers selected the '*very confident*' option for almost all their decision. The advanced L2 users showed tendency to select the '*very confident*' option when rating the *it*-cleft and the *wh*-cleft, but they selected the '*somewhat confident*' option more frequently when rating the reverse *wh*-cleft and the preposing construction. Of interest in this regard, this observation was also evident in the findings obtained from the main study.

#### **3.4.1.6 *Feedback and lessons learnt based on the pilot study***

The pilot study was beneficial with regard to the content of the questionnaire, particularly the number of contexts in the test. As mentioned previously, the test had 16 contexts; eight of these contexts elicited a felicitous use of the focus constructions while the other eight elicited an infelicitous use. When examining the performance of the participants in the pilot study, it could be seen that one of the participants provided systematic answers, as they gave the same ratings for the same constructions throughout the task, regardless of the type of context. Therefore, the researcher considered adding filler items in the main study to avoid systematic answers and to encourage participants to read the contexts before rating the responses.

The off-line task in the pilot study was informative regarding the participants' sensitivity to the contextual effects and the type of construction when rating the focus

constructions. Moreover, the confidence-rating task was informative regarding the participants' level of awareness of the knowledge that guided their decision.

The following section shifts the focus to the pilot study that was conducted using an on-line experiment in the form of a self-paced reading task. This was performed by a different group of participants. Details of the pilot study are presented in the following section.

### **3.4.2 Piloting the on-line experiment (self-paced reading task)**

The self-paced reading task was adopted in this study to assess the participants' on-line processing of the focus constructions in English (*it*-cleft, *wh*-cleft, reverse *wh*-cleft and *preposing*). This task records the speed for each key press made by each participant. This in turn provides evidence of the nature of their processing of each word, in that the longer it takes to read a region in the target construction the more likely it is to indicate some sort of processing load suggesting that the participant is facing difficulty in processing the stimuli (Jegerski, 2014).

Also mentioned previously was the fact that the aim of the on-line experiment was two-fold. First, the self-paced reading experiment investigated whether L2 users of English with L1 Arabic showed sensitivity to the appropriate contextual use of the four types of focus constructions. Also, given the nature of the self-paced reading task, the on-line experiment aimed to find out how different regions/units (e.g. object, verb) in the sentence were processed and whether different regions/units in each construction were processed differently by Saudi L2 users and native speakers. This comparison would provide further evidence of any possible differences between the groups that might be observed in the off-line task.

The self-paced reading task was based on the assumption that the amount of time spent reading a word reflected the amount of time needed to process it. It was assumed that

longer reading times for the experimental sentences would indicate a processing load caused by cognitive processes such as reanalysis and difficulties in comprehending grammatical information (Jegerski, 2014). Accordingly, longer reaction times in this study were more likely to be recorded when the participants read the focus constructions in an infelicitous condition. The longer reading times were therefore taken as an indication that the participants were sensitive to the infelicitous use of the focus constructions. As with the off-line tasks, piloting the experiment prior to the main study was intended to validate the research instrument before administering it to a large sample.

#### ***3.4.2.1 Context of the on-line pilot study***

Since another aim of the present study is to find out the extent to which L1 and L2 users of English are similar or different in their on-line processing of the target constructions in English, it was necessary to conduct the pilot study with both native speakers and advanced L2 users of English. As in the off-line task, the native speakers group were the control group that created a native-like base line. The pilot study for the on-line task was carried out at Lancaster University.

#### ***3.4.2.2 Participants***

The pilot study sample consisted of two female native speakers of English and two Saudi female advanced learners of English. One of the L1 speakers was an undergraduate student from the law school at the time of the study and the other one was a postgraduate student in physics. As for the advanced learners, they were postgraduate students who had just started their doctoral programme and were also majoring in linguistics at Lancaster University. One of the native speakers was 20 years of age and the other one was 29. None of the native speakers had knowledge of other languages. The advanced L2 users were 32 and 35 years of age. Their IELTS scores were 7.0 and 7.5 out of possible 9 (i.e. they were at an advanced level of English language proficiency, C1 and C2 according to CEFR). Both

advanced L2 users had more than 10 years' experience with English, and they did not have knowledge of other foreign languages apart from English. At the time they took part in the data collection, they had been living in the UK for 2 months.

### ***3.4.2.3 Instrument used in the pilot study***

The on-line experiment, as pointed out earlier in this chapter, is a self-paced reading (SPR) task. It is a computerised technique that requires special software to be installed on a computer. The present study used a software package called SuperLab version 5. The technique has become increasingly popular in the field of psycholinguistics (see Jegerski, 2014; Keating & Jegerski, 2014). It has been used to assess learners' sensitivity to grammatical violations during L2 processing, thus giving insight into the current levels of learners' grammatical competence (Hopp, 2010; Jiang, 2004, 2007; Karuza et al., 2014).

The SPR task is commonly referred to as a “moving windows” technique (Jegerski, 2014). In this experiment, the participants were given written instructions that appeared on a computer screen. The instructions were usually followed by some examples of how to perform the task in order to familiarise the participants with the nature of the task. The participants read individual sentences in segments, either word-by-word or phrase-by-phrase, that appeared on a computer screen. To proceed with reading the whole sentence, the participants needed to press a button either on the keyboard or on the response pad. The software recorded the time between the press for each segment. This is often referred to as the reaction time. A long reaction time is commonly taken to signal some sort of difficulty or processing load (Jegerski, 2014).

In the present study, each sentence in the stimuli was broken down into regions (words) of interest, which the participants read on a word-by-word basis. Each word corresponded to a separate data point taking the form of a reaction time in milliseconds. A word-by-word mode was selected in this study in order to avoid the processing behaviour

being influenced by the grouping of words into phrases, as is the case with the phrase-by-phrase mode (Gilboy & Sopena, 1996). Moreover, the data collected in word-by-word segmentation can be easily converted in to the phrase-by-phrase mode by summing up the reaction times across multiple words (Jegerski, 2014).

The four focus constructions under investigation (*it*-cleft, *wh*-cleft, *rwh*-cleft and *preposing*) have different sentence structures and hence different numbers of regions (see Table 3.1). The regions of interest in each construction are the Object region and the Verb region. This is due to the fact that in the construction under investigation the Object region carries the focused information while the Verb region carries the presupposition. The longer processing span recorded for these regions of interest was anticipated to occur when reading in the infelicitous context compared to in the felicitous context.

Table 3.1. Experimental Sentence Structure

Focus constructions	Sentence Structure
<i>it</i> -cleft	It + was+ <b>direct object</b> + that+ I+ <b>verb</b>
<i>wh</i> -cleft	What+ I + <b>verb</b> + was+ <b>direct object</b>
reversed <i>wh</i> -cleft	<b>direct object</b> + was+ what+ I+ <b>verb</b>
<i>preposing</i>	<b>direct object</b> + I+ <b>verb</b>

The stimuli for the self-paced reading was similar, but not identical, to the off-line task. The contexts used in the present task were designed following the same procedure as in the off-line task (section 3.3.5.2). The number of the target contexts was 16 (Appendix D); eight of these contexts elicited a felicitous use of the focus constructions (Figure 3.3) and the other eight elicited an infelicitous use (Figure 3.4). The context included a statement followed by a question presented as a whole on one slide.

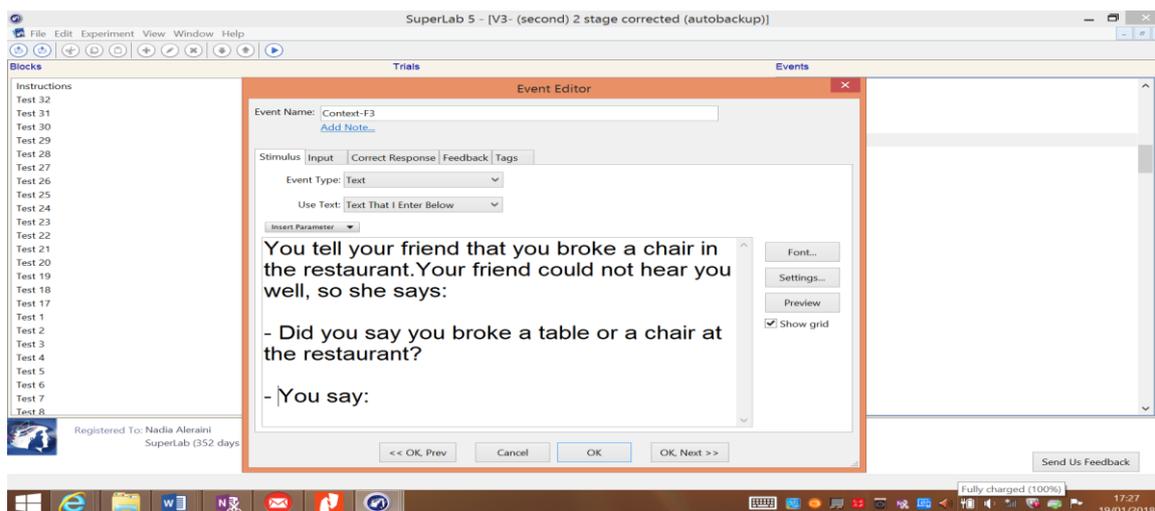


Figure 3.3 Example slide of a felicitous context used in SPR task

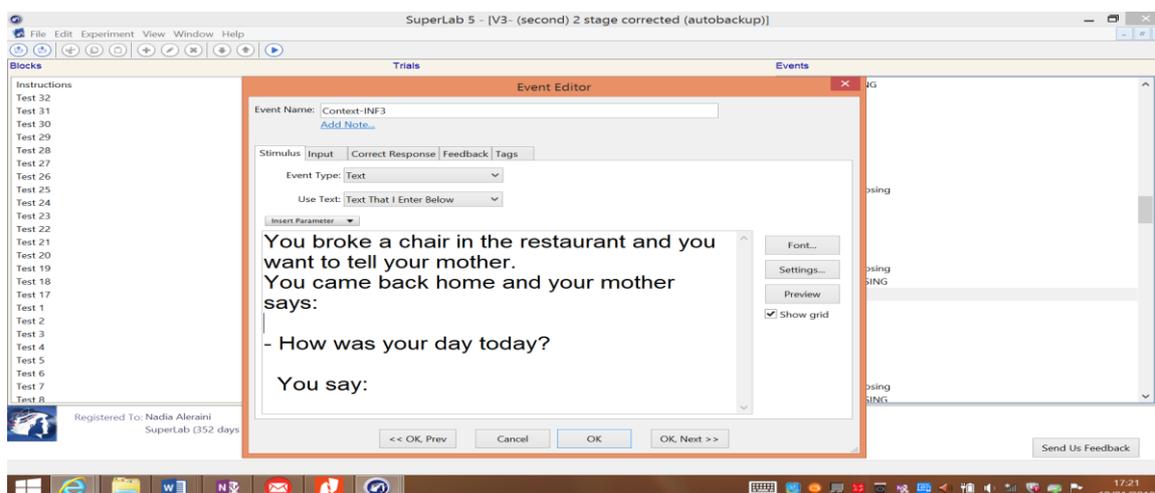


Figure 3.4 Example slide of an infelicitous context used in SPR task

The response to that question in the context was presented as SPR word by word. The number of sentences was 8 for each target construction (8×4) resulting in total of 32 sentences (see Appendix E). Each of the four focus constructions appeared twice; once in a felicitous context and another in an infelicitous context (see Table 3.2). The total number of target sentences that were read in the two types of context was 64.

**Table 3.2** The target constructions in the self-paced reading task

<i>Type of Focus Construction</i>	<i>Contextual Appropriateness</i>	<i>Sentences Total</i>
<i>it-cleft</i> (e.g. <i>It was a book that I read</i> )	(+) Felicitous (8 sentences)	16
	(-) Infelicitous (8 sentences)	
<i>wh-cleft</i> (e.g. <i>What I read was a book</i> )	(+) Felicitous (8 sentences)	16
	(-) Infelicitous (8 sentences)	
<i>rwh-cleft</i> (e.g. <i>A book was what I read</i> )	(+) Felicitous (8 sentences)	16
	(-) Infelicitous (8 sentences)	
Preposing (e.g. <i>A book I read</i> )	(+) Felicitous (8 sentences)	16
	(-) Infelicitous (8 sentences)	
<b>Total Sentences</b>		<b>64</b>

In addition, filler items (16 filler contexts and 64 filler sentences) were included in the experiment, which rounded up to a total of 128 of both target and filler items. Worthy of note here is that there is no consensus in the literature on an ideal ratio of target versus total filler stimuli for an SLA experiment (Jegerski, 2014). However, some evidence suggests that having 50% filler items is the minimum acceptable amount as a very low number of these items might affect reading behaviour during SPR (Havik et al., 2009). The filler items serve to disguise the target sentences so that the participants cannot easily identify the target items (Jegerski, 2013). Like the case with the target items, the filler items

also consist of a context followed by a response (see Appendix F). Participants read the response (filler sentence) in segments, which is word by word that appear on the computer screen each time the space bar key on the keyboard was pressed. These sentences differ with regards to the use of the appropriate tense in the given context (e.g., *I cooked dinner, I had cooked dinner, and I have been cooking dinner*).

The SPR task also included distractor questions in the form of acceptability judgements. The questions were presented in a randomised pattern after both the experimental sentences and the filler sentences. The reason for including the questions after filler items was to avoid the possibility of the participants identifying the target constructions. These questions were in the form of *Yes/No* questions that asked the participants whether the preceding response that they had just read was acceptable or not (see Figure 3.5). This was intended to examine whether or not the participants were attentive to the stimuli (Jegerski, 2014). To answer the questions, the participants were instructed to select one of the alternative answers ‘*Yes*’ or ‘*No*’ by pressing the corresponding keys that were highlighted on the computer key board. They were instructed to press key (A) if they thought the answer was ‘*Yes*’, and to press (L) if they believed the answer to be ‘*No*’. These choice items were counterbalanced with regard to the number of correct ‘yes’ versus ‘no’ responses. It is worth mentioning here that these keys were highlighted with two different colours by placing a yellow dot on the key marked (A) and a green one on the key marked (L), making sure that the two letters were apparent to the participants.

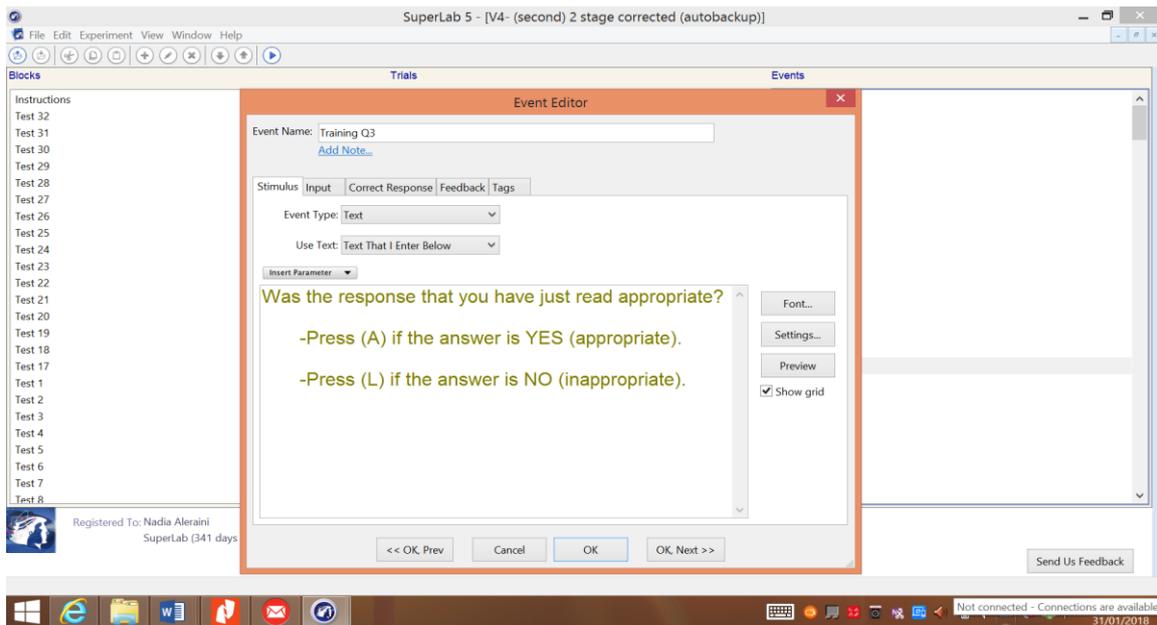


Figure 3.5 Example slide for a distractor question in SPR task in the pilot study

The instructions for the task were presented in the first window followed by six examples, which served to familiarise the participants with the self-paced reading procedure before starting with the actual experiment. The instructions asked the participants to read a context that ended with a question and to press the Space bar key to proceed to read the response to the question (see Appendix G). Before the response appears, a cue in the form of an (+) symbol was displayed in the same screen location where the first letter of the first word in the sentence appeared. The purpose of the cue was to direct the gaze of participants to the location of the word prior to its appearance. This meant that the reaction times for the first region were less affected by time spent gazing at another screen location (Jegerski, 201<sup>4</sup>). The response appeared one word at a time by pressing the Space bar key. After reading the whole response, the participants proceeded by pressing the Space bar key to the next slide, which presented either a new context (for a target or filler item) or a distractor question. The purpose for not including a distractor question after every item was to avoid any effect that could cause fatigue for the participants.

Thirty-two blocks were created for the self-paced reading task. Each block consisted of four trials, each of which consisted of two target items, two filler items and one comprehension question. The target items, which included the focus constructions in this study, were different in each trial.

#### ***3.4.2.4 Procedure***

The participants were asked to sign the consent form before they started the test. The participants received oral instructions and were asked to read the written instructions on the computer screen. The instructions were followed by six examples, which were provided at the beginning of the self-paced reading task to familiarise the participants with the nature of the task. The researcher had also told the participants that after reading the example a statement would appear on the screen to signal when the actual task had started. This step allowed the participants to ask questions if they had any and to be prepared and focused before the start of the actual task. After the participants had completed the task, the researcher asked the participants about the clarity of the instructions and whether they had faced any difficulties when performing the task. Participants stated that the instructions were clear and that no issues were encountered.

#### ***3.4.2.5 Data analysis and results***

In this study, the aim of the on-line experiment was two-fold. First, the self-paced reading experiment investigated whether L2 users of English with L1 Arabic showed sensitivity to the appropriate contextual use of the four types of focus constructions. Also, the on-line experiment aimed to compare L2 users' and native speakers' processing of the four focus constructions, in order to provide further evidence for any possible differences between the groups that might be observed in the off-line task. The self-paced reading task is based on the assumption that the amount of time spent reading a word reflects the amount of time needed to process it. It was assumed that longer reading times for the experimental

sentences indicated a processing load caused by cognitive processes such as reanalysis and difficulties in comprehending grammatical information (Jegerski, 2014). Accordingly, longer reaction times were more likely to be recorded when the participants read the focus constructions in an infelicitous condition. The longer reading times were taken as an indication that the participants were sensitive to the infelicitous use of the focus constructions. Therefore, the statistical analysis concentrated on the question of how this sensitivity differs according to the participants' English proficiency level and to the type of focus constructions.

There were two types of variables in this experiment: independent and dependent variables. One of the independent variables was a 'between subjects' variable, namely their proficiency level in English (advanced L2 users, native speakers). Two other independent variables were tested within the subjects. These variables were the *type of focus constructions* (*it*-cleft, *wh*-cleft, reversed *wh*-cleft, and *preposing*), and the *contextual appropriateness* (felicitous vs infelicitous contexts). As for the dependent variable, the main dependent variable in this experiment was *reaction times* for each region with a specific focus on the Object and Verb region. In the self-paced reading task, the reaction times were measured in milliseconds for each participant as she read the sentences word by word from a computer screen by pressing the Space bar. The experimental reading times were operationalised as the time (in milliseconds) between subsequent button presses when reading the four constructions' regions that appeared on the screen. Each word in the target sentences represents a pressing of a button.

#### ***3.4.2.6 Feedback and lessons learnt based on pilot study***

The results of the first pilot study presented mixed evidence with regard to the participants' reaction times. The results showed no clear evidence for an increase in their reaction times when reading the focus constructions in the infelicitous context (as was

hypothesised). The researcher anticipated that this might be caused by the distracter question, which is the acceptability judgement in this study. Earlier work has shown that this type of distracter question has been shown to influence processing behaviour (Havik et al., 2009; Leeser et al., 2011). The distracter questions appeared randomly after reading the target constructions and it asked the participants whether the preceding response was acceptable or not. Jegerski (2013, p. 34) has pointed out that metalinguistic distractors, such as the one used in the pilot study, "can affect processing strategy, even causing certain reading time effects". Moreover, the acceptability judgement task is more likely to tap in to L2 users' knowledge of previously learnt explicit rules of grammar. Alternatively, Jegerski (2013) claims that comprehension questions are highly desirable, since self-paced reading behaviour is informative, reflecting the same cognitive process as during normal reading and language comprehension. Accordingly, the researcher modified the experiment by employing comprehension questions that appeared randomly and asked participants about the information presented in the given context (see Figure 3.6).

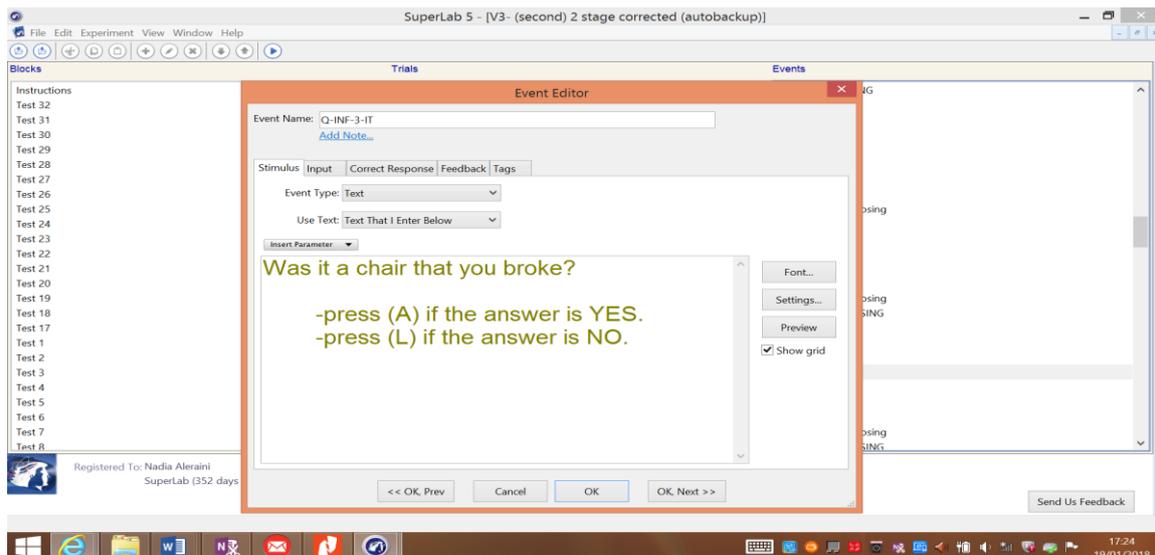


Figure 3.6. Example slide for the comprehension question in SPR task in the pilot study

### ***3.4.3 Piloting the two tasks together***

The modified version of the off-line task together with the refined on-line ‘stimuli’ experiment were conducted in a second pilot study. This step was believed to be important for several reasons. Firstly, it was thought to be necessary to ensure that the modified versions had solved the issues that were picked up from the previous pilot studies. Moreover, administering the two tasks would provide valuable information about the amount of time required for the completion of the two tasks together. In addition, the researcher thought that also piloting the study with participants with a lower L2 proficiency level would provide supporting evidence for the clarity of the instructions before administering the study with a larger sample.

New participants were recruited from Princess Norah University in Riyadh, Saudi Arabia, to complete the on-line and off-line tasks. The pilot study took place in a quiet office in the faculty of English Language and Translation in the English department.

The participants were two advanced L2 users from the Faculty of Linguistics and Translation and four intermediate L2 users who were studying the preparatory year at that time. The advanced L2 users were 31 and 33 years of age. They had IELTS scores of 7.5 out of a possible 9 (i.e. they were at an advanced level of English language proficiency, C2 according to CERF). Both advanced L2 users had more than 10 years’ experience with English. As for the intermediate L2 users, they had been placed at level 4 after they had taken the placement test administered by the university at the beginning of the academic year (see section 3.5.4.1). This level corresponds to the B1 level in the CEFR, which describes such students as being intermediate proficiency learners. The intermediate L2 users were all 18 years of age. Both groups of L2 users were all Saudi L2 English users with L1 Arabic, and they had no knowledge of another language, apart from English. None

of the participants had lived in an English-speaking country and they all had been learning English for eight to ten years when the study took place.

This pilot study employed the modified version of the off-line and on-line tasks, which were also used for the main study, as will be discussed below (see section 3.5.5.3). The participants were asked to read the information sheet and sign a consent form before they started the test. The researcher gave oral instructions in both Arabic and English. The participants were tested individually. The participants did the on-line task first and then filled in a background questionnaire before they completed the off-line task on a pencil-paper form.

Descriptive analyses were performed for data of both tasks. Data were transmitted to an Excel sheet then entered into SPSS program (version 24) for further analyses. The results obtained from the off-line task showed consistency with regard to the participants' ratings. As for the self-paced reading task, the results revealed processing patterns that indicated an increase in reaction times in the infelicitous contexts when compared to the felicitous contexts. This in turn seemed to indicate that the participants were sensitive to the contextual effect when reading the target constructions.

The participants had no issues with the instructions of the tasks. They took approximately 65 to 80 minutes to complete both of the tests. Since no methodological issues emerged when the tasks were administered in this pilot study, no changes were made to the design of the two tasks as they were ready to be applied in the main study, which will be presented in the following section.

### **3.5 The main study**

#### **3.5.1 Design of the study**

The design of the present study involved employing a quantitative paradigm by utilising an off-line task and an on-line experimental task. Both tasks were analysed quantitatively, hence numerical results were obtained. The data obtained from both tasks were combined to give a comprehensive set of evidence, which could not have been arrived at via the administration of one task alone.

#### **3.5.2 Context of the study**

The main study data collection was conducted at one of the universities in Riyadh, the capital city of the Kingdom of Saudi Arabia, during the first semester of 2015. English is used as a foreign language in Saudi Arabia (i.e. the participants were EFL users). It is worth noting that there is an increasing social interest in learning foreign languages in general, and English in particular (i.e. most job offers require knowledge of English). There are four official Saudi TV channels, one of them is broadcasted in English, as well as one official radio channel. Also, there are a variety of non-state channels that present their programmes in English. For example, they often present American TV shows and movies with Arabic subtitles.

All students in Saudi Arabia study English as a foreign language in classroom settings. Nowadays, English is a mandatory component of the schools' curriculum in both state and private schools. Students are officially taught English in state primary schools when they are in grade four (i.e. when they are nine years old). Therefore, the intermediate L2 users who participated in the present study were expected to have studied English for at least nine years at a state school. Apart from studying English in a classroom setting, it was expected that L2 users would have been regularly exposed to English via social media and

TV channels. However, their use and experience of interactive English is very limited, i.e. speaking English with others outside the classroom setting is very limited.

On a higher educational level, most universities in Saudi Arabia offer undergraduate courses in linguistics, English literature and translation. After finishing their studies, graduates are qualified to apply for positions such as translators or to teach English at schools and at university level. The advanced L2 users who participated in this study were expected to have studied English for approximately thirteen years and to have used English in academic settings.

Moreover, many universities recruit native speakers, mostly from English-speaking countries, as teachers of EFL for undergraduate students. This was the case in the university in which the present study was conducted. This university, like many others in Saudi Arabia, offers a preparatory year programme for new students in their first year at university. The programme has an intensive English course, so that students can develop an acceptable knowledge of English that will help them in their future studies. The materials (such as audio and video materials) encourage pair and group work, which promotes language use and improves listening and comprehension skills. Moreover, learners engage in group presentations, discussions and projects as a means of improving their language skills. As such, the curriculum, together with the materials that are used, promotes the use of different English language teaching methods and task-based language teaching. At the end of the English course, students who pass the course are qualified to pursue their studies in their selected major at university. The intermediate L2 users that participated in this study were recruited from this program.

### **3.5.3 Ethical procedure**

The present study was granted ethical approval from Lancaster University. The consent form and the information sheet that were handed to the participants met the terms

and standards of the accepted ethical practices of Lancaster University. The consent agreement form was written in English. A copy of the consent form can be found in Appendix A.

Before conducting the study, approval for its administration was granted by the Dean at Princess Norah bint Abdulrahman University (PNU). In order to gain permission, the researcher provided a formal letter from Lancaster University confirming that the process of data collection was an essential part of the researcher's doctoral project. This permission allowed the researcher to conduct the study, which took three months, starting in October and ending in December 2015. After the permission from the Dean of PNU was granted, an email was sent to the head of the preparatory year programme and the head of the Faculty of Languages and Translation, informing them about the nature of the study and the number of participants that was required for the study. The researcher was also granted approval to conduct the study with intermediate proficiency users in the preparatory year and with the advanced learners in the Faculty of Languages and Translation. These approvals met the terms and conditions of the accepted ethical standards of PNU.

The English Department in the preparatory year deanship cooperated with the researcher to allocate a suitable venue for the study. The department also provided the researcher with the Oxford Placement Test (OPT) results of the intermediate proficiency users who participated in this study. Furthermore, the Faculty of Languages and Translation cooperated with the researcher by allocating a suitable venue for the study and sending an email to its teaching staff informing them about the nature of the study and encouraging participation.

### 3.5.4 Participants

The participants in this study were recruited from Princess Norah bint Abdulrahman University in Riyadh, Saudi Arabia. The participants who agreed to participate were asked to write down the date and time that was convenient for them to do the test.

A total of ninety-nine female<sup>4</sup> participants were included in the final sample of the present study. They were able to complete both the off-line task and the on-line task. Ten additional participants took part in the present study, but were excluded from the study because they were unable to complete the two tasks. The sample consisted of N=35 L2 participants who were of intermediate proficiency level in English, and N=33 L2 advanced proficiency users of English. In addition, N=31 native speakers of English provided a native speaker baseline. All participants were right-handed and had normal vision. The L2 users were all Saudi nationals and the native speakers of English were British nationals.

The first language for the two groups of L2 users was Arabic. The majority of L2 users spoke the Najdi dialect, an informal Arabic dialect spoken in the central region of Saudi Arabia. Like many informal Arabic dialects, this dialect is a non-standard variety of Arabic and therefore it lacks standard formal grammar. The dialect is used in informal communicative settings and it is never used in formal oral or written communicative settings. However, in most formal settings, especially in education, Modern Standard Arabic (MSA) is used.

The recruiting of the participants followed the convenience sampling method, which bases its selection of participants on their availability to participate (Mackey & Gass, 2005). This type of sampling is widely used in SLA studies. Cohen, Manion and Morrison (2007) mentioned that this volunteer sampling is sometimes inevitable, as in some cases

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<sup>4</sup> The sample in this study is restricted to female L2 users due to some social and cultural norms in Saudi Arabia, which may restrict access to male campuses. In Saudi Arabia, male and female campuses function separately and independently in almost all academic settings.

researchers are faced with difficulties with access. In the present study, due to the limitation of time and the demanding nature of the tasks – the study requires the participants to perform an on-line task and complete two questionnaires – it was not possible to select the participants by following any different sampling method. The selection of participants in the native speakers group was also based on their availability and willingness to perform the two tasks. A detailed description of the characteristics of the participants in the three groups is provided below.

#### **3.5.4.1 *Intermediate L2 users***

The intermediate L2 users (n=35) were students enrolled in an undergraduate programme (preparatory year programme) in Princess Norah bint Abdulrahman University in Saudi Arabia. This programme is offered by the university for all undergraduate students prior to their enrolment in one of the university's faculties. Before the start of the programme, students had to take a language proficiency test to assess their proficiency level in English. The university administered an on-line Oxford Placement Test (OPT) (Allan, 1992). This test is a standardised language proficiency test that is designed to sort learners into nine proficiency bands based on their performance on the test. On the day of the test, the students were advised to attend a PowerPoint presentation in an auditorium to familiarise themselves with the nature and purpose of the proficiency test before heading to the computer labs to do the test.

The maximum number of students in each computer lab was thirty. In this test, the students' performance was automatically recorded and marked. After the results had been revealed, the students were grouped in to classes according to their level of proficiency in English. Usually there were 20-25 students in one class. One of the advantages of this process was that it enabled the university to provide students with the appropriate syllabus and language courses, which can help them improve their English language proficiency.

According to the Common European Framework of References for Languages (CEFR), L2 users' language proficiency is divided into six reference levels (see Appendix H) and each level is described based on what a learner is expected to perform in listening, reading, writing and speaking tests. Based on the results of the online Oxford Placement Test, students are assigned to one of the six reference levels, level six (C2) being the highest level. However, no students were assigned to level six in 2015, the year the study was conducted. In the present study, the intermediate proficiency learners were placed on level four. This level corresponds to the B1 level of the CEFR. Accordingly, the intermediate proficiency learners in this study are able to understand complex texts and can interact with a degree of fluency. This level was selected because it seemed unclear whether students with lower levels of proficiency would be able to understand the constructions under investigation. It was questionable whether the data selected from these students would have been informative enough for the purposes of the study, particularly since the aim of the present study is to investigate constructions that are infrequently used.

The researcher contacted the English language coordinator in order to agree on an appropriate time to visit the students in class. The researcher visited the class to meet the participants, briefly explained the nature of the test and told the participants that their participation was voluntary. The students were assured that their participation was in no way related to their academic studies and would not affect their academic progress. The students were then given the information sheet and were encouraged to ask questions if they had any. A convenient time for the test was agreed with those who wished to participate.

The age of the participants in this group was between 18 to 20 years of age ( $M= 18.20$ ,  $SD: 1.20$ ). None of the participants had lived in an English-speaking country and none of them had knowledge of another language apart from English and Arabic. The

participants had received nine years of formal schooling on English as a foreign language. All of the participants had received formal explicit instruction on English grammar in classroom settings, and the domain language for the English instruction was mainly English and partly Arabic (i.e. the instructions are introduced first in English and sometimes Arabic was used for clarification).

#### **3.5.4.2 Advanced L2 users**

The study included 33 advanced learners. They were all teaching staff working as teaching assistants and lecturers at the department of English in the Faculty of Languages and Translation in Princess Norah bint Abdulrahman University. The age of the participants in this group ranged between 22 and 30 years old ( $M= 26.31$ ,  $SD= 2.24$ ). They had Bachelor and Master's degrees in linguistics and English-related subjects. The participants have had experience of teaching English at university level, and this experience ranged from 2 to 5 years. They had all taken the IELTS<sup>5</sup> and achieved scores of 7 to 8, with an overall mean of 7.2 ( $SD = 1.30$ ) out of a possible 9 (i.e. C1 and C2 levels of the CEFR). The period since they had taken the IELTS test ranged from 13 months to 4 months. These participants were preparing to apply for postgraduate programmes in the UK at the time of this study, and for this reason they had taken the IELTS test as it was one of the requirements of enrolling in these programmes. The sample was selected based on the results of this proficiency test since there were no advanced proficiency level students enrolled in the preparatory year programme, and for practical reasons I had to conduct the experiments (both the off-line and on-line tasks) with the three groups within a limited time of a visit to Saudi Arabia. Moreover, this group had good experience of using English, which made it more likely that they would have come across constructions with low frequency of use such as the focus constructions under investigation.

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<sup>5</sup> This test is likely to elicit both academic and interactive use of language (Ellis et al., 2009)

### **3.5.4.3 *Native speakers***

The native English speakers group consisted of 31 British participants. They were all English teachers and members of the teaching staff for the preparatory year programme at Princess Norah bint Abdul Rahman University, Riyadh. All of the participants had obtained formal teaching qualifications in teaching English as a second language, such as CELTA (a certificate in teaching English to speakers of other languages) or DELTA (a diploma in teaching English to speakers of other languages). These teaching qualifications were required to qualify as a teacher at the preparatory year programme in the university. The native speakers were 28 to 38 years of age ( $M=30.24$ ,  $SD$  4.21). Their experience in teaching English at the preparatory year programme ranged between one year and four years.

### **3.5.5 Instruments**

The present study employed an off-line task and an on-line experiment. Paper-pencil materials were used for both the language-background questionnaire and the off-line test, which consisted of an acceptability rating task and a confidence-rating task. The on-line experiment used computer software, namely Superlab version 5, which was installed on a 30×40 Lenovo laptop. The following sections describe the instruments used in the present study. These involve a background questionnaire (section 3.5.5.1), the off-line task (section 3.5.5.2), and the on-line experiment (section 3.5.5.3).

#### **3.5.5.1 *Background questionnaire***

The present study included a language history questionnaire, which was designed to elicit information related to the participants' language background (see Appendix B) . This was used to provide data on the homogeneity among the participants in each group. The questionnaire consisted of three parts. In the first part, some essential information was requested about the participants such as name/ID, gender and age. The second part was

mainly concerned with the participants' native language and their number of L2 languages, apart from English. The questionnaire also asked whether the participants had lived in an English-speaking country and the number of years spent learning L2 English. Finally, the questionnaire asked if participants had any hearing or vision problems.

### **3.5.5.2 *Off-line task***

The stimuli for the main study consisted of 16 target items and 16 filler items, 32 items in total. The design of the target items was similar to that in the pilot study. As in the pilot study, the target items consist of eight contexts that evoke a felicitous use of the focus constructions and a further eight that evoke an infelicitous use. Each context is followed by five responses. In the target contexts, the responses are the four focus constructions and a canonical word order sentence, i.e. a non-focus sentence. As previously mentioned, the reason for including the latter is to serve as an acceptable response in situations where the use of the target constructions is considered a dis-preferred option, as in their use in the infelicitous context. The focused element in all the focus constructions is the object (patient) of the sentence. The constructions were presented in a randomised order in each context to avoid promoting systematic answers (Dörnyei, 2007).

As for the filler items, the contexts designed for these were questions that asked about the action that had taken place in the context and the responses to these questions differed in the verb tense employed. None of these responses consisted of any of the target constructions as shown in the example below.

- (3)            a.        What did you do today?
- a. I read a book.  
                  b. I have read a book.  
                  c. I had read a book.  
                  d. I have been reading a book.  
                  e. I was reading a book.

The decision to include the filler items was based on implications gleaned from the pilot study. Three important reasons for including the filler items were: (1) to avoid systematic responses; (2) to distract the participants' attention from the main purpose of the study; and (3) to keep the participants actively engaged in the task throughout its completion.

The instruction for this task was the same as in the pilot study – specifically it asked the participants to rate the appropriateness of each response to a given context on a 6-point Likert scale. Participants were also asked to indicate their level of confidence after rating each response by choosing one of the three options provided (guessing, somewhat confident, very confident). However, the instructions for the main study also included a clarification of what was meant by "appropriateness" by indicating to the participants that it was equal to "acceptably fitting in the context", so as to avoid evoking any indication of politeness or social norms (see Appendix C).

The items (32 contexts) in the test were counterbalanced, that is, the order of the items was different for different participants. Two versions of the test were devised, each with a different ordering of the items (Version x1 and Version x2). Version x2 included the same items as Version x1; however, the items were in the reverse order. Although an equal number of copies of both versions were printed, the numbers of participants using each version differed slightly after excluding some L2 participants who did not complete the tasks.

### ***3.5.5.3 The on-line experiment***

The on-line experiment that was adopted in the main study was similar in design and used the same stimuli as the ones used in the pilot study. The main aim of the on-line task was to assess the participants' sensitivity to the contextual appropriate use of the focus

constructions. This was obtained by measuring their reaction times as they read the target constructions in felicitous and infelicitous contexts.

The main study included new comprehension questions. The decision to select comprehension questions over acceptability judgements was based on the evidence from the pilot study, which suggested that acceptability judgements had an effect on processing strategy. The comprehension questions were presented in a randomised pattern after both the experimental sentences and the filler sentences. As in the pilot study, to answer the comprehension questions, the participants were instructed to select one of the alternative answers 'Yes' or 'No' by pressing the corresponding keys that were highlighted on the computer key board. They were instructed to press key (A) if they thought the answer was 'Yes', and to press (L) if they believed the answer to be 'No'. These choice items were counterbalanced with regard to the number of correct 'yes' answers versus 'no'. These keys were also highlighted with two different colours in order to ensure that the two letters were apparent to the participants.

As in the pilot study, thirty-two blocks were created for the self-paced reading task. Each block consisted of four trials, each of which consisted of two target items and two filler items. The target items, which included the focus constructions in this study, were different in each trial. The presentation of the items in each trial was counterbalanced. Four presentational lists (versions of the test) were created, differing in the sequential ordering of the trials in the experiment. The ordering of the stimuli within each presentational list followed a pseudorandomisation technique, a preferred technique to minimise any effect of the presentation order in the self-paced reading experiments (Jegerski, 2013, p. 33). For example, the first presentational list of the test started with block 1 and ended with block 32, while the second version was in reverse order, starting with block 32 and ending with block 1. The third presentational list started with blocks 16 to 1 followed by blocks 32 to 17.

The fourth list was in reverse order compared to version three, starting with blocks 17 to 32, followed by blocks 1 to 16. Different participants in each group utilised different versions of the test. This step was thought to be important in order to eliminate any effect caused by the order of the items (i.e. the participants feeling fatigued by the end of the task, which might cause inaccurate responses). Different participants utilised different versions of the test, as each participant saw only one version of the test. The order of presentation of the different versions was counterbalanced within each language group.

### **3.6 Data collection procedures**

The researcher met the participants in person and explained briefly the nature of the test. After that, they were given the information sheet and were briefly informed about the general purpose of the study, i.e. the acquisition of English grammar by learners of English. The information sheet informed the participants about the nature of the study by explaining to them that they would be participating in a study investigating some grammatical features in English (see Appendix A). The researcher was careful to not reveal the details of the study before the beginning of the experiment. The reason for this was to avoid any influence on the participants' performance. Indicating that the experiment targeted their knowledge of English focus constructions might raise their awareness of this matter and function as a priming factor.

This study was conducted at Princess Norah bint Abdulrahman University (PNU) in Riyadh, Saudi Arabia. The process of data collection took three months to complete, starting on the first of October and ending in December 2015. The on-line experiment and the off-line task were performed in a quiet office in two different venues. Locating a quiet space was crucial in this study as it helped the participants to focus and limited the chances of disruptions, which may have affected the results. Also, the researcher asked the participants to put their mobile phones in silent mode to avoid disturbances during the

experimental process. For the participants' convenience, the office in which the intermediate L2 users and the native speakers performed the tasks was located in the Department of English Language in the preparatory year programme building, where the intermediate L2 users studied and the native speakers worked. The office in which the advanced L2 users completed the tasks was in the Faculty of Languages and Translation, where they had classes to teach.

The participants were individually tested on different days and at different times depending on their availability. Before the start of the test, the participants were asked to read and sign the consent agreement form. After that, brief oral instructions were given to all the participants. The participants first performed the self-paced reading task, then completed a pencil and paper background questionnaire. After that, the participants were given a five to ten minutes' break before completing the off-line task in a pencil and paper form. The purpose of administering the self-paced reading task prior to the off-line task was to avoid any 'unnatural cross-contamination effect like priming on the reading time results' (Jegerski, 2013, p. 34). As for the language-background questionnaire, the aim of administering it between the two tasks was so that it served as an activity separating the two main tasks from each other, as priming is known to affect the results of acceptability ratings (Luka & Barsallou, 2005).

The time that it took each of the three participating groups to complete the tasks differed according to their proficiency level, with the intermediate L2 users taking the longest time for completion. The self-paced reading task took approximately 60-80 minutes for the intermediate L2 users to complete, 50-70 minutes for the advanced L2 users and 50-60 minutes for the native speakers. The language-background questionnaire took approximately 7 to 10 minutes for all groups. The off-line task took participants in all groups between 20 and 35 minutes to complete.

After their participation, the participants were asked not to reveal any details related to the nature of the tasks to other prospective participants, so that the validity of the study results would not be affected. They were assured that all of the information related to their language background or their results in the experiment would be kept confidential.

### **3.7 Data analysis**

As a first step, each participant in the study was given a particular number, which was used throughout the data collection/analysis process to identify the participants in each group. To prepare the data for analysis, the data was entered into a Microsoft Excel spreadsheet and then transferred to an SPSS 24 file. All of the data was double checked for accuracy. The learners' performances in the off-line task and the on-line experiment were analysed using mean accuracy rates and repeated measures ANOVAs.

### **3.8 Summary**

The present chapter outlined the methodology of the main study. It highlighted the context, participants, instruments, procedure and data analysis method. The following chapter presents the results obtained in the main study categorised into the three research questions.

## CHAPTER 4: Results

### 4.0 Introduction

This chapter presents the results that were obtained from the quantitative analyses of the participants' performance on the off-line task (the acceptability ratings of the focus constructions and participants' confidence levels) and the on-line experiment (the self-paced reading task). It reports the results in accordance with the variables of the study, with level of proficiency in English (native speakers, advanced L2 users and intermediate L2 users) considered as a between-subject variable and type of focus construction (*It*-clefts, *wh*-cleft, reverse *wh*-cleft, *preposing*) and type of context (felicitous, infelicitous) considered as within-subject variables.

The structure of the present chapter consists of three main parts. The first part deals with the results of the three groups' acceptability ratings of the focus constructions, followed by the second part that presents the results of the participants' confidence ratings. The final part deals with the results of the on-line experiment. As a first step, initial data screening was performed (i.e., measures of central tendency) in order to prepare the data set for specific statistical analysis. Each section starts with a presentation of the descriptive statistics, followed by inferential statistics that aim to answer the research questions.

## 4.1 Statistics for the Acceptability Ratings

RQ1: What do Saudi L2 users of English and native speakers know about the appropriate contextual use of focus constructions in English?

SubQ1: Do proficiency (native speaker, advanced L2, intermediate L2), type of context (felicitous vs. infelicitous) and type of construction (*it*-cleft, *Wh*-cleft, reversed *wh*-cleft, preposing) have an effect on participants' knowledge of the target constructions?

Performance on the off-line task served as a measure of participants' knowledge of the appropriate contextual use of the focus constructions under investigation. An initial data screening was a necessary step in order to select the appropriate statistical analysis that should be performed on the data set (Pallant, 2010). When analysing data by parametric tests such as *t*-tests and ANOVA, assumptions need to be met prior to commencing such tests (Pallant, 2010, p.55). Therefore, descriptive analysis and tests of normal distribution for the off-line rating tasks were used in the present study. Values for asymmetry (skewness) and kurtosis of between -2 and +2 are considered acceptable in order to prove normal univariate distribution of the data (George & Mallery, 2003).

### 4.1.1 Descriptive statistics

Table 4.1 presents the descriptive statistics of the three groups' acceptability ratings of the four focus constructions in the felicitous and infelicitous contexts by the different proficiency groups. The results indicated that the participants rated the most frequent constructions (*it*-cleft and *wh*-cleft) as appropriate and rated the least frequent constructions, i.e, the preposing construction, as inappropriate. Moreover, the three groups' acceptability ratings for the target constructions were higher in a felicitous context than in

an infelicitous context, apart from the preposing construction. The results were obtained from the participants' ratings of the focus constructions on a 6-point Likert scale, with 1 being 'very inappropriate' and 6 being 'very appropriate'. The normality of the distribution of the scores on the acceptability rating task for each target construction was calculated for each group. The table shows that all skewness and kurtosis ratios were within the acceptability range ( $\pm 1.96$ ), since there were small samples ( $N < 50$  in each group). This suggests no departure from normality.

As observed from Table 4.1, the table shows that the different proficiency groups gave different acceptability ratings and that each group gave different ratings to each of the target constructions. That is, advanced learners' rating of the *it*-cleft, *wh*-cleft and reverse *wh*-cleft in the felicitous context was the highest of the three groups. Interestingly, native speakers' acceptability ratings for the focus constructions in the two types of contexts were the lowest when compared to the two L2 user groups. With regard to the preposing construction, the table shows that the differences in the ratings between the two types of contexts were rather small for both the native speakers and advanced L2 users. However, there was a clear difference between the ratings of the intermediate L2 users in the two type of context as their ratings showed a preference for the use of this construction in the felicitous context.

Table 4.1 Descriptive statistics for the acceptability ratings for the focus constructions (felicitous vs infelicitous).

Construction	Context	Mean (SD)	Min	Max	Skewness (Std. Error)	z-score Skewness/SE	Kurtosis (Std. Error)	z-score Kurtosis/SE
<b><u>Native Speakers(n=31)</u></b>								
<i>Overall (all constructions)</i>	<i>Felicitous</i>	3.04 (1.27)	1.25	5.07	0.03 (0.42)	0.07	-0.75 (0.82)	-0.92
	<i>Infelicitous</i>	2.14 (1.14)	1.00	4.22	0.63(0.42)	1.49	-0.62 (0.82)	-0.76
<i>it-cleft</i>	<i>Felicitous</i>	4.08 (1.22)	2.00	6.00	-0.27 (0.42)	-0.64	-1.13 (0.82)	-1.38
	<i>Infelicitous</i>	2.20 (1.16)	1.00	4.75	0.78 (.42)	1.86	0.03 (0.82)	0.04
<i>wh-cleft</i>	<i>Felicitous</i>	3.52 (1.30)	1.00	5.88	-0.34 (0.42)	-0.81	-0.45 (0.82)	-0.55
	<i>Infelicitous</i>	2.77 (1.30)	1.00	5.50	0.27 (0.42)	0.64	-1.05 (0.82)	-1.28
<i>reverse wh-cleft</i>	<i>Felicitous</i>	3.09 (1.36)	1.00	5.88	-0.10 (0.42)	-0.24	-0.77 (0.82)	-0.94
	<i>Infelicitous</i>	2.10 (1.08)	1.00	4.13	0.70 (0.42)	1.67	-0.68 (0.82)	-0.83
<i>preposing</i>	<i>Felicitous</i>	1.45 (1.19)	1.00	2.50	0.82 (0.42)	1.95	-0.67 (0.82)	-0.82
	<i>Infelicitous</i>	1.50 (1.03)	1.00	2.50	0.76 (0.42)	1.81	-0.78 (0.82)	-0.95
<b><u>Advanced L2 Users(n=33)</u></b>								
<i>Overall (all constructions)</i>	<i>Felicitous</i>	4.07 (0.85)	1.81	5.78	-0.49 (0.41)	-0.62	0.04 (0.80)	0.36
	<i>Infelicitous</i>	3.01 (1.35)	1.00	5.22	-0.04 (0.41)	-0.09	0.59 (0.80)	-0.73
<i>it-cleft</i>	<i>Felicitous</i>	4.64 (0.08)	1.75	6.00	-0.65 (0.41)	-1.59	0.50 (0.80)	0.63
	<i>Infelicitous</i>	3.30 (1.41)	1.00	5.38	-0.31 (0.41)	-0.76	-1.14 (0.80)	-1.43
<i>wh-cleft</i>	<i>Felicitous</i>	4.98 (0.94)	2.25	6.00	-0.08(0.41)	-0.20	0.14 (0.80)	1.43
	<i>Infelicitous</i>	3.61 (1.55)	1.00	6.00	-0.49 (0.41)	-1.20	-0.96 (0.80)	-1.20
<i>reverse wh-cleft</i>	<i>Felicitous</i>	4.33 (1.07)	2.25	6.00	-0.56 (0.41)	-1.37	0.39 (0.80)	0.49
	<i>Infelicitous</i>	3.00 (1.32)	1.00	5.38	-0.01 (0.41)	-0.02	-1.04 (0.80)	-1.30
<i>preposing</i>	<i>Felicitous</i>	2.32 (1.31)	1.00	5.13	0.69(0.41)	0.68	-0.88 (0.80)	-1.10
	<i>Infelicitous</i>	2.12 (1.12)	1.00	4.13	0.67 (0.41)	1.63	0.80 (0.80)	1.00
<b><u>Intermediate L2 Users(n=35)</u></b>								
<i>Overall (all constructions)</i>	<i>Felicitous</i>	3.78 (1.20)	1.56	5.75	-0.26(0.40)	-0.64	-0.78 (0.78)	-0.99
	<i>Infelicitous</i>	3.09 (0.94)	1.19	4.91	-0.06(0.40)	-0.14	0.59 (0.78)	-0.75
<i>it-cleft</i>	<i>Felicitous</i>	4.14 (1.17)	1.75	6.00	-0.65 (0.40)	-1.63	-0.90 (0.78)	-1.15
	<i>Infelicitous</i>	3.20 (0.78)	1.38	4.75	-0.13 (0.40)	-0.33	-0.12 (0.78)	-0.15
<i>wh-cleft</i>	<i>Felicitous</i>	4.20 (1.36)	1.75	6.00	-0.42 (0.40)	-1.05	-1.03 (0.78)	-1.32
	<i>Infelicitous</i>	3.70 (0.99)	1.38	5.63	-0.23 (0.40)	-0.58	-0.38 (0.78)	-0.49
<i>reverse wh-cleft</i>	<i>Felicitous</i>	3.77 (1.17)	1.75	6.00	-0.06 (0.40)	-0.15	-0.24 (0.78)	-0.31
	<i>Infelicitous</i>	3.03 (1.00)	1.00	5.00	-0.08 (0.40)	-0.20	-0.54 (0.78)	-0.69
<i>preposing</i>	<i>Felicitous</i>	3.01 (1.11)	1.00	5.00	0.11 (0.40)	0.28	-0.94 (0.78)	-1.21
	<i>Infelicitous</i>	2.41 (0.97)	1.00	4.25	0.21 (0.40)	0.53	-1.31 (0.78)	-1.68

The following sections discuss how the variables mentioned above (type of context, type of construction, proficiency level) were used to answer the research questions.

#### **4.1.2 Inferential statistical analyses for the acceptability rating task**

In order to answer the current research question, the participants' knowledge of the contextual use of the focus constructions was established by means of a paired-samples *t*-test, comparing performance in the felicitous to the infelicitous context. After that, the participants' acceptability ratings were analysed by means of a 2 (type of context) × 4 (type of construction) × 3 (proficiency groups) mixed ANOVA, which aimed to find out whether these variables had any effect on the participants' ratings. This was followed by post-hoc comparisons with Bonferroni adjustment across groups to find out where the differences between the groups existed. The significance level was set at  $p < .05$  for all analyses (Larson-Hall, 2010). The effect sizes were calculated using partial eta square values for ANOVA and Cohen's *d* for *t*-tests. According to Cohen (1988), the effect sizes of the *t*-tests ( $d = 0.2$ ) is considered to be a 'small' effect size,  $d = 0.5$  is a 'medium' effect size and  $d = 0.8$  is a 'large' one. Following Cohen, the effect sizes for ANOVAs (eta squared,  $\eta^2$ ) are considered to be small ( $\eta^2 > .01$ ), moderate ( $\eta^2 > .06$ ) and large ( $\eta^2 > .14$ ), respectively (Cohen 1988, pp. 284–287). In relation to the distribution of data, Levene's test for the equality of variance among groups did not show significance ( $p > .05$ ), meaning that the assumption of equal variance among groups was not rejected.

A paired sample *t*-test was conducted to find out whether there were statistically significant differences in participants' ratings of the focus constructions in the two types of contexts (felicitous vs infelicitous). Table 4.2 presents the results (between felicitous and infelicitous contexts) for the three groups' ratings of the four focus constructions. The

results showed that there were statistically significant differences and large effect sizes in the three groups' rating of the *it*-cleft, *wh*-cleft and the reverse *wh*-cleft in the two types of contexts. The three participating groups gave higher ratings for all of these constructions in the felicitous context. However, there were no significant differences in the native speakers' and advanced L2 users' ratings of the preposing construction in the two types of contexts. As for the intermediate L2 users, they gave higher ratings for the preposing construction in the felicitous context, as evident from the statistically significant differences with the large effect size.

Table 4.2 Paired-samples *t*-test results for participants' acceptability ratings of focus constructions in the felicitous and infelicitous context (n=99)

	Mean (SD)	95% CI (Low, high)	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
<b>Native Speakers (n=31)</b>					
<i>it</i> -cleft (+)	1.73 (1.2)	1.29, 2.18	7.99	<.001	2.91
<i>it</i> -cleft (-)					
<i>wh</i> -cleft (+)	0.75 (0.99)	0.38, 1.11	4.19	<.001	1.52
<i>wh</i> -cleft (-)					
<i>rwh</i> -cleft (+)	1.42 (0.99)	1.06, 1.78	8.01	<.001	2.92
<i>rwh</i> -cleft (-)					
<i>preposing</i> (+)	0.08 (0.60)	- 0.08, 0.24	1.00	.32	0.37
<i>preposing</i> (-)					
<b>Advanced L2 Users (n=33)</b>					
<i>it</i> -cleft (+)	1.30 (1.43)	0.79, 1.80	5.22	<.001	1.84
<i>it</i> -cleft (-)					
<i>wh</i> -cleft (+)	1.24 (1.56)	- 0.68, 1.79	4.57	<.001	1.61
<i>wh</i> -cleft (-)					
<i>rwh</i> -cleft (+)	1.85 (1.30)	1.32, 2.38	7.08	<.001	2.50
<i>rwh</i> -cleft (-)					
<i>preposing</i> (+)	0.20 (0.69)	- 0.05, 0.44	1.63	0.11	0.57
<i>preposing</i> (-)					
<b>Intermediate L2 Users (n=33)</b>					
<i>it</i> -cleft (+)	.97 (1.17)	0.56, 1.27	4.87	<.001	1.67
<i>it</i> -cleft (-)					
<i>wh</i> -cleft (+)	0.50 (1.14)	0.11, 0.89	2.59	0.02	0.89
<i>wh</i> -cleft (-)					
<i>rwh</i> -cleft (+)	1.17(.86)	0.44, 1.03	5.08	0.01	1.74
<i>rwh</i> -cleft (-)					
<i>preposing</i> (+)	0.29 (0.58)	0.09, 0.49	2.99	<.001	1.03
<i>preposing</i> (-)					

Note. (+)= felicitous context; (-)=infelicitous context; *rwh*-cleft = reversed *wh*-cleft; L2= second language

Figures 4.1, 4.2, 4.3 and 4.4 display the differences in participants' ratings in the two types of contexts for the *it*-cleft, *wh*-cleft, reverse *wh*-cleft and the preposing constructions respectively. As pointed out previously, these figures show that participants' ratings of the *it*-cleft, *wh*-cleft and reverse *wh*-cleft in the felicitous context were higher than the infelicitous context for these three groups. For the rating of the *preposing* construction, the differences between the two types did not reach significance for both

native speakers and advanced L2 users, but significant differences were found for intermediate L2 users.

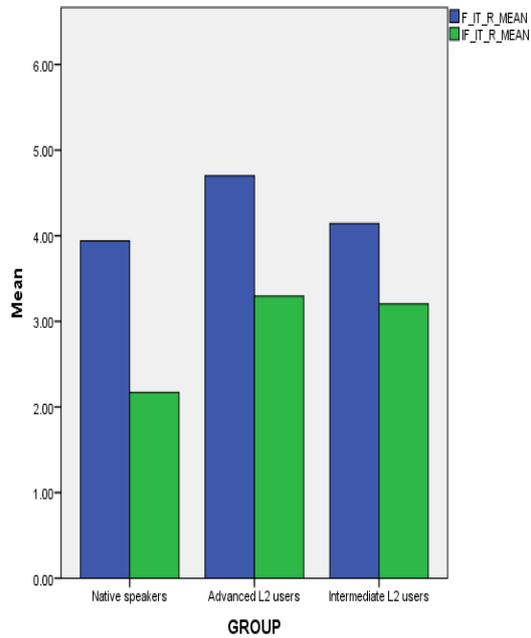


Figure 4.1  
*Ratings of it-cleft in the two contexts*

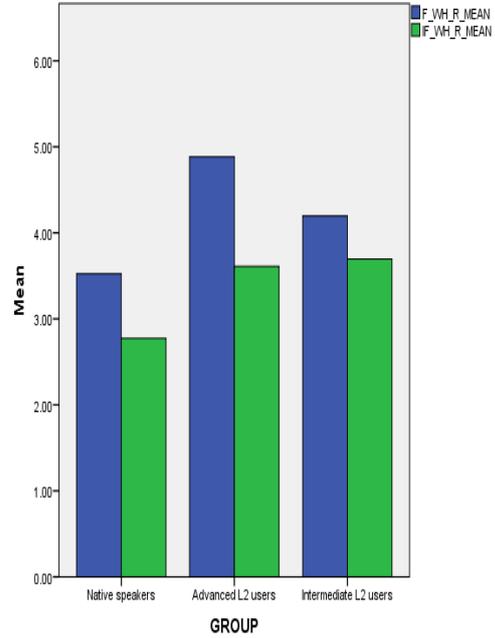


Figure 4.2  
*Ratings of wh-cleft in the two contexts*

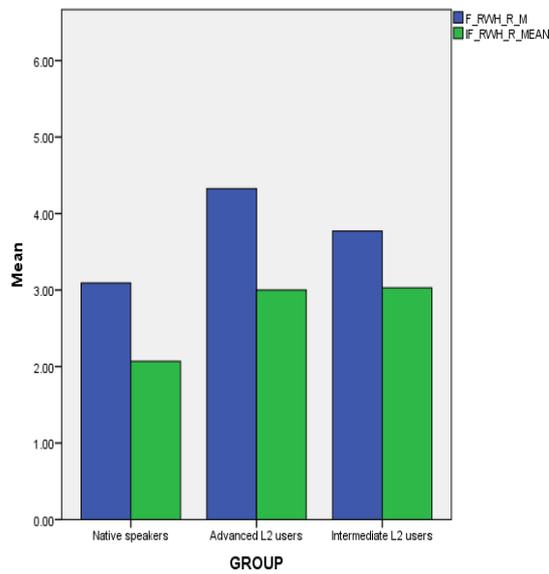


Figure 4.3  
*Ratings of rwh-cleft in the two contexts*

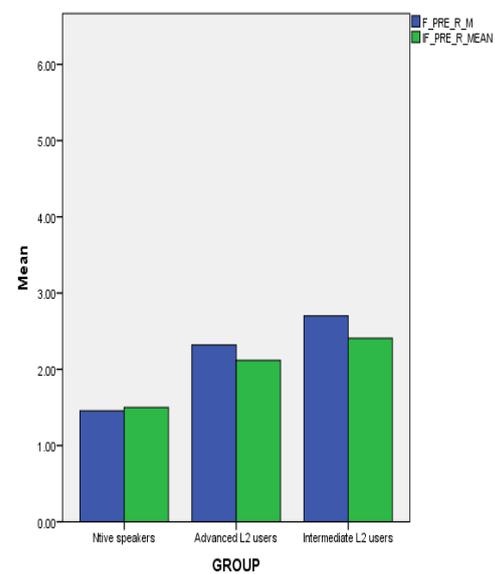


Figure 4.4  
*Ratings of preposing in the two contexts*

From the results presented above, it is clear that context had an effect on participants' acceptability ratings for the target constructions. This leads to the analysis of the other factors, namely group and type of construction. As such, the participants' ratings of the focus constructions in the off-line task were submitted to a 2 (type of context)  $\times$  4 (type of construction)  $\times$  3 (proficiency groups) mixed ANOVA. Thereby, type of construction and context were within-participant factors while proficiency group was a between-participant factor. The assumption for Sphericity, which measures whether the differences between the dependent variances of a participant's data are equal (Larson-Hall, 2010), was examined. The results indicated that Sphericity was not met. Therefore, the Greenhouse-Geisser correction was applied.

As shown in Table 4.3, the analysis of mixed ANOVA revealed significant main effects and a large effect size for Group and a significant main effect and a moderate effect size for both Construction and Context. Also, significant interaction was observed between Construction and Context and this revealed a large effect size. Moreover, a significant three-way interaction and a medium effect size were observed between Group, Construction and Context.

Table 4.3 Repeated measures analysis of variance ANOVA for the ratings of the focus constructions

Source	<i>df</i>	<i>F</i>	<i>p</i>	$\eta^2$	<i>Power</i>
Group	2	12.92	< .001	.94	1.00
Construction	1.73	124.8	< .001	.60	1.00
Context	1.00	111.02	< .001	.54	1.00
Group $\times$ Construction	3.46	2.03	.102	.04	.55
Group $\times$ Context	2.00	2.52	.09	.05	.49
Construction $\times$ Context	2.40	40.97	<.001	.30	1.00
Group $\times$ Construction $\times$ Context	4.78	4.39	<.001	.09	.96

Follow-up comparisons by means of ANOVA and post-hoc comparisons with the Bonferroni correction were conducted for the ratings of each focus construction in the two types of context to find out where the differences between groups exist.

### ***It*-cleft construction**

The ANOVA results for the three groups' ratings of the *it*-cleft construction revealed significant differences between groups and a large effect size in both the felicitous context ( $F(2, 96) = 12.92, p < .001, \eta^2 = .94$ ) and in the infelicitous context, ( $F(2, 96) = 8.592, p < .001, \eta^2 = .15$ ). As pointed out previously, all groups gave higher ratings for this construction in the felicitous context. The post-hoc t-test with Bonferroni correction indicated that there were statistically significant differences between advanced L2 users and native speakers in the felicitous ( $p = 0.01$ ) and infelicitous contexts ( $p < .001$ ). Also, significant differences were found between advanced L2 users and intermediate L2 users ( $p = .04$ ) in the felicitous context but not in the infelicitous context ( $p = 0.73$ ). However, there were no significant differences between native speakers and intermediate L2 users' ratings of the same construction in the felicitous context ( $p = 0.48$ ), but significant differences were found in the infelicitous context ( $p < .001$ ).

### ***Wh*-cleft construction**

The comparison of the three groups' ratings of the *wh*-cleft construction showed that there were statistically significant differences and a large effect size ( $F(2, 96) = 9.936, p < .001, \eta^2 = .17$ ) in the felicitous context and significant differences and a moderate effect size in the infelicitous context ( $F(2, 96) = 4.967, p < .01, \eta^2 = .09$ ). The results of the post-hoc Bonferroni test indicated that there were significant differences between advanced L2

users and native speakers in the felicitous ( $p < .001$ ) and infelicitous contexts ( $p < .001$ ). Also, significant differences were found between advanced L2 users and intermediate L2 users ( $p = .02$ ) in the felicitous context but not in the infelicitous context ( $p = 0.78$ ), with advanced L2 users giving higher acceptability ratings. Moreover, there were significant differences between native speakers' and intermediate L2 users' ratings of the same construction in the felicitous context ( $p = 0.03$ ) and in the infelicitous context ( $p < .001$ ). Native speakers gave lower acceptability ratings compared to intermediate L2 users.

### **Reverse *wh*-cleft construction**

The analysis for the ratings of the reverse *wh*-cleft construction showed that there were statistically significant differences and large effect sizes in the felicitous context ( $F(2, 96) = 8.424, p < .001, \eta^2 = .15$ ) and in the infelicitous context ( $F(2, 96) = 8.424, p < .001, \eta^2 = .17$ ). The follow-up post-hoc Bonferroni test indicates that there were statistically significant differences between advanced L2 users and native speakers in the felicitous ( $p < .001$ ) and infelicitous contexts ( $p < .001$ ). However, no significant differences were found between advanced L2 users and intermediate L2 users in the felicitous context ( $p = .06$ ) or in the infelicitous context ( $p = 0.91$ ). Significant differences were found between native speakers' and intermediate L2 users' ratings of the same construction in the felicitous context ( $p = 0.02$ ) and in the infelicitous context ( $p < .001$ ). As with the other constructions, native speakers gave lower acceptability ratings compared to the two L2 user groups.

### **Preposing construction**

The comparison of the three groups' ratings of the preposing construction showed that there were statistically significant differences and a large effect size ( $F(2, 96) = 12.112$ ,

$p < .001$ ,  $\eta^2 = .20$ ) in the felicitous context and statistically significant differences and a moderate effect size in the infelicitous context ( $F(2, 96) = 3.820$  ( $p < .05$ ),  $\eta^2 = .07$ ). The post-hoc test using Bonferroni indicated that there were significant differences between advanced L2 users and native speakers in the felicitous ( $p < .001$ ) and infelicitous contexts ( $p < .001$ ). However, no significant differences were found between advanced L2 users and intermediate L2 users in the felicitous ( $p = .14$ ) or in the infelicitous context ( $p = .18$ ). Significant differences were found between native speakers' and intermediate L2 users' ratings of the same construction in both types of contexts ( $p < .001$ ).

The three-way interaction between Group, Construction and Context revealed statistically significant differences between the groups' ratings of the target constructions. The follow-up comparisons with post-hoc Bonferroni tests indicate that native speakers gave the highest ratings in the felicitous context for the *it*-cleft, followed by the *wh*-cleft, then the *rwh*-cleft and lastly the preposing construction. In the infelicitous context, there were significant differences between the *wh*-cleft and the *it*-cleft construction, with higher ratings for the *wh*-cleft. In contrast, the advanced L2 users' group gave the highest ratings for the *wh*-cleft, followed by the *it*-cleft, then the reverse *wh*-cleft and lastly the preposing construction in felicitous contexts. Interestingly, the same order was observed when they rated these constructions as less appropriate in the infelicitous context. As for the intermediate L2 users, there were no significant differences in their ratings of the *it*-cleft and the *wh*-cleft ( $p = .84$ ) in both types of contexts, as they gave higher ratings for these two constructions followed by the reverse *wh*-cleft and lastly the preposing construction. However, the three participating groups found the reverse *wh*-cleft as less appropriate than the *it*-cleft and the *wh*-cleft constructions and found the preposing constructions to be the least appropriate of the focus constructions.

Figures 4.5 and 4.6 illustrate the interaction between Group and Construction in the felicitous and infelicitous contexts respectively. The figures show that native speakers' ratings of the focus constructions in the two types of contexts were the lowest compared to the two L2 user groups. Figure 4.5 shows that advanced L2 users gave the highest ratings in the felicitous context, except for the preposing construction. On the other hand, Figure 4.6 shows that the advanced L2 users' ratings were similar to those of the intermediate L2 users in the infelicitous context.

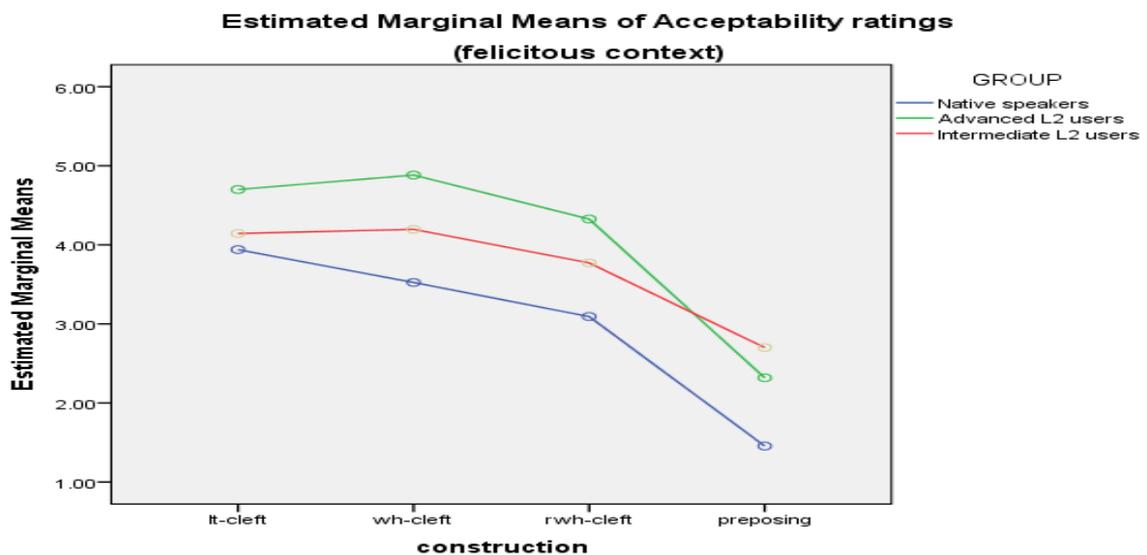


Figure 4.5. The ANOVA results of the interaction in acceptability ratings between Group and Construction in the felicitous context

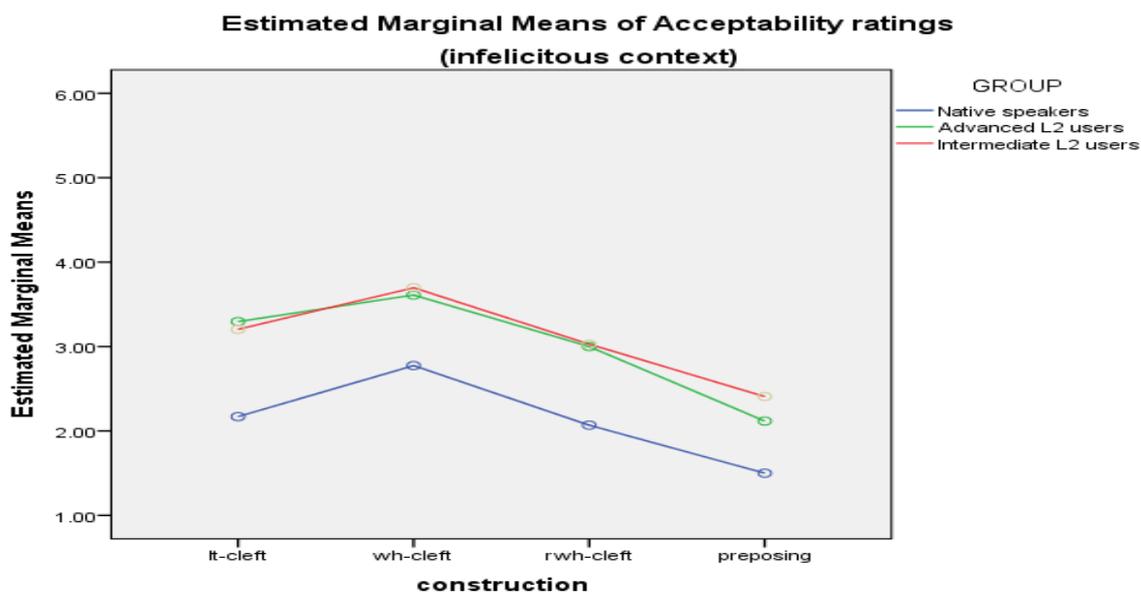


Figure 4.6. The ANOVA results of the interaction in acceptability ratings between Group and Construction in the infelicitous context

To sum up, the results of the participants' acceptability ratings indicated that proficiency level, type of construction and type of context had a statistically significant effect on the participants' acceptability ratings of English focus constructions. That is, advanced L2 users mostly gave the highest ratings compared to the other two groups, irrespective of the type of construction. This pattern was most pronounced in felicitous contexts. Generally, the *it*-cleft received the highest ratings by native speakers and intermediate L2 users, but advanced L2 users gave the highest ratings for the *wh*-cleft. Moreover, the three groups rated the reverse *wh*-cleft as less appropriate than the previous two constructions, and rated the preposing construction as the least appropriate in both types of contexts.

## 4.2 Statistics for the Confidence-rating Task

- RQ2: To what extent are native speakers and Saudi L2 users of English conscious of the knowledge that guided their decision in the off-line task?
- SubQ1: Is there a difference in the participants' confidence level between the felicitous and infelicitous contexts?
- SubQ2: Is there a relationship between participants' knowledge of the use of English focus constructions and their level of confidence?

In this study, I was interested in finding out whether advanced L2 users had conscious awareness of the knowledge that guided their decisions when rating the appropriate contextual use of the target constructions in both types of contexts. As such, the study used a confidence-rating task. The task asked the participants to rate their confidence level after deciding on the appropriateness of the target constructions by choosing one of three options: 1= guessing, 2= somewhat confident, and 3= very confident.

To answer the question above, the following presents first the descriptive statistics for the results obtained from the participants' confidence ratings and then the inferential statistics.

### 4.2.1 Descriptive statistics

Descriptive statistics for the confidence ratings of the three participating groups were computed separately. Overall, the results indicated that native speakers were the most confident of the three groups in both types of contexts, followed by advanced L2 learners and finally intermediate L2 users. Table 4.4 presents descriptive statistics for the participants' ratings of their confidence level when rating the focus constructions. As observed from the table, native speakers were the most confident in their ratings of the focus constructions, followed by the advanced proficiency L2 users and lastly the

intermediate proficiency L2 users. As mentioned earlier, confidence ratings were obtained from participants' choice of three confidence levels: 1= guessing, 2= somewhat confident, and 3= very confident. The z-scores for skewness and kurtosis were within the acceptable range ( $\pm 1.96$ ), suggesting no departure from normality. The table indicates that native speakers were the most confident in their ratings of the *preposing* construction in both felicitous and infelicitous contexts, while advanced proficiency L2 users and intermediate L2 users were most confident in their rating of the *wh*-cleft in both contexts. However, when looking at the means of the participants' confidence ratings in each context, native speakers were confident of their ratings of the focus constructions in both types of contexts. Advanced L2 users were confident in both contexts, except for the *preposing* construction where they were less confident in the felicitous context. As for the intermediate L2 users, the table shows that their confidence level was almost the same in both contexts, except for the *it*-cleft construction, as they were less confident in the infelicitous context.

Table 4.4 Descriptive results of participants' confidence rating in the felicitous and infelicitous context (n= 99)

Construction	Context	Mean (SD)	Min	Max	Skewness	z-score	Kurtosis	z-score
					Statistics	Skewness/SE	Statistics	Kurtosis/SE
					(Std. Error)		(Std. Error)	
<b>Native speakers(n=31)</b>								
<u>Overall (all constructions)</u>	Felicitous	2.63(0.41)	1.78	3.00	-0.77 (0.42)	-1.83	-0.59 (0.82)	-0.72
	Infelicitous	2.67(0.40)	1.73	3.00	-0.81 (0.42)	-1.42	-0.44 (0.82)	-0.53
<u>it-cleft</u>	Felicitous	2.60 (0.39)	1.63	3.00	-0.76 (0.42)	-1.81	-0.45 (0.82)	-0.55
	Infelicitous	2.60 (0.49)	1.50	3.00	-0.79(0.42)	-1.88	-0.63(0.82)	-0.77
<u>wh-cleft</u>	Felicitous	2.61 (0.40)	1.75	3.00	-0.80 (0.42)	-1.91	-0.86 (0.82)	-1.05
	Infelicitous	2.64 (0.43)	1.63	3.00	-0.81 (0.42)	-1.93	-0.32 (0.82)	-0.39
<u>rwh-cleft</u>	Felicitous	2.60 (0.39)	1.75	3.00	-0.70 (0.42)	-1.67	-0.80 (0.82)	-0.98
	Infelicitous	2.60 (0.46)	1.50	3.00	-0.80 (0.42)	-1.91	-0.71 (0.82)	-0.87
<u>preposing</u>	Felicitous	2.70 (0.45)	2.00	3.00	-0.82 (0.42)	-1.95	-0.24 (0.82)	-0.29
	Infelicitous	2.82 (0.20)	2.28	3.00	-0.82(0.42)	-1.95	-0.08 (0.82)	-0.10
<b>Advanced L2 users(n=33)</b>								
<u>Overall (all constructions)</u>	Felicitous	2.35(0.50)	1.50	3.00	-0.14(0.41)	-0.33	-1.34 (0.80)	1.67
	Infelicitous	2.32 (0.51)	1.26	3.00	-0.23(0.41)	0.60	-0.88 (0.80)	1.10
<u>it-cleft</u>	Felicitous	2.40 (0.44)	1.88	3.00	0.15 (0.41)	0.37	-1.50 (0.80)	-1.88
	Infelicitous	2.31 (0.50)	1.13	3.00	-0.34 (0.41)	-0.83	-0.56 (0.80)	-0.70
<u>wh-cleft</u>	Felicitous	2.49 (0.44)	1.75	3.00	-0.33 (0.41)	-0.81	-1.51 (0.80)	-1.89
	Infelicitous	2.40 (0.43)	1.63	3.00	0.04 (0.41)	0.10	-1.27 (0.80)	-1.59
<u>rwh-cleft</u>	Felicitous	2.30 (0.50)	1.25	3.00	-0.08 (0.41)	-0.20	-1.15 (0.80)	-1.44
	Infelicitous	2.27 (0.52)	1.13	3.00	-0.31 (0.41)	-0.76	-0.65 (0.80)	-0.81
<u>preposing</u>	Felicitous	2.22 (0.61)	1.13	3.00	-0.28 (0.41)	-0.68	-1.18 (0.80)	-1.48
	Infelicitous	2.31(0.58)	1.13	3.00	-0.30 (0.41)	-0.73	-1.03 (0.80)	-1.29
<b>Intermediate L2 users(n=35)</b>								
<u>Overall (all constructions)</u>	Felicitous	2.13 (0.56)	1.06	3.00	-0.13 (0.40)	-0.39	-0.71 (0.78)	-0.91
	Infelicitous	2.04 (0.57)	1.03	3.00	-0.06 (0.40)	-0.14	-0.96 (0.78)	-1.23
<u>it-cleft</u>	Felicitous	2.16 (0.53)	1.25	3.00	0.06 (0.40)	-0.15	-0.99 (0.78)	-1.27
	Infelicitous	1.97 (0.54)	1.00	3.00	-0.20 (0.40)	-0.50	-0.89 (0.78)	-1.14
<u>wh-cleft</u>	Felicitous	2.27 (0.60)	1.00	3.00	-0.61 (0.40)	-1.53	-0.72 (0.78)	-0.92
	Infelicitous	2.16 (0.57)	1.00	3.00	-0.42 (0.40)	-1.05	-0.90 (0.78)	-1.15
<u>rwh-cleft</u>	Felicitous	2.09 (0.54)	1.00	3.00	-0.12 (0.40)	-0.30	-0.52 (0.78)	-0.67
	Infelicitous	2.00 (0.56)	1.00	3.00	0.23 (0.40)	0.58	-0.87 (0.78)	-1.12
<u>preposing</u>	Felicitous	2.00 (0.56)	1.00	3.00	0.17 (0.40)	0.43	-0.60 (0.78)	-0.77
	Infelicitous	2.01 (0.59)	1.13	3.00	0.16 (0.40)	0.40	-1.18 (0.78)	-1.51

(+) = felicitous context; (-) =infelicitous context; *rwh-cleft* = reverse *wh-cleft*; L2= second language

In terms of proportions, Table 4.5 shows that native speakers selected the ‘very confident’ option more frequently in the two types of context when rating the target

constructions. The table also shows that the advanced L2 users' confidence ranged between the 'somewhat confident' and 'very confident' options. However, the intermediate L2 users' confidence ratings indicated that they were 'somewhat confident' of their decisions when rating the target constructions. The table also shows that advanced L2 users selected the 'very confident' option when rating the *wh*-cleft construction more frequently than the 'somewhat' confident' option, but a reverse pattern was found for the *it*-cleft construction. Table 4.5 also reveals that they selected the 'guess' option in reasonably few cases when rating the reverse *wh*-cleft and the preposing construction. As for intermediate L2 users, they selected the option 'somewhat confident' most frequently, followed by 'very confident' and then the 'guess' option in the felicitous and infelicitous contexts. As observed from the table, intermediate L2 users selected the 'guess' option when rating all the target constructions in both contexts.

Table 4.5 Proportions (%) across Participants' Confidence Ratings

Construction	Context	Guess	Somewhat confident	Very confident
<b><u>Native speakers(n=31)</u></b>				
<u>Overall (all constructions)</u>	<i>Felicitous</i>	0.5%	35%	64%
	<i>Infelicitous</i>	1%	30%	68%
<i>it</i> -cleft	Felicitous	0%	40%	60%
	Infelicitous	3%	35%	62%
<i>wh</i> -cleft	Felicitous	0%	32%	68%
	Infelicitous	0%	30%	70%
<i>rwh</i> -cleft	Felicitous	0%	40%	60%
	Infelicitous	1%	35%	64%
<i>preposing</i>	Felicitous	2%	30%	68%
	Infelicitous	0%	23%	77%
<b><u>Advanced L2 users(n=33)</u></b>				
<u>Overall (all constructions)</u>	<i>Felicitous</i>	4%	48%	47%
	<i>Infelicitous</i>	4%	49%	45%
<i>it</i> -cleft	Felicitous	0%	55%	45%
	Infelicitous	3%	49%	48%
<i>wh</i> -cleft	Felicitous	0%	42%	58%
	Infelicitous	0%	52%	48%
<i>rwh</i> -cleft	Felicitous	4%	49%	47%
	Infelicitous	9%	46%	45%
<i>preposing</i>	Felicitous	12%	49%	39%
	Infelicitous	6%	52%	42%
<b><u>Intermediate L2 users(n=33)</u></b>				
<u>Overall (all constructions)</u>	<i>Felicitous</i>	12%	58%	28%
	<i>Infelicitous</i>	18%	55%	26%
<i>it</i> -cleft	Felicitous	9%	63%	28%
	Infelicitous	23%	60%	17%
<i>wh</i> -cleft	Felicitous	11%	46%	43%
	Infelicitous	12%	51%	37%
<i>rwh</i> -cleft	Felicitous	14%	60%	26%
	Infelicitous	17%	60%	23%
<i>preposing</i>	Felicitous	17%	66%	17%
	Infelicitous	23%	49%	28%

#### 4.2.2 Inferential statistical analyses for confidence ratings

In order to answer the second research question, the researcher first checked whether there was a difference in the participants' confidence ratings in the two types of contexts by means of a paired sample *t*-test. Table 4.6 presents the result of the test for each construction per group. The overall results indicated that there were no significant differences in the three groups' confidence ratings in the felicitous and infelicitous contexts. Moreover, the table shows that there were no significant differences in the confidence ratings between the two types of contexts for native speakers. Similarly, the statistics revealed that there was no significant difference in advanced L2 users' confidence ratings when rating the target constructions in the two types of context, except when rating the preposing construction. For this construction, they were more confident in the infelicitous context. As for intermediate L2 users' confidence rating, the data did not show any significant differences in their confidence levels when rating the target construction in the two contexts, apart from the *it*-cleft construction. This time participants were more confident in the felicitous context.

Table 4.6 Paired-samples *t*-test results for participants' confidence ratings in the felicitous and infelicitous context

	Mean	95% CI	<i>t</i> -value	<i>p</i> -value	<i>df</i>
<b>Native Speakers (n=31)</b>					
Overall (all constructions)	<i>Felicitous</i> 2.63 <i>Infelicitous</i> 2.67	-0.11, 0.14	0.43	<i>p</i> = 0.67	30
<i>it</i> -cleft (+)	2.60	-0.13, 0.12	-0.07	<i>p</i> = 0.95	30
<i>it</i> -cleft (-)	2.60				
<i>wh</i> -cleft (+)	2.61	- 0.12, 0.06	0.63	<i>p</i> = 0 .53	30
<i>wh</i> -cleft (-)	2.64				
<i>rwh</i> -cleft (+)	2.60	- 0.11, 0.13	0.14	<i>p</i> = 0.89	30
<i>rwh</i> -cleft (-)	2.60				
<i>preposing</i> (+)	2.70	- 0.08, 0.24	1.00	<i>p</i> = 0.32	30
<i>preposing</i> (-)	2.82				
<b>Advanced L2 Learners (n=33)</b>					
Overall (all constructions)	<i>Felicitous</i> 2.35 <i>Infelicitous</i> 2.32	-0.08, 0.13	0.40	<i>p</i> =0.22	32
<i>it</i> -cleft (+)	2.40	- 0.03, 0. 19	1.51	<i>p</i> = 0.14	32
<i>it</i> -cleft (-)	2.31				
<i>wh</i> -cleft (+)	2.49	- 0.02, 0. 19	1.59	<i>p</i> = 0 .12	32
<i>wh</i> -cleft (-)	2.40				
<i>rwh</i> -cleft (+)	2.30	- 0.08, 0.14	0.55	<i>p</i> = 0.58	32
<i>rwh</i> -cleft (-)	2.27				
<i>preposing</i> (+)	2.22	- 0.17, 0.00	-2.04	<i>p</i> = 0.05	32
<i>preposing</i> (-)	2.31				
<b>Intermediate L2 Learners (n=35)</b>					
Overall (all constructions)	<i>Felicitous</i> 2.13 <i>Infelicitous</i> 2.04	-0.17, 0.21	1.70	<i>p</i> =0.16	34
<i>it</i> -cleft (+)	2.16	0.59, 0.33	2.91	<i>p</i> =0 .006	34
<i>it</i> -cleft (-)	1.97				
<i>wh</i> -cleft (+)	2.27	-0.04, 0.25	1.5	<i>p</i> =0 .15	34
<i>wh</i> -cleft (-)	2.16				
<i>rwh</i> -cleft (+)	2.09	-0.03, 0.20	1.41	<i>p</i> = 0.17	34
<i>rwh</i> -cleft (-)	2.00				
<i>preposing</i> (+)	2.00	0.14, 0.05	0.99	<i>p</i> = 0.30	34
<i>preposing</i> (-)	2.01				

Note. (+) = felicitous context; (-) =infelicitous context; *rwh*-cleft = reversed *wh*-cleft; L2= second language

As observed from the results presented above, the participants' confidence ratings for the majority of the target constructions did not change as a result of the type of context. This leads to the analysis of the other factors, namely group and type of construction, in order to find out whether any of these factors had an effect on the participants' confidence ratings in the two types of contexts. As such, the participants' ratings of the focus constructions in the off-line task were submitted to a 2 (type of context)  $\times$  4 (type of construction)  $\times$  3 (proficiency groups) mixed ANOVA. Thereby, type of construction and context were within-participant factors while proficiency group was a between-participant factor. The assumption for Sphericity, which measures whether the differences between the dependent variances of a participant's data are equal (Larson-Hall, 2010), was examined. The results indicated that Sphericity was not met. Therefore, the Greenhouse-Geisser correction was applied. As shown in Table 4.7, the mixed ANOVA analysis revealed significant main effects and a large effect size for Group and a significant main effect with a moderate effect size for Construction, but no significant main effect for Context. However, the two-way interactions between Construction and Context, and between Construction and Group, were significant, both showing a medium effect size. The three-way interaction was not significant.

Table 4.7 Repeated measures analysis of variance ANOVA for participants' confidence ratings constructions

Source	<i>df</i>	<i>F</i>	<i>p</i>	$\eta^2$	<i>Power</i>
<b><u>Object region</u></b>					
Group	2.00	13.95	< .001	0.97	1.00
Construction	1.95	6.50	0.002	0.06	0.90
Context	1.00	1.44	.230	0.02	0.22
Group $\times$ Construction	3.90	4.81	<.001	0.09	0.95
Group $\times$ Context	2.00	2.56	0.080	0.05	0.50
Construction $\times$ Context	2.86	6.68	<.001	0.07	0.97
Group $\times$ Construction $\times$ Context	5.73	0.47	0.820	0.01	0.19

Follow-up comparisons by means of ANOVA and post-hoc Bonferroni tests were conducted for the participants' confidence ratings in the two types of context in order to find out whether differences existed between the groups when rating the target constructions.

### ***It-cleft construction***

The results indicated that there were statistically significant differences and a large effect size in participants' confidence rating in both the felicitous and infelicitous context,  $F(2, 96) = 7.153, p = .001, \eta^2 = .15$  and  $F(2, 96) = 12.329, p < .001, \eta^2 = .20$  respectively. The pairwise comparisons indicated that there were no statistically significant differences in confidence ratings between advanced L2 users and native speakers when rating the *it*-cleft construction in the felicitous context ( $p = 0.08$ ). However, a significant difference was observed between the two groups in the infelicitous contexts ( $p = .03$ ), as native speakers gave higher confidence ratings. As for the intermediate L2 users, the results indicated that there were significant differences between their confidence ratings and those of both native speakers ( $p < .001$ ) and advanced L2 users ( $p = .006$ ) in the felicitous and infelicitous contexts, as intermediate L2 users gave the lowest confidence rating.

### ***Wh-cleft construction***

For the *wh*-cleft, the results of the analysis revealed significant differences and a moderate effect size in the felicitous context,  $F(2, 96) = 4.192, p < .05, \eta^2 = .08$ , but a large effect size in the infelicitous context  $F(2, 96) = 7.969, p = .001, \eta^2 = .15$ . The results of the follow-up comparisons indicated that there were no significant differences between advanced L2 users and native speakers in the felicitous context ( $p = .32$ ), but native speakers rated their confidence levels significantly higher than advanced L2 users in the infelicitous context ( $p = .05$ ). On the other hand, no significant differences were found between advanced L2 users and intermediate L2 users in the felicitous context ( $p = .07$ ), but

advanced L2 users' confidence ratings were significantly higher in the infelicitous context than those of intermediate L2 users ( $p = 0.05$ ). However, significant differences were found between native speakers and intermediate L2 users ( $p = .005$ ).

### ***Reverse wh-cleft construction***

The analysis for the ratings of the *rwh*-cleft construction showed that there were statistically significant differences and a large effect size for group in the felicitous and infelicitous contexts,  $F(2, 96) = 8.689, p < .001, \eta^2 = .15$  and  $F(2, 96) = 10.036, p < .001, \eta^2 = .17$  respectively. The results of the follow-up comparisons indicated significant differences in confidence ratings between advanced L2 users and native speakers in both the felicitous and infelicitous contexts ( $p < .02$ ), with native speakers' confidence ratings being higher. However, although the difference in the confidence ratings between advanced L2 users and intermediate L2 users did not reach statistical significance in the felicitous context ( $p = .07$ ), a significant difference was found in the infelicitous context ( $p = 0.04$ ) with advanced L2 users' ratings being higher. As in the other constructions, native speakers' confidence ratings were significantly higher than those of the intermediate L2 users in both types of contexts ( $p < .001$ ).

### ***Preposing construction***

As with the previous constructions, the results indicated that there were statistically significant differences in participants' confidence ratings and a large effect size in both types of contexts,  $F(2, 96) = 14.191, p < .001, \eta^2 = .22$  and  $F(2, 96) = 13.492, p < .001, \eta^2 = .22$ . Interestingly, the three groups' confidence ratings differed significantly from each other in both types of contexts. Native speakers' confidence ratings were significantly higher ( $p < .001$ ) than those in the two L2 user groups in both types of contexts. The two L2 user groups also differed from one another in the felicitous ( $p = .04$ ) and infelicitous

contexts ( $p = .02$ ), with advanced L2 users' confidence ratings being higher than those of intermediate L2 users.

The statistically significant interaction between group and construction when rating the target constructions indicated that there were differences in participants' confidence ratings across constructions. Figures 4.7 and 4.8 show the interaction between group and construction in the felicitous and infelicitous contexts respectively. The results of the follow-up comparisons indicated that there were no statistically significant differences in native speakers' confidence ratings in the felicitous context when rating the target constructions, but their confidence level was the highest when rating the preposing construction in the infelicitous context ( $p = .001$ ). A more complex pattern was observed for advanced L2 users. The results indicated that there were no statistically significant differences in their confidence levels when rating the *it*-cleft and the *wh*-cleft in the felicitous context ( $p = .08$ ). However, a marginally significant difference existed between the two constructions in the infelicitous context, as they were more confident when rating the *wh*-cleft construction ( $p = .06$ ). Moreover, advanced L2 users' confidence level was the highest when rating the *wh*-cleft construction in the infelicitous context, but no statistically significant differences were found between the other focus constructions.

As for the intermediate L2 users, their confidence level was significantly higher when rating the *wh*-cleft construction than when rating the rest of the constructions in both types of contexts. In the felicitous context, no statistically significant differences in intermediate L2 users' confidence ratings were found when rating the *it*-cleft and the reverse *wh*-cleft, but a significant difference was observed between the *it*-cleft and the preposing construction as they were less confident when rating the preposing construction. However, no statistically significant differences in intermediate L2 users' confidence ratings were found when rating the *it*-cleft, reverse *wh*-cleft and the preposing construction

in the infelicitous context. Basically, the difference between contexts lies in the fact that in the felicitous context, both L2 users were least confident about the preposing construction. However, in the infelicitous context, their confidence levels when rating the reverse *wh*-cleft was at a similar (or even lower) confidence level.

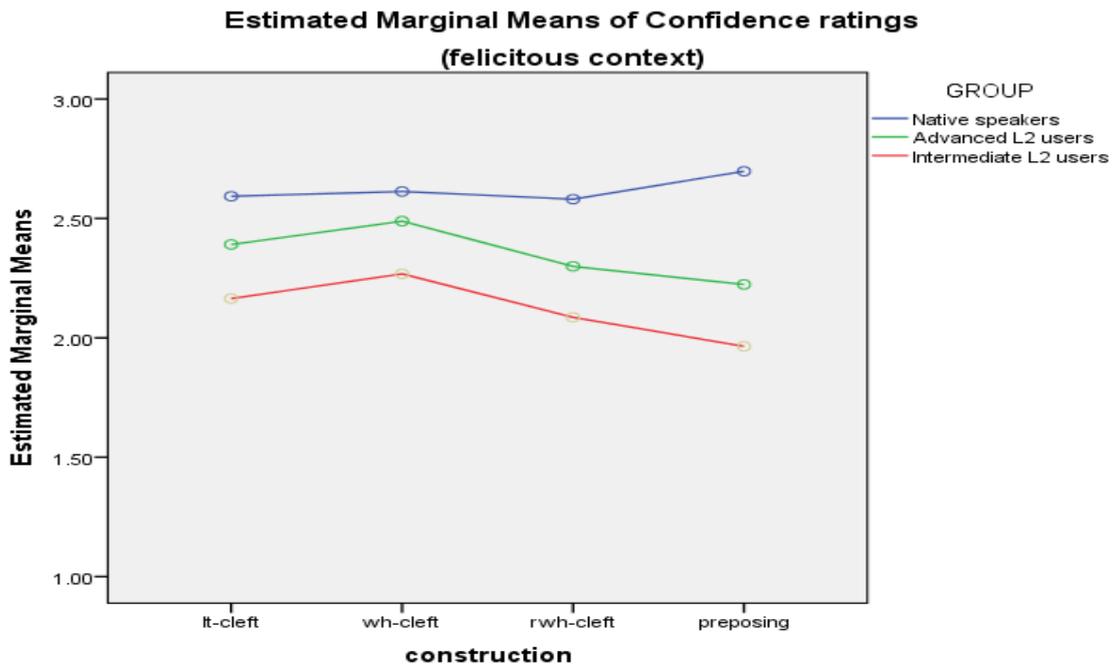


Figure 4.7. The ANOVA results of the interaction in confidence ratings between Group and Construction in the felicitous context

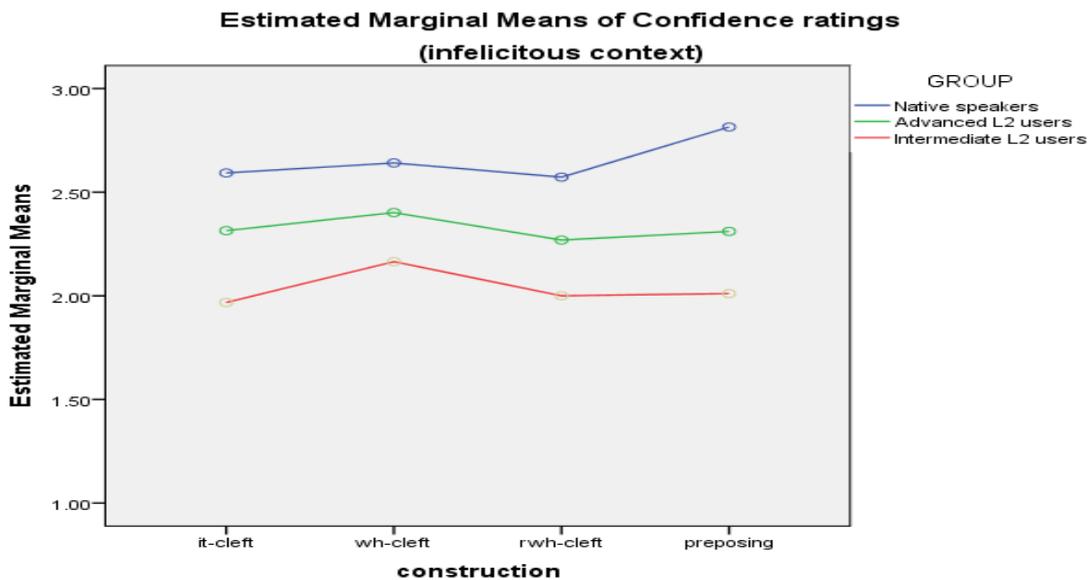


Figure 4.8. The ANOVA results of the interaction in confidence ratings between Group and Construction in the infelicitous context

It is apparent from the findings previously presented that not only were L2 users' acceptability ratings higher for the *it*-cleft and *wh*-cleft in the felicitous context than for the reverse *wh*-cleft and preposing, but so were their confidence levels. The findings from the participants' confidence ratings also revealed that native speakers were the most confident of the three groups when rating the four target constructions, followed by advanced L2 users and finally the intermediate L2 users.

#### **4.2.3 The relationship between acceptability ratings and confidence rating**

Next, it was interesting to find out whether there was a relationship between participants' confidence level and their knowledge of the appropriate contextual use of the target constructions. Table 4.8 shows Pearson's  $r$  correlation between the results obtained from the three groups' acceptability ratings and their confidence ratings for each construction. According to Cohen (1988), the effect of  $r = .2$  is considered a small effect size,  $r = .5$  is moderate, and  $r = .8$  is a large effect size. Overall, table 4.8 shows that there was no statistically significant correlation between native speakers' confidence ratings and their acceptability ratings for the. As observed from the table, there was no statistically significant correlation between native speakers' confidence ratings and their acceptability ratings for the *it*-cleft and the *wh*-cleft constructions in the felicitous context, which could be due to the fact that their confidence ratings were all at the ceiling and hence no correlation could be found. However, in the infelicitous context there was a negative correlation and a moderate effect size for the *it*-cleft only. In the case of the reverse *wh*-cleft and the preposing constructions, the results of the Pearson correlation revealed a significantly negative correlation and a small and moderate effect size in the felicitous and infelicitous contexts respectively.

For advanced L2 users, the results of the Pearson correlation indicated that there was a positive correlation and a moderate effect size in the felicitous context between their confidence ratings and acceptability ratings for the *it*-cleft, *wh*-cleft and reverse *wh*-cleft, but no statistically significant correlation was found in the infelicitous context. Interestingly, the results of the correlation analysis for the preposing construction indicated a significantly negative correlation and a small and moderate effect size in the felicitous and infelicitous contexts respectively.

As for the intermediate L2 users, the results of the correlation analysis revealed a significant positive correlation and a moderate effect size between intermediate L2 users' confidence ratings and acceptability ratings of the target constructions in both types of contexts, but no significant correlation was found for the preposing construction in either context.

Table 4.8 Summary of the correlation between scores on the acceptability ratings and confidence ratings per group

Acceptability ratings		Confidence ratings	
		Pearson Correlation	Sig. (2-tailed)
<b>Native speakers (n=31)</b>			
<u>Overall (all constructions)</u>	<u>Felicitous</u>	-0.28	0.19
	<u>Infelicitous</u>	-0.47*	0.04
<i>it</i> -cleft	Felicitous	-0.20	0.27
	Infelicitous	-0.55**	0.00
<i>wh</i> -cleft	Felicitous	-0.15	0.41
	Infelicitous	-0.25	0.17
<i>rwh</i> -cleft	Felicitous	-0.37*	0.04
	Infelicitous	-0.59**	<0.001
<i>preposing</i>	Felicitous	-0.40*	0.02
	Infelicitous	-0.49**	0.01
<b>Advanced L2 users (n=33)</b>			
<u>Overall (all constructions)</u>	<u>Felicitous</u>	0.61**	<0.001
	<u>Infelicitous</u>	0.36	0.29
<i>it</i> -cleft	Felicitous	0.66**	<0.001
	Infelicitous	-0.31	0.79
<i>wh</i> -cleft	Felicitous	0.72**	<0.001
	Infelicitous	-0.18	0.31
<i>rwh</i> -cleft	Felicitous	0.61**	<0.001
	Infelicitous	-0.32	0.07
<i>preposing</i>	Felicitous	-0.44*	0.01
	Infelicitous	-0.64**	<0.001
<b>Intermediate L2 users (n=35)</b>			
<u>Overall (all constructions)</u>	<u>Felicitous</u>	0.50	0.15
	<u>Infelicitous</u>	0.34	0.18
<i>it</i> -cleft	Felicitous	0.67**	<0.001
	Infelicitous	0.45**	0.007
<i>wh</i> -cleft	Felicitous	0.72**	<0.001
	Infelicitous	0.51**	0.002
<i>rwh</i> -cleft	Felicitous	0.50**	0.004
	Infelicitous	0.47*	0.03
<i>preposing</i>	Felicitous	0.09	0.59
	Infelicitous	-0.07	0.69

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed).

To sum up, the findings indicated that there was a relationship between the three groups' confidence ratings and acceptability ratings. However, this relationship seems to vary according to the participants' proficiency level, the type of context and type of construction. As mentioned earlier, native speakers were the most confident, followed by advanced L2 users and lastly intermediate L2 users. Also, the participants' confidence levels differed according to the type of construction, as they were more confident with the *it*-cleft and *wh*-cleft and less confident when rating the reverse *wh*-cleft and the preposing construction. However, this correlation differs according to the type of context, type of construction and proficiency group. The findings revealed no correlation between native speakers' acceptability ratings and confidence ratings in the case of the *it*-cleft in the felicitous context and the *wh*-cleft in both types of contexts. However, a correlation was found in the infelicitous context for the *it*-cleft construction and for the comparatively less frequently used constructions of the reverse *wh*-cleft and the preposing construction. For advanced L2 users, there was a correlation between their confidence ratings and acceptability ratings for the target constructions in the felicitous context only, and in both types of contexts in the case of the preposing construction. As for the intermediate L2 users, a positive correlation was found in both types of contexts for the target constructions, but no correlation was found for the preposing construction in either context.

#### **4.3 Statistics for the On-line Experiment (Self-paced Reading Task)**

RQ3: How do Saudi L2 users of English and native speakers process focus constructions, as measured by an on-line experiment?

SubQ1: Do proficiency (native speaker, Saudi advanced and intermediate L2) and type of context (felicitous vs. infelicitous) have an effect on the on-line processing of focus constructions?

A further aim of the present study is to investigate English users' on-line processing of the focus constructions in the written mode. As such, this section reports the results obtained from the self-paced reading task. The three participating groups (native speakers, advanced proficiency L2 users and intermediate proficiency L2 users) showed very high accuracy rates (98%, 97% and 97% respectively) with sentence comprehension questions when performing the on-line task. These results indicate that all of the participants were attentive to the stimulus during the task.

The reaction time data went through two-step data trimming stages. First, for all regions of the sentences, any reaction times that were less than 100 or longer than 3000 milliseconds were considered as outliers to be discarded (Roberts & Felser, 2011). The participants' reaction times were checked and none of these cut-off points were observed. After this step, for all regions, any reaction times that were longer or shorter than the participant's mean reaction times  $\pm 2.5$  standard deviation were replaced with the participant's mean reaction time  $\pm 2.5$  standard deviation (Jegerski & VanPatten, 2014). This procedure affected 1.3% of the native speakers' data, 1.2% of the advanced L2 users' data and 1.4% of the intermediate users' data.

The reaction time data analyses were carried out for all regions per construction. The focus of analysis was on two main regions: the Object region and the Verb region. The Object region carries the focused information while the Verb region carries the presupposition or old information (discussed in Chapter 2). Below are examples of the four focus constructions. The regions for each construction are separated by (/). The Verb (V) region is highlighted in **bold** and the Object (OBJ) region is underlined.

- (4.1). a. It /was /a book (Obj) /that /I /**read** (V). (it-cleft)  
 b. What /I /**read** (V) /was /a book (Obj). (wh-cleft)  
 c. A book (Obj) /was /what /I /**read** (V). (reverse wh-cleft)  
 d. A book (Obj) /I /**read** (V). (preposing)

As can be observed from the above examples, the constructions differ from each other with regard to the number of regions. The *it*-cleft construction has the most regions (6 regions), while the *preposing* construction has the fewest regions (3 regions). As for the *wh*-cleft and the reversed *wh*-cleft, they both have the same number of regions (5 regions).

Worthy of note is that the analysis is mainly concerned with the effect of context on the participants' reaction times. In other words, I wanted to find out whether the participants were sensitive to the contextual appropriate use of the focus construction and whether there was a similar on-line processing pattern among groups. The reaction times of the target regions will not be compared across constructions due to the fact that each construction either has a different word order or a different number of regions.

#### 4.3.1 Descriptive statistics for the on-line task

The overall findings indicated that the three participating groups were sensitive to the contextual effect when reading the target constructions (apart from the advanced L2 users in the case of the preposing construction). However, the three participating groups differed with regard to the regions in which this sensitivity to the contextual effect was detected. To investigate the participants' on-line processing of the experimental focus constructions in the self-paced reading task, the descriptive statistics for the participants' reaction times for each region per construction will be presented first. The reason for

analysing the regions for each type of construction is to determine for which region(s) the participants demonstrated similar on-line sensitivity to the appropriate contextual use of the focus constructions. This will provide a qualitative analysis that will highlight the similarities and differences among the three groups' processing patterns of the focus constructions. Descriptive statistics are presented first with special reference to the Object region and Verb region, as these regions carry the focused information and the presupposition respectively.

### ***It-cleft***

Table 4.9 presents the mean scores for the reaction times at each region of the *it*-cleft construction. The table shows that the participants took longer to read the regions of the *it*-cleft construction in the infelicitous context, compared to the felicitous one. The table also shows that native speakers and advanced L2 users were slower in the infelicitous than felicitous contexts when processing the *it*-cleft construction at the Object and the Verb region. Moreover, the table shows a very large difference, between the two types of context, in the reaction times of the advanced L2 users at the Verb region, and at the Object region for native speakers. As for intermediate L2 users, their reaction times were longer in the infelicitous context compared to the felicitous context at the Object region, but a reverse pattern was observed at the Verb region.

Table 4.9 Mean Reaction Times in milliseconds (standard deviations are given in parentheses) for the *it*-cleft

<b><i>It</i>-cleft</b> <i>Example</i>	Region 1 <i>It</i>	Region 2 <i>was</i>	<b><i>Object region</i></b> <i>a book</i>	Region 4 <i>that</i>	Region 5 <i>I</i>	<b><i>Verb region</i></b> <i>read.</i>
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>
<b>Native Speakers (n=31)</b>						
(+)	276 (78)	287 (61)	298 (76)	343 (68)	348 (66)	379 (68)
(-)	291 (86)	294 (63)	325 (77)	348 (79)	351 (62)	402 (78)
<b>Advanced L2 (n=33)</b>						
(+)	263 (63)	283 (64)	306 (89)	357 (79)	335 (56)	375 (86)
(-)	273 (58)	289 (62)	320 (75)	373 (63)	354 (63)	427 (129)
<b>Intermediate L2 (n=35)</b>						
(+)	270 (55)	305 (76)	322 (92)	367 (68)	343 (47)	387 (82)
(-)	267 (55)	312 (63)	343 (72)	368 (80)	364 (46)	382 (67)

Note. M = Mean; SD = Standard Deviation; (+) = felicitous context; (-) = infelicitous context; L2 = second language

### ***Wh*-cleft**

Table 4.10 presents the mean scores for the reaction times at each region of the *wh*-cleft construction. The table shows that the participants took longer to read the regions of this construction in the infelicitous context, compared to the felicitous context. Interestingly, native speakers and advanced L2 users (to a very marginal degree) were slow in reading the Object region in the felicitous context, compared to their reading of it in the infelicitous context. However, a reverse pattern was found for the intermediate L2 users, as it took them longer to read the Object region in the infelicitous context than in the felicitous one. Moreover, the table shows that advanced L2 users and intermediate L2 users were faster in reading the Verb region in the felicitous context compared to in the infelicitous context. For intermediate L2 users, the large difference in their reaction time was larger on the Verb region, and less so on the Object region.

Table 4.10 Mean Reaction Times in milliseconds (standard deviations are given in parentheses) for the *wh*-cleft

<b><i>wh</i>-cleft</b> <i>Example</i>	Region 1 <i>What</i>	Region 2 <i>I</i>	Verb region <i>read</i>	Region 4 <i>was</i>	Object region <i>a book.</i>
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>
<b>Native Speakers (n=31)</b>					
(+)	274 (81)	298 (80)	323 (90)	242 (98)	411 (129)
(-)	283 (92)	301 (73)	323 (83)	346 (101)	375 (103)
<b>Advanced L2 (n=33)</b>					
(+)	266 (71)	290 (62)	292 (55)	340 (70)	435 (104)
(-)	268 (66)	297 (65)	326 (67)	353 (70)	434 (91)
<b>Intermediate L2 (n=35)</b>					
(+)	268 (70)	309 (60)	322 (81)	340 (69)	417 (106)
(-)	298 (82)	319 (61)	381 (128)	401 (91)	425 (108)

Note. (+) = felicitous context ; (-) = infelicitous context ; L2= second language

### ***Reverse wh-cleft***

Table 4.11 presents the participants' reaction times when reading the regions of the reverse *wh*-cleft. The table indicates that the three participating groups took longer to read each of the regions in the infelicitous context compared to the felicitous context. This was particularly pronounced in the native speakers' reaction times on region 3 (*what*), and on the Verb region for both the intermediate and advanced L2 users.

Table 4.11 Mean Reaction Times in milliseconds (standard deviations are given in parentheses) for the *rwh*-cleft

<b><i>rwh</i>-cleft</b> <i>Example</i>	Object region <i>A book</i>	Region 2 <i>was</i>	Region 3 <i>what</i>	Region 4 <i>I</i>	Verb region <i>read</i>
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>
<b>Native Speakers (n=31)</b>					
(+)	293 (99)	338 (72)	321 (76)	331 (58)	421 (103)
(-)	308 (89)	356 (72)	370 (92)	337 (54)	449 (114)
<b>Advanced L2 (n=33)</b>					
(+)	308 (104)	340 (79)	327 (65)	349 (65)	385 (75)
(-)	325 (133)	351 (86)	363 (78)	381 (60)	430 (94)
<b>Intermediate L2 (n=35)</b>					
(+)	319 (102)	361 (61)	364 (75)	374 (56)	394 (60)
(-)	324 (107)	384 (97)	397 (104)	425 (102)	437 (103)

Note. (+) = felicitous context; (-) = infelicitous context; *rwh*-cleft = reverse *wh*-cleft; L2 = second language

## *Preposing*

Table 4.12 shows the three groups' reaction times as they read the regions of the preposing construction. Unexpectedly, a reversed pattern was observed when reading the regions of this construction, as the participants were slower when reading the construction in the felicitous context compared to the infelicitous one.

Table 4.12 Mean Reaction Times in milliseconds (standard deviations are given in parentheses) for the preposing

<i>Preposing Example</i>	<b>Object region</b> <i>a book</i>	<b>Region 2</b> <i>I</i>	<b>Verb region</b> <i>read</i>
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>
<b>Native Speakers (n=31)</b>			
(+)	320 (130)	371 (99)	405(149)
(-)	312 (122)	356 (90)	367 (72)
<b>Advanced L2 (n=33)</b>			
(+)	309 (91)	366 (89)	438 (173)
(-)	285 (92)	360 (72)	417 (153)
<b>Intermediate L2 (n=35)</b>			
(+)	385 (164)	378 (77)	413 (93)
(-)	349 (130)	377 (70)	400 (96)

Note. (+) = felicitous context ; (-) = infelicitous context ; L2 = second language

The descriptive statistics discussed above suggest that the type of Context (felicitous vs. infelicitous) and proficiency level (native speakers, advanced L2 users, intermediate L2 users) have an effect on participants' performance in the self-paced reading task. By employing a mixed analysis of variance (ANOVA) and follow-up pairwise comparisons using a Bonferroni correction, the statistical relevance of these patterns were investigated. The next section presents the inferential statistics that were used to answer the third research question.

### **4.3.2 Inferential statistics for the on-line task**

The present section aims to answer the third research question, which investigates the nature of the participants' on-line processing of English focus constructions. The on-

line experiment was set to provide supporting evidence with regard to the participants' knowledge of the target constructions, by examining their reaction times as they read the target constructions in the felicitous and infelicitous contexts. As such, the mean reading times per region were submitted to a 2 (type of context)  $\times$  3 (proficiency groups) mixed ANOVA. Thereby, type of context was a within-participant factor while proficiency group was a between-participant factor. The assumption for Sphericity, which measures whether the differences between the dependent variances of the participants' data are equal (Larson-Hall, 2010), was examined. The results indicated that Sphericity was not met. Therefore, the Greenhouse-Geisser correction was applied. The following sections present the results of the analysis of the reaction times for each group per construction.

### ***It-cleft***

The mixed ANOVA analysis revealed a statistically significant main effect for Context and a large effect size ( $F(1, 96) = 19.22, p < .001, \eta^2 = .17$ ), but no significant main effect was found for Group ( $F(2, 96) = .15, p = .86, \eta^2 = .003$ ) or for the interaction between Group and Context ( $F(2, 96) = 1.47, p = .23, \eta^2 = .03$ ). Post-hoc tests of simple main effects using a Bonferroni correction showed that the effect of Context on native speakers' reading times was statistically significant on the Object region only ( $p = .01$ ), and marginally significant on the Verb region ( $p = .06$ ). For advanced L2 users, the main effect of Context was statistically significant on the Verb region ( $p < .001$ ) and the preceding region 5 ( $p = .01$ ), which seems to suggest a spill over effect to the Verb region (Jegerski & VanPatten, 2014). As for intermediate L2 users, a significant main effect for Context was found on the Object region ( $p = .02$ ) and on region 5 ( $p = .003$ ), which is the Subject region. Figures 4.9, 4.10 and 4.11 show the effect of Context on the reading times of the *it-cleft* construction by native speakers, advanced L2 users and intermediate L2 users respectively.

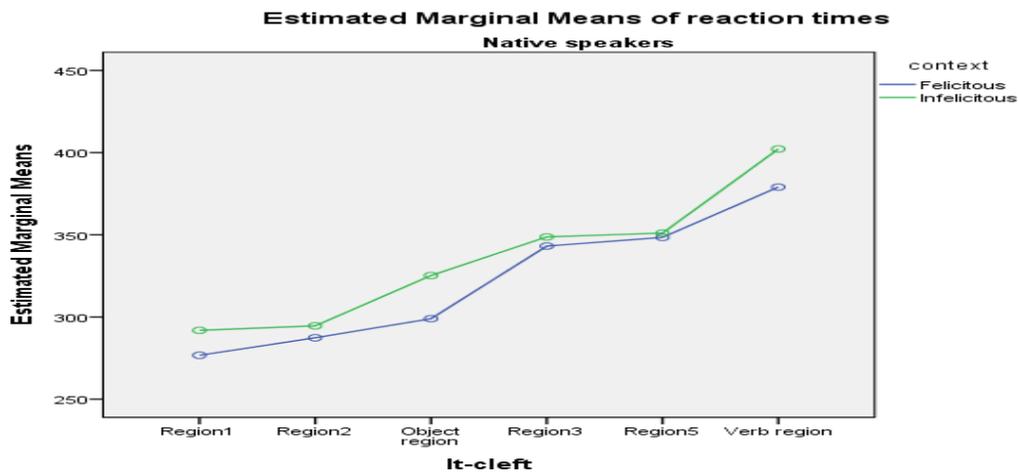


Figure 4.9. Contextual effect on native speakers' reaction times for the *it*-cleft construction

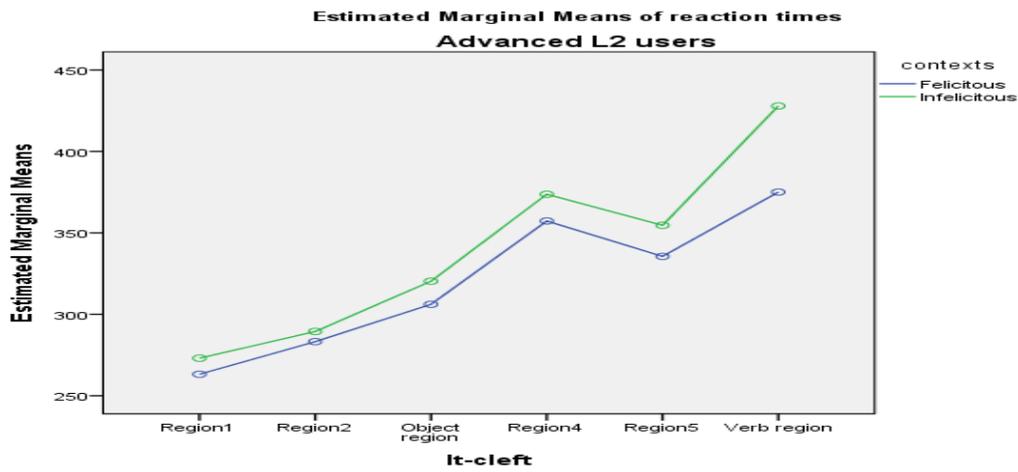


Figure 4.10. Contextual effect on advanced L2 users' reaction times for the *it*-cleft construction

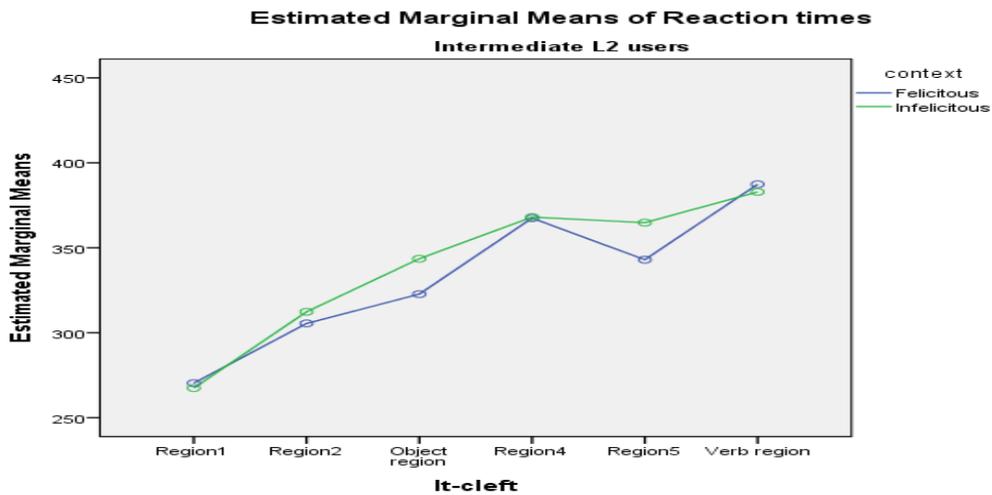


Figure 4.11. Contextual effect on intermediate L2 users' reaction times for the *it*-cleft construction

### ***Wh-cleft***

The mixed ANOVA analysis that was performed on all the regions of the *wh*-cleft revealed a significant main effect for Context and a large effect size ( $F(1, 96) = 11.96, p < .001, \eta^2 = .11$ ), but there was no main effect for Group ( $F(2, 96) = .86, p = .43, \eta^2 = .02$ ). However, there was a significant interaction between Group and Context and a large effect size ( $F(2, 96) = 7.91, p < .001, \eta^2 = .14$ ). Post-hoc tests of simple main effects using a Bonferroni correction for multiple comparisons showed that the effect of Context on native speakers' reading times when reading the *wh*-cleft construction was statistically significant on the Object region only ( $p = .02$ ). For advanced L2 users, the main effect of Context was statistically significant on the Verb region only ( $p < .02$ ). As for intermediate L2 users, a statistically significant main effect of Context was found on the first region ( $p < .001$ ), the Verb region ( $p < .001$ ) and the region that followed it ( $p < .001$ ), which suggests a spill over effect from the Verb region.

The interaction between Group and Context was caused by the fact that intermediate L2 users had significantly longer reading times than the native speakers ( $p = .01$ ) and advanced L2 users ( $p < .03$ ) on the Verb region and on the region following it in the infelicitous context. Also, native speakers had significantly shorter reading times than the advanced L2 users ( $p < .02$ ) on the Object region in the infelicitous context. Figures 4.12, 4.13 and 4.14 show the effect for Context on the reading times of the *wh*-cleft construction by native speakers, advanced L2 users and intermediate L2 users respectively.

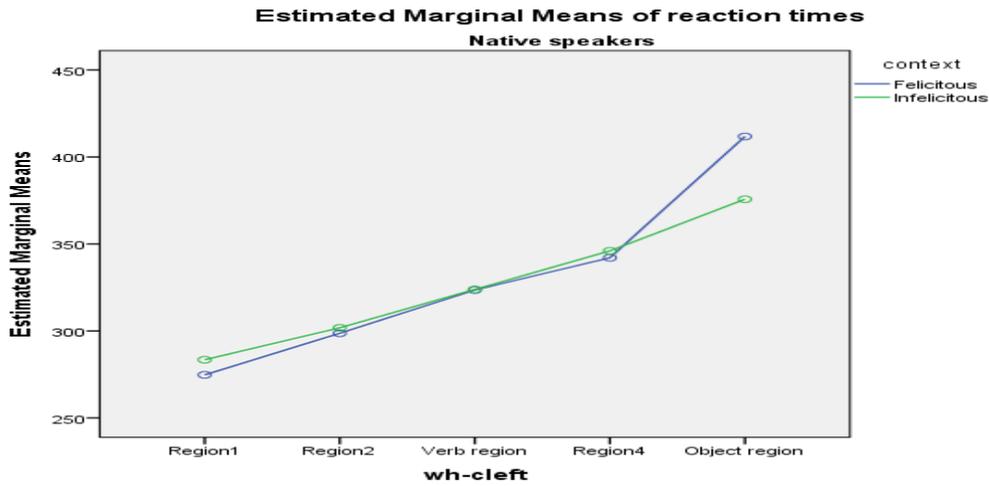


Figure 4.12. Contextual effect on native speakers' reaction times for the wh-cleft construction

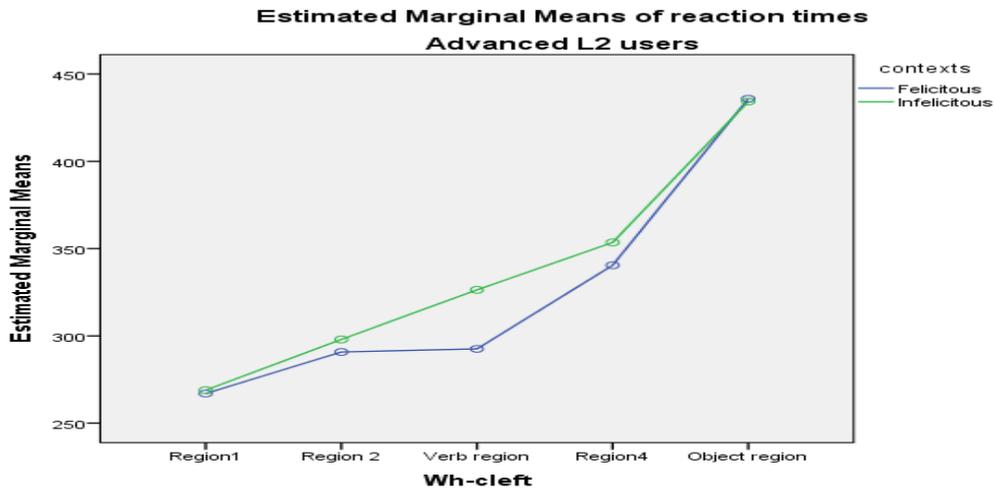


Figure 4.13. Contextual effect on advanced L2 users' reaction times for the wh-cleft construction

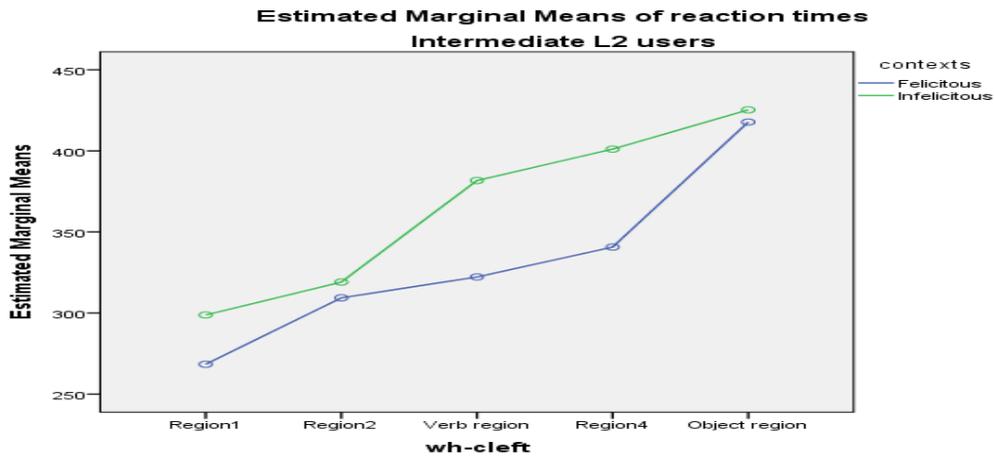


Figure 4.14. Contextual effect on intermediate L2 users' reaction times for the wh-cleft construction

### ***Reverse wh-cleft***

The mixed ANOVA analysis that was performed on all the regions of the reverse *wh-cleft* revealed a statistically significant main effect for Context and a large effect size ( $F(1, 96) = 42.03, p < .001, \eta^2 = .31$ ), but there was no main effect for Group ( $F(2, 96) = 1.37, p = .26, \eta^2 = .03$ ). There was no significant interaction between Group and Context ( $F(2, 96) = .28, p = .76, \eta^2 = .01$ ).

A follow-up post-hoc test using a Bonferroni correction indicated that the effect of Context on the native speakers' reaction times when reading the *reverse wh-cleft* construction was statistically significant on region 3 ( $p = .01$ ) only, as it took them longer to read this region in the infelicitous context. For advanced L2 users, the effect of Context was statistically significant on region 3 ( $p = .01$ ), region 4 ( $p = .01$ ) and the Verb region ( $p = .01$ ), as they took longer to read these regions in the infelicitous context than in the felicitous context. As for intermediate L2 users, a significant main effect was found on region 2 ( $p = .03$ ), region 3 ( $p < .01$ ), region 4 ( $p < .001$ ) and the Verb region ( $p = .01$ ). Figures 4.15, 4.16 and 4.17 shows the effect for Context on the reading times of the reverse *wh-cleft* construction by native speakers, advanced L2 users and intermediate L2 users respectively.

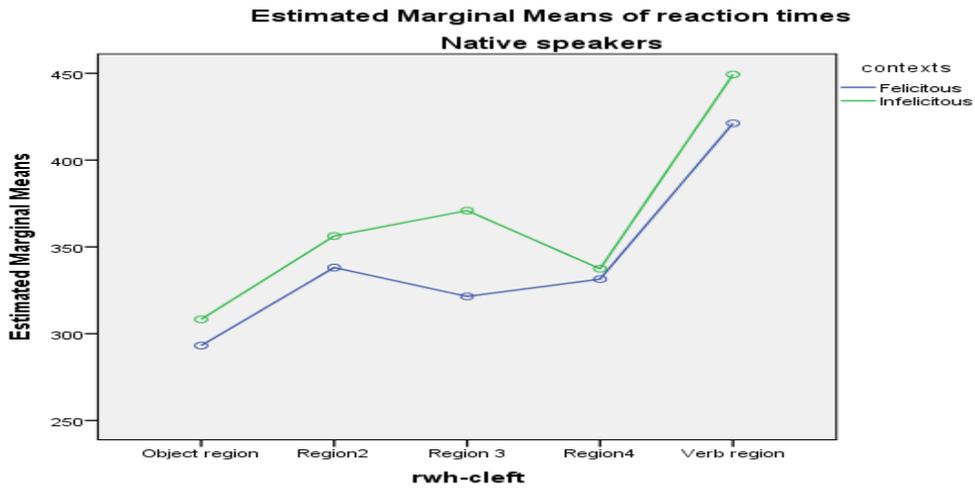


Figure 4.15. Contextual effect on native speakers' reaction times for the reverse wh-cleft construction

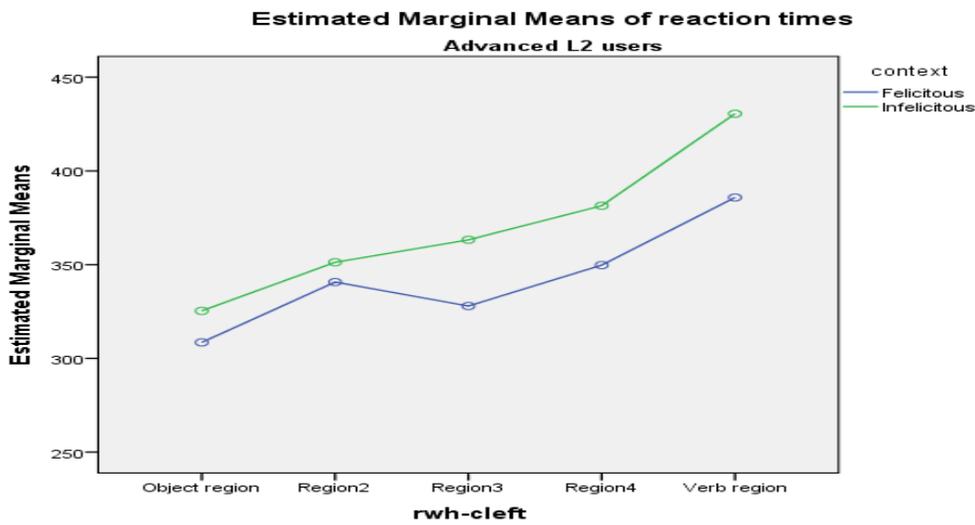


Figure 4.16. Contextual effect on advanced L2 users' reaction times for the reverse wh-cleft construction

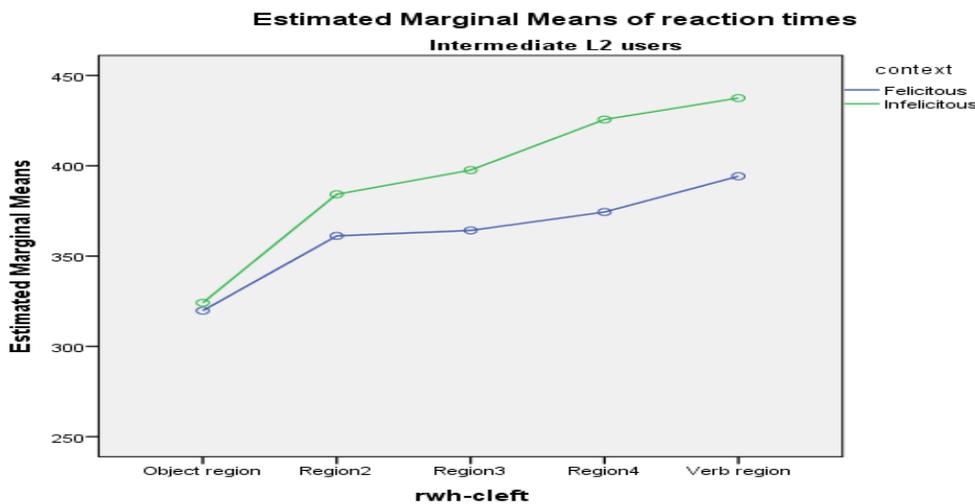


Figure 4.17. Contextual effect on intermediate L2 users' reaction times for the reverse wh-cleft construction

### ***Preposing***

The analysis revealed a statistically significant main effect for Context and a large effect size ( $F(1, 96) = 10.46, p = .002, \eta^2 = .10$ ) on the three regions of the preposing construction, but there was no main effect for Group ( $F(2, 96) = 1.37, p = .26, \eta^2 = .03$ ). Also, there was no significant interaction between Group and Context ( $F(2, 96) = .046, p = .95, \eta^2 = .001$ ). The post-hoc tests using a Bonferroni correction indicated that the effect of Context on the native speakers' reaction times when reading the preposing construction was marginally significant on the Verb region ( $p = .06$ ) only, as it took them longer to read this region in the felicitous context. For advanced L2 users, the effect of Context on their reaction times was not significant. As for intermediate L2 users, a statistically significant main effect was found on the Object region only ( $p = .01$ ), as it took them longer to read this region in the felicitous context compared to the infelicitous context. Figures 4.18, 4.19 and 4.20 visualise the effect for Context on the reading times of the preposing construction by native speakers, advanced L2 users and intermediate L2 users respectively.

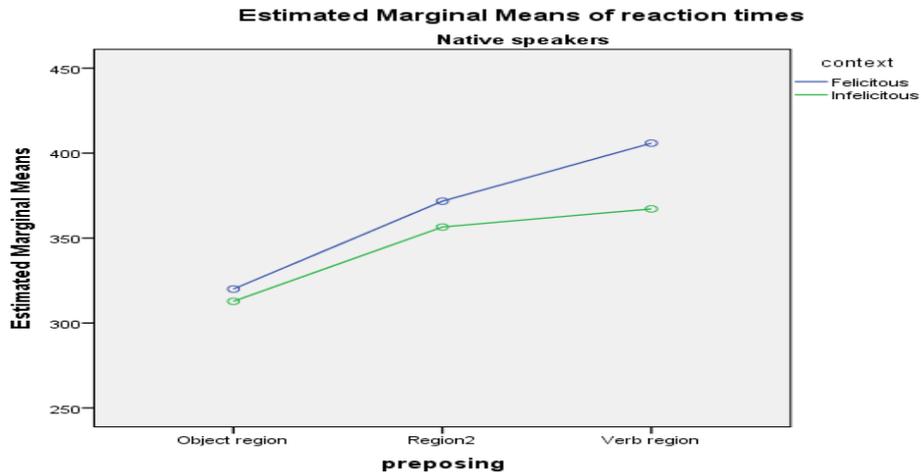


Figure 4.18. Contextual effect on native speakers' reaction times for the preposing construction

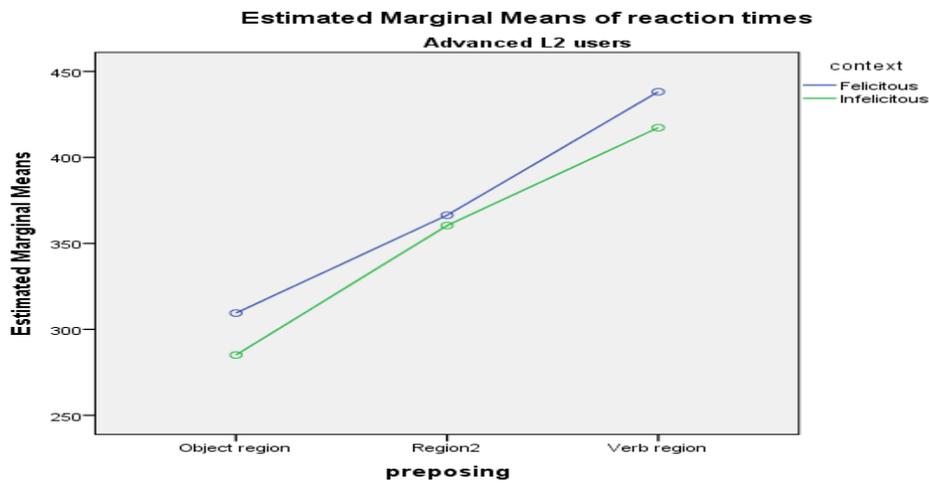


Figure 4.19. Contextual effect on advanced L2 users' reaction times for the preposing construction

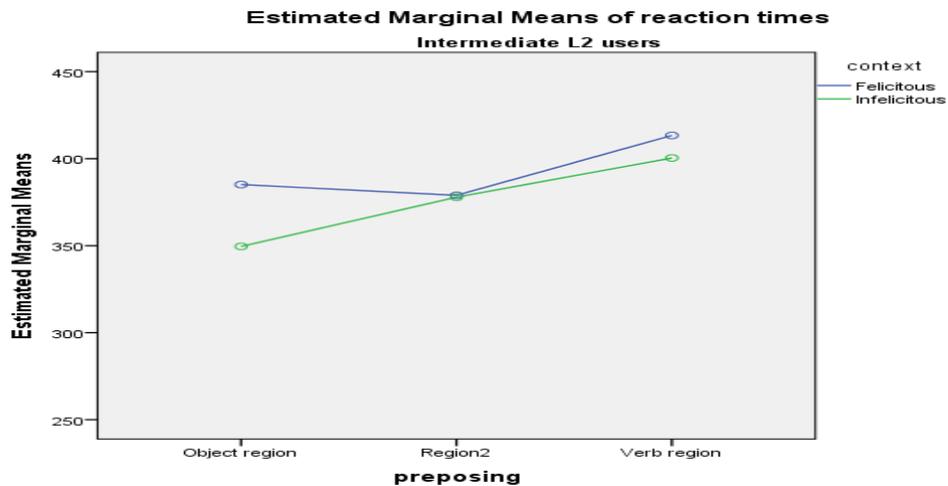


Figure 4.20. Contextual effect on intermediate L2 users' reaction times for the preposing construction

All in all, it appears from the findings above that the three participating groups read the target constructions faster in the felicitous context compared to the infelicitous context, but not in the case of the preposing construction. Moreover, the findings generally showed that native speakers were faster in reading the target constructions and in recovering from an unexpected region, while L2 users needed a bit more time to integrate (particularly intermediate L2 users). In the case of the *it*-cleft and the preposing constructions, the three groups showed almost similar reading pattern. However, native speakers and advanced L2 users had similar reading time pattern when reading the *wh*-cleft construction, but no similar pattern was found for the intermediate L2 users. As for the reverse *wh*-cleft, a similar pattern was observed in the two L2 user group, but native speakers were different.

#### **4.4 Summary of the Findings for the Present Study**

The aim of the present chapter was to present the results obtained in the whole study. The chapter has described the descriptive statistics and the results of the ANOVAs and correlation analysis performed on the data set, which was obtained from an off-line and an on-line task. These tasks were employed to investigate English users' knowledge of focus constructions. In the following section, the results are summarised by referring to the type of focus construction.

##### ***It*-cleft construction**

In summary, the results indicated that the three groups were sensitive to the appropriate contextual use of the *it*-cleft construction, as evident from their longer reaction times in the infelicitous context compared to the felicitous one. This is consistent with their results in the acceptability ratings, as they all rated the *it*-cleft construction significantly higher in the felicitous context compared to the infelicitous context. The results also

indicated that advanced L2 users' on-line processing patterns when reading the *it*-cleft construction were different from those of native speakers and intermediate L2 users. This result was also mirrored in advanced L2 users' ratings of the *it*-cleft construction in the off-line task, as they were different in their ratings from both native speakers and intermediate L2 users. Table 4.13 presents the summary of the findings for the *it*-cleft construction.

Table 4.13 Summary of the findings for the *it*-cleft construction

<i>it</i> -cleft	Acceptability Rating	Confidence Rating	Reaction Times					
			R1	R2	Object region	R4	R5	Verb region
Native speakers (n=31)	√	≈	≈	≈	√	≈	≈	≈
Advanced L2 users (n=33)	√	≈	≈	≈	≈	≈	√	√
Intermediate L2 users (n=31)	√	√	≈	≈	√	≈	√	≈

Note: √ = statistically significant differences between felicitous & infelicitous contexts, ≈ = no significant effect

### **Wh-cleft construction**

The three participating groups showed sensitivity to the appropriate contextual use of the *wh*-cleft construction, as evident from the longer reaction times in the infelicitous context. This supports the results of the off-line task as they all gave higher acceptability ratings for the *wh*-cleft construction in the felicitous context compared to the infelicitous context. The results also indicated that advanced L2 users' on-line processing pattern when reading the *wh*-cleft construction was different from that of both native speakers and intermediate L2 users. This result also mirrored advanced L2 users' ratings of the *wh*-cleft construction in the off-line task, which was different to that of both native speakers and intermediate L2 users. A short summary of the findings for the effect of context for the *wh*-cleft is presented in Table 4.14.

Table 4.14 Summary of the findings for the *wh*-cleft construction

<b><i>wh</i>-cleft</b>	Acceptability Rating	Confidence Rating	Reaction Times				
			R1	R2	Verb region	R4	Object region
Native speakers (n=31)	√	≈	≈	≈	≈	≈	√
Advanced L2 users (n=33)	√	≈	≈	≈	√	≈	≈
Intermediate L2 users (n=31)	√	≈	√	≈	√	√	≈

Note: √= statistically significant differences between felicitous & infelicitous contexts, ≈ = no significant effect.

### **Reverse *wh*-cleft construction**

As with the previous constructions, the three participating groups showed sensitivity to the appropriate contextual use of the reverse *wh*-cleft construction, as evident from their longer reaction times in the infelicitous context. This supports the results of the off-line task as they all gave higher acceptability ratings for the reverse *wh*-cleft construction in the felicitous context compared to the infelicitous context. The results also indicated that advanced L2 users' on-line processing pattern when reading the reverse *wh*-cleft construction was different to that of native speakers. It was however more similar to that of intermediate L2 users. This result also mirrors the advanced L2 users' rating of the reverse *wh*-cleft construction in the off-line task, which was different to that of native speakers but similar to that of intermediate L2 users. Table 4.15 presents a short summary of the findings for the reverse *wh*-cleft.

Table 4.15 Summary of the findings for the reverse wh-cleft construction

<i>rwh-cleft</i>	Acceptability Rating	Confidence Rating	Reaction Times				
			Object region	R2	R3	R4	Verb region
Native speakers (n=31)	√	≈	≈	≈	√	≈	≈
Advanced L2 users (n=33)	√	≈	≈	≈	√	√	√
Intermediate L2 users (n=31)	√	≈	≈	√	√	√	√

Note: √= statistically significant differences between felicitous & infelicitous contexts, ≈ = no significant effect

### Preposing construction

Contrary to expectations, the three participating groups showed reversed processing pattern when reading the preposing construction from the other focus constructions, as evident from the longer reaction times in the felicitous context. Interestingly, there was no effect for Context on advanced L2 users' on-line processing of the preposing construction, which was also evident from their acceptability ratings in the off-line task as they gave low ratings to this construction in both types of contexts. On the other hand, this was not the case for native speakers as there was an effect for Context on their on-line processing when reading the Verb region, but this effect did not show up in their ratings in the off-line task, as they gave low ratings in both types of contexts. As for the intermediate L2 users, there was an effect for Context on their on-line processing when reading the Object region. This effect was also evident from their ratings in the off-line task, as they gave higher ratings in the felicitous context compared to the infelicitous context. The summary of the results for the preposing construction is presented in Table 4.16.

Table 4.16 Summary of the findings for the preposing construction

preposing	Acceptability Rating	Confidence Rating	Reaction Times		
			Object region	R2	Verb region
<u>Native speakers</u> ( <i>n</i> =31)	≈	≈	≈	≈	≈
Advanced L2 users ( <i>n</i> =33)	≈	√	≈	≈	≈
Intermediate L2 users ( <i>n</i> =31)	√	≈	√	≈	≈

Note: √= statistically significant differences between felicitous & infelicitous contexts, ≈ = no significant effect

Having presented the results of the present study in this chapter, the following chapter (Chapter 5) will discuss the results presented above in detail with reference to the literature reviewed in Chapter 2.

## CHAPTER 5: Discussion

The previous chapter presented the results obtained from the off-line and the on-line tasks, which were employed to investigate the knowledge of native speakers and Saudi L2 users (advanced and intermediate proficiency levels) of the appropriate contextual use of English focus constructions related to object focus. The present chapter interprets those findings in relation to the research questions and hypotheses, and to the literature reviewed in Chapter 2. The chapter presents the discussion under the main research questions in separate sections.

### 5.1 Knowledge of Appropriate Contextual Use of English Focus Constructions

Research Q1: What do Saudi L2 users of English and native speakers know about the appropriate contextual use of English focus constructions related to Object focus?

SubQ1: Do proficiency (native speaker, advanced L2, intermediate L2), type of context (felicitous vs. infelicitous) and type of construction (*it*-cleft, *wh*-cleft, reversed *wh*-cleft, preposing) have an effect on English users' knowledge of the target constructions?

This question was investigated through the use of an off-line (acceptability rating) task, which was hypothesised to measure the participants' explicit knowledge (N. Ellis, 2005). As noted throughout this thesis, the use of these constructions is context dependent, and serves to organise information within the construction to highlight a particular element in the sentence (the object of a canonical sentence in this study). Since information structure is part of the construction grammar (Lambrecht, 1994, p.3), knowledge of these constructions requires understanding of their appropriate contextual use, that is, the ability to realise the fit between the use of these

constructions in a felicitous context and their misfit in an infelicitous context. According to usage-based approaches, this knowledge comes about as a result of frequent exposure to incidents of the use of these constructions in the target language (English). Since these constructions are not frequently used in English (Biber et al., 1999), it was hypothesised that the different proficiency groups would have different knowledge of the appropriate contextual use of the focus constructions.

### **5.1.1 Acceptability ratings**

In the off-line task, the three participating groups' knowledge of the contextually appropriate use of the focus constructions in English was assumed to be reflected in their high acceptability ratings of these constructions in the felicitous context and low acceptability ratings in the infelicitous context. It has been argued that some tasks promote the use of implicit knowledge while others are more likely to tap into explicit knowledge (Andringa & Rebuschat, 2015; Bowles, 2011; Doughty, 2003; Han & Ellis, 1998; Norris & Ortega, 2000). This is due to the fact that the nature of the task itself can motivate the use of explicit knowledge in L2 performance because the demands of task type might influence the types of knowledge deployed in terms of the degree of analysis and control (Bialystok, 1982, 1986). Direct tests, like the offline task in the present study, are untimed and give participants chance to reflect, analyse and build on previous acquired linguistic knowledge. The nature of the offline task requires participants to evaluate the appropriateness of the use of the focus constructions in two types of contexts (felicitous and infelicitous) and then indicate their level of confidence. Hence, they are more likely to promote explicit knowledge (Rogers, 2016). However, this interpretation is not without problems, as there is no guarantee that participants are not relying on their implicit knowledge when completing an untimed task (offline task), which is argued to be reflective of explicit knowledge. That is, the results obtained from

an untimed test might not reflect pure explicit knowledge, as they could have been affected by the participants' reliance on their implicit knowledge as well (Rebuschat, 2013). It should be stressed that no particular task is reflective of purely implicit or purely explicit knowledge (N. Ellis, 2005).

The following sections discuss the three groups' knowledge of English focus constructions in relation to the results of the acceptability ratings for each target construction. This is obtained by examining the main variables investigated in this study such as the type of context, type of construction and proficiency level in English.

#### **5.1.1.1 The *it*-cleft construction**

An ANOVA analysis revealed a statistically significant difference in the acceptability rating of the *it*-cleft construction in the felicitous and infelicitous contexts by the three participating groups. The participants gave higher ratings in the felicitous context compared to the infelicitous one, which suggests that they were sensitive to the appropriate contextual use of the target construction. The fact that both L2 users were sensitive to the appropriate contextual use of the *it*-cleft construction is in line with the usage-based approach, which assumes that linguistic knowledge is driven by language users' experience with the target language and that the strength of representation in mental grammar is sensitive to the frequency of exposure to language input (N. Ellis, 2002).

However, the results also showed that the different proficiency groups had different views regarding the appropriateness of the use of the *it*-cleft construction in both types of contexts, which signals a role for proficiency in the comprehension of the target construction. This is supported by the results obtained from the repeated measures ANOVA, which revealed a significant main effect for group. The pairwise comparisons

indicated that advanced L2 users' acceptability ratings differed significantly from those of native speakers and intermediate L2 users in the felicitous context, but no significant differences were found between native speakers and intermediate L2 users. In the felicitous context, native speakers and intermediate L2 users considered the use of this construction as somewhat appropriate with a mean rating of 4.08 and 4.14 out of 6, respectively. Compared to other target constructions, the *it*-cleft construction is more commonly used for highlighting an element, but it is not frequently used to highlight the Object of the sentence in English (St. John & McClelland, 1990). This may explain the rating given by native speakers, suggesting that they were sensitive to the construction's limited use in the written mode in English. On the other hand, intermediate L2 users' ratings seemed to indicate that they had explicit knowledge of the use of the *it*-cleft in English. This could be due to the nature of the task, since it allowed the participants enough time to access their explicit knowledge and to understand the form-meaning mapping.

As for advanced L2 users, their ratings were significantly higher than those of the other two groups, as they considered the use of the *it*-cleft to be appropriate with a mean rating of 4.64 out of 6. A possible explanation for the advanced L2 users' higher ratings for this construction could relate to their tendency to over-use sentence types headed by the subject *it*, which is a characteristic feature of subject-prominent languages such as English (Boström Aronsson, 2003; Callies, 2009, p.105; Hinkel, 2002). Advanced L2 users' performance could also be explained as a demonstration of overgeneralisation, signalling the development of their linguistic knowledge. Such an interpretation could suggest a U-shaped acquisition profile. To illustrate, the process of Saudi L2 users' learning of the use of the *it*-cleft construction would involve an initial target-like knowledge, as evident from the similar ratings of intermediate L2 users and

native speakers. As L2 users develop more advanced linguistic knowledge, their knowledge of the target construction changes and becomes less native-like, as they go through a stage of restructuring. In this study, this is reflected in the advanced L2 users' significantly different ratings compared to those of native speakers and intermediate L2 users. After more experience with the target language, their knowledge once again develops to a native-like knowledge. Accordingly, the advanced L2 users in this study are in the process of developing their knowledge of the target construction. This is in line with the cognitive linguistic account that L2 users' interlanguage development is gradual (N.Ellis, 2005; Robinson & Ellis, 2008; Selinker, 1972).

In the infelicitous context, a different pattern is observed for the three groups. The results indicated a significant difference between native speakers' ratings and those of the two L2 user groups, as native speakers gave lower ratings than the other groups. Native speakers considered the use of the *it*-cleft construction as inappropriate, with a mean rating of 2.2 out of 6, while advanced L2 users and intermediate L2 users considered its use to be somewhat inappropriate with a mean rating of 3.30 and 3.20 out of 6 respectively. This suggests that L2 users have a more limited knowledge of the information structure constraints of the use of the *it*-cleft construction.

In sum, the results indicate that all three participant groups have knowledge of the appropriate contextual use of the *it*-cleft construction, as they were sensitive to the contextual effect when placing their acceptability judgements. Moreover, the results are in line with the usage-based approach, which assumes that linguistic knowledge is driven from language users' experience with the target language (N. Ellis, 2002). In addition, the results presented evidence of the fact that L2 users gradually construct their system of L2 representation over a considerable period of time and language use (Robinson & Ellis, 2008, p.8). According to usage-based approaches, native-like

knowledge of the conventional ways of using constructions will come about gradually through long-term practice with the target language, which is similar to the process of learning undergone by a native speaker (N. Ellis, 2001, 2003). As Langacker (2005) argues, the process of language learning is aided by a process of generalisations over previously acquired constructions. In this regard, the present study reveals that although the *it*-cleft construction is not very frequent in the target construction, L2 users were able to realise its function. Advanced L2 users' higher ratings compared to those of the other two groups are likely to highlight a process of generalisation and restructuring, since this is one of the cognitive processes that learners undergo when dealing with L2 input (N. Ellis, 2001, 2003).

#### **5.1.1.2 The *wh*-cleft construction**

Like the case in the *it*-cleft construction, the three groups showed sensitivity to the appropriate contextual use of the *wh*-cleft construction. This is supported by the significant main effect for context, as they gave higher ratings in the felicitous context compared to the infelicitous one. As pointed out earlier in the case of the *it*-cleft construction, the fact that both L2 users were sensitive to the appropriate contextual use of the *wh*-cleft construction is in line with the usage-based approach, which assumes that linguistic knowledge is driven from language users' experience with the target language (N. Ellis, 2002).

The participants' acceptability ratings indicated that they had different views with regard to the appropriate use of the *wh*-cleft construction in both types of contexts, which again suggests a role for proficiency. This is supported by the results obtained from the repeated measures ANOVA, which revealed a significant main effect for group. The pairwise comparisons indicated that there were significant differences between the three groups in the felicitous context. In this context, native speakers

considered the use of the *wh*-cleft ‘somewhat appropriate’ with a mean rating of 3.53. However, their acceptability ratings for this construction were significantly lower than for the *it*-cleft construction, as evident from the significant main effect for construction. This could relate to the fact that the felicitous context in this study evoked a contrastive focus. This type of focus is found to be strongly associated with the *it*-clefts and less so for the *wh*-clefts in English (Biber et al, 1999, p.962; Cowels, 2003, p.32; Givón, 2001, p.225; Kiss, 1998, p.250; Ward et al., 2002). Fronting the focused element within the *it*-cleft gives it an emphasising effect, which is less salient in the *wh*-cleft. This emphasis relates to the idea that *it*-clefts carry contrastive focus, which facilitates the identification of an appropriate alternative that best refers to the asserted constituent in the utterance and excludes the remaining alternatives. For example:

- a. *Did you say you read a book or a magazine?*
  - a. *It was a book that I read*
  - b. *What I read was a book*

Here, the question consists of two alternatives, one of which needs to be selected, and for the purpose of highlighting this element, the use of one of the focus constructions becomes appropriate. This process of selecting one of the alternatives over another conveys a contrastive focus, which involves the activation of the pragmatic presupposition (Lambrecht, 2001). This feature makes the *it*-cleft appropriate in contexts in which a pragmatic proposition is highly activated, as in the example above, more so than the *wh*-cleft. As discussed in Chapter 2, Lambrecht (2001) argued that the difference between the *it*-cleft and the *wh*-cleft largely depends on the activation of the pragmatic presuppositions in a discourse. In other words, the use of the *it*-cleft

construction is restricted to contexts in which the pragmatic presupposition is strongly activated, but the *wh*-cleft constructions “tolerate pragmatic presuppositions that are only semi active at the time of the utterance” (Hilpert, 2014, p.185). Accordingly, this makes the use of the *it*-cleft more appropriate in the felicitous context, and hence explains native speakers’ higher ratings.

On the other hand, advanced L2 users’ ratings of the *wh*-cleft in the felicitous context were higher than those of the native speaker group and intermediate L2 users. Moreover, advanced L2 users rated this construction as the most appropriate compared to the rest of the focus constructions, as they considered its use to be appropriate with a mean rating of 4.98 out of 6. This is supported by the result of the repeated measures ANOVA, which revealed a significant main effect for construction. The pairwise comparisons indicated that the advanced L2 users rated this construction significantly higher than the other constructions.

A likely explanation for these high acceptability ratings could relate to the fact that this construction has a canonical word order (discussed in Chapter 2), which is absent from the rest of the focus constructions. This suggests that advanced L2 users prefer sentence types that are similar to those they have encountered in their previous experience with the target language (Mitchell et al., 1995). This hypothesis can be supported by a piece of anecdotal evidence obtained from two advanced L2 users after completing the questionnaire. At the end of the testing session, one of the participants pointed out that she rated the *wh*-cleft as the most appropriate construction as she found the construction similar to ‘a normal sentence’. Another participant said that the best option was the *wh*-cleft because the sentence was “grammatical” and then she clarified her point of view by pointing to the subject, the verb and the object in the construction. The two participants’ views indicated that they preferred sentence types that enabled

the clear identification of a ‘canonical’ word order, which they had been frequently exposed to in their EFL setting. Their views might be shared by other Saudi L2 users, and this may explain the comparatively high acceptability of the *wh*-cleft construction.

Another possible explanation for their high acceptability ratings could be the fact that the construction can be used in other contexts, for example serving discourse-management functions (Hopper, 2001; Kim, 1995). An example of such functions, which were identified by Kim (1995), are disagreement and repair (as in the examples *What I said was/What I meant was...* respectively). In both possibilities, then, the findings seem to imply that they relied on their previous experience with the target language, which is in line with the usage-based approach to language acquisition (Ellis, 2002, 2005; Goldberg, 1995).

However, advanced L2 users’ high ratings compared to those of native speakers seem to signal a tendency for generalisation, which in turn is likely to be indicative of their limited knowledge of the *wh*-cleft construction as a syntactic focusing device in English. The result is in line with Rowley-Jolivet and Carter-Thomas’s (2005) claim that even in the advanced stages, L2 users tend to show insufficient knowledge of the functions of *wh*-clefts, particularly when they serve as an information-highlighting device. According to usage-based approaches, the inconsistent mapping of form and function (i.e., the same form (*wh*-cleft) serves different functions) is likely to cause difficulty in learning linguistic constructions (Ellis, 2002, 2005; Goldberg, 1995). As such, it could be that the different functions for the *wh*-cleft in English could have caused advanced L2 users to have limited knowledge of its appropriate use as a focusing device, as evident from their high acceptability ratings. This in turn highlights some sort of difficulty in understanding the appropriate use of the target construction.

Interestingly, intermediate L2 users considered the *wh*-cleft construction to be equally appropriate as the *it*-cleft construction in the felicitous context. Intermediate L2 users also considered the use of the *wh*-cleft as ‘somewhat appropriate’ with a mean rating of 4.20 out of 6. There were also no significant differences between intermediate L2 users’ acceptability ratings of the two constructions, which is likely to suggest that intermediate L2 users, like advanced L2 users, have limited knowledge of the use of the *wh*-cleft as a focusing device in English. This is supported by the fact that their acceptability ratings for this construction were significantly higher than those of native speakers, but at the same time they were significantly lower than those of advanced L2 users. As with the advanced L2 users, intermediate L2 users’ higher ratings could be seen as an attempt to generalise incidents of the different uses of the *wh*-cleft construction in the target language, in order to arrive at the correct interpretation, as has been argued by the usage-based approaches (Ellis, 2002, 2005). Moreover, the formal feature of the *wh*-cleft, as it presents the subject of the sentence in initial position (as in the canonical word order), is likely to have caused intermediate L2 users to correctly interpret its discourse functional use and hence rate it as acceptable. According to VanPatten (1990, 1996), L2 users, particularly in the early stages of proficiency, tend to process input for meaning and also tend to process the first noun in the sentence as the subject/agent.

In the infelicitous context, native speakers gave the lowest ratings of all groups. Interestingly, native speakers’ low acceptability ratings for the *wh*-cleft were not as low as for the *it*-cleft construction. Native speakers considered the use of the *wh*-cleft ‘somewhat inappropriate’ with a mean rating of 2.80 out of 6, whereas they considered the use of the *it*-cleft construction ‘inappropriate’ with a mean rating of 2.20 out of 6. This difference was statistically significant, with the *wh*-cleft being rated significantly

higher than the *it*-cleft construction. In fact, native speakers' ratings for the *wh*-cleft construction in the infelicitous context were the highest, compared to the other constructions in the same context. As pointed out earlier, this could be explained by the fact that the use of the *wh*-cleft construction is less constrained by context than the use of the *it*-cleft construction (Hilpert, 2014).

On the other hand, there were no significant differences between the two L2 user groups in the acceptability ratings in the infelicitous context. Advanced L2 users and intermediate L2 users considered the use of the *wh*-cleft in the infelicitous context as 'somewhat appropriate' with a mean rating of 3.61 and 3.70 out of 6 respectively. Interestingly, although they found the use of this construction more appropriate in the felicitous context than the infelicitous context, they found its use to be also acceptable in the infelicitous context. This finding seems to support the previous assumption with regard to L2 users' limited knowledge of the functional use of the *wh*-cleft construction in English.

### **5.1.1.3 The reverse *wh*-cleft construction**

As with the previous constructions, the three groups showed sensitivity to the appropriate contextual use of the reverse *wh*-cleft construction. This is supported by the significant main effect for context, as they gave higher ratings in the felicitous context compared to the infelicitous one. Although native speakers' acceptability ratings were significantly higher in the felicitous context than in the infelicitous one, they considered its use in the felicitous context to be 'somewhat inappropriate' with a mean rating of 3.10 out of 6. A possible explanation could relate to the fact that the use of this construction is infrequent in English when compared to the *it*-cleft and the *wh*-cleft constructions. In fact, the "reversed *wh*-clefts are infrequent in all registers" (Biber et al., 1999, p.961). Another likely explanation could relate to the fact that English more

frequently relies on phonological cues like heavy stress on a sentence constituent to direct attention to its referent, but less so on syntactic factors (Robinson & Ellis, 2008, p.37; Talmy, 2007). However, the fact that they gave lower ratings in the infelicitous context is likely to indicate that they were sensitive to the information structure violation, which, as mentioned earlier, is part of the construction grammar (Lambrecht, 1994).

Unlike the native speakers, both groups of L2 users found the use of the reverse *wh*-cleft somewhat appropriate in the felicitous context with mean ratings of 4.33 and 3.77, but somewhat inappropriate in the infelicitous context with mean ratings of 3.00 and 3.03 respectively. As with the previous constructions, this seems to indicate that the L2 users had limited knowledge of its use in English. Interestingly, advanced L2 users and intermediate L2 users shared similar views with regard to the appropriate use of this construction, as there were no significant differences in their ratings in both types of contexts. This indicates that the two L2 users had limited knowledge of the appropriate contextual use of this construction, which could be due to its low frequency use in English. In other words, if the target construction was used frequently in the input of the target construction, then advanced L2 users would have shown different patterns to those of intermediate L2 users (as was observed for the more frequent constructions of the *it*-cleft and *wh*-cleft). Again, the findings obtained for the reverse *wh*-cleft construction indicate that the frequency of the construction is crucial for its acquisition (Ellis, 2002, 2005; Goldberg, 1995; Goldberg & Casenhiser, 2008; Langacker, 1987, 1990, 1999; Tomasello, 2000).

Moreover, the fact that both L2 user groups found the use of the target construction acceptable in the felicitous context and less so in the infelicitous context, regardless of its formal feature (as it presents the Object (focused information) in

subject-initial position), is likely to suggest that the two groups relied on the same attentional resources. This assumption was made because the two L2 users' ratings in both types of contexts were similar only for this construction, which is likely to suggest that advanced L2 users were, like intermediate L2 users, attentive to the meaning of the target construction. According to VanPatten's (1996) input processing theory, L2 users prioritise meaning before form when attempting to understand the input, particularly when the input (or construction) is new to them, and they are able to attend to form only after having developed their knowledge of the target construction in later stages. The L2 users' higher ratings of the reverse *wh*-cleft construction compared to those of the native speakers suggest that they have limited knowledge of the appropriate contextual use of this construction.

#### **5.1.1.4 The preposing construction**

Similar to the above findings, the three groups differed with regard to the appropriate use of the preposing construction. This again suggests a role for proficiency. The results of the repeated measures ANOVA indicated a significant main effect for proficiency. The follow-up pairwise comparison showed significant differences between native speakers and the two L2 user groups, but no significant differences were found between the two L2 user groups.

As with the previous constructions, native speakers' acceptability ratings for the preposing construction were significantly lower in both types of contexts than the L2 user groups. Native speakers found the use of the preposing construction to be inappropriate in both types of contexts, which was evident from their mean rating of 1.50. This indicates that this construction is not preferred in English regardless of its discourse function, as there was no significant effect for context on native speakers' ratings. This could be explained in light of the descriptive accounts of English

preposing constructions outlined in Chapter 2, specifically the fact that the use of this construction is a dis-preferred option in the written mode and relatively rare in English (Callies, 2009, p.51; Odlin 1989, p.44; Waugh & Lafford, 1994, p. 2380). In other words, the fact that the preposing construction was presented to the participants in writing (visually) with the absence of phonological cues, such as intonation, could have encouraged native speakers to realise its infrequent use in writing and hence rate it as inappropriate.

It is worth mentioning here that the native speakers in this study were teachers of English as a foreign language. Thus it is a fair assumption that they have drawn on their metalinguistic knowledge when rating the preposing construction as inappropriate. This is supported by the significant correlation between their acceptability judgement and their confidence ratings, which indicates that they were conscious of the knowledge that guided their decision, as will be discussed in detail in the following section. In this regard, it would be interesting to find out whether the same results would be obtained from a different sample of native speakers with lower metalinguistic knowledge of English grammar.

Out of the four constructions under investigation, native speakers found the preposing construction to be the least appropriate (cf. main effect of construction in repeated measure ANOVA). The pairwise comparison indicated that the preposing construction was rated significantly lower than the rest of the focus constructions. The fact that native speakers found the preposing construction a dis-preferred option is supported by Hock and Joseph's (1996) observation that Modern English increasingly appears to disfavour topicalised structures such as the preposing one and that 'many speakers of English, especially in the American Midwest, are quite uncomfortable with such structure' (1996, p.210). Instead, speakers seem to prefer alternative syntactic

devices such as the *it*-cleft. This observation is also evident in the ratings of the British native speakers in the present study, as they gave the highest acceptability ratings for the *it*-cleft and the lowest ratings for the preposing construction. This hypothesis could be supported by a piece of anecdotal evidence obtained while conducting the study. One of the native speakers pointed out that she found the use of the preposing construction ‘quite odd’ in writing, but she would find it appropriate in an oral conversation. This view might have been shared by other native speaker participants, which may explain the low acceptability ratings in both types of contexts. This finding is similar to Callies (200<sup>9</sup>), who found that the use of the preposing construction in the written mode is a dis-preferred option by American native speakers. The findings of this study revealed that the British native speakers also found the use of the preposing construction a dis-preferred option.

Quite interestingly, although the findings indicate that advanced L2 users’ ratings were significantly different to those of native speakers, advanced L2 users shared similar views with native speakers in many respects. Like native speakers, advanced L2 users found the use of the preposing construction to be a dis-preferred option in both types of contexts. Moreover, both advanced L2 users and native speakers were not sensitive to the contextual effect when rating the target construction, as there was no significant effect for context for both groups. Advanced L2 users also considered the use of the preposing construction to be the least appropriate of the target constructions, which is evident from the results of the repeated measure ANOVA, which indicated a main effect for the type of construction. The pairwise comparison indicated that the preposing construction was rated significantly lower than the rest of the focus constructions.

The fact that advanced L2 users gave significantly higher acceptability ratings than native speakers may evidence a limited knowledge of the contextual appropriateness of the use of the preposing construction in English, since it is a dis-preferred option in English and should receive low ratings. As such, the higher ratings might suggest that advanced L2 users are unfamiliar or possibly unsure about the contextual use of the preposing construction. This assumption is similar to that of Callies (2009), who argued that the higher ratings of the advanced L2 users in his study compared to the ratings of native speakers indicated that advanced L2 users had limited knowledge of the use of the preposing construction in English. However, the fact that advanced L2 users, like native speakers in the present study, were not sensitive to the contextual effect seems to indicate that advanced L2 users partly based their acceptability ratings on the formal feature of the preposing construction. Learners know from previous experience with the target language that the canonical word order of English is SVO. Realising that the preposing construction has a different word order (OSV) could have made advanced L2 users consider it as an inappropriate option. According to VanPatten (1990, 1996), L2 users prioritise meaning before form in order to understand the input in the early stages of acquisition and as their linguistic knowledge develops, as a result of experience with the target language input, their focus shifts to the formal feature of the construction. Moreover, VanPatten (1990, 1996), as pointed out above, argued that L2 users tend to process the first noun in the sentence as the subject/agent. In the case of the preposing construction, the first noun is not the subject but rather the object of the sentence. This could have made them reject the construction and hence consider its use to be inappropriate.

Unlike the higher proficiency groups, intermediate L2 users were sensitive to the contextual effect, as evident from the significant main effect for context. Their

acceptability ratings showed that they found the use of the preposing construction somewhat inappropriate in the felicitous context with a mean rating of 3.01 and inappropriate in the infelicitous context with a mean rating of 2.40. Interestingly, although there were no significant differences between the acceptability ratings of advanced L2 users and intermediate L2 users, they differed with regard to their sensitivity to the contextual effects. Unlike advanced L2 users, intermediate L2 users were sensitive to the contextual effects, as evident from the significant effect for context. Their performance seems to suggest that they have prioritised meaning over form to guide their interpretation (Robinson & Ellis, 2008; VanPatten 1990, 1996), since the preposing construction is infrequent in English.

Another likely explanation for intermediate L2 users' sensitivity to the contextual effect relates to a possible L1 Arabic influence, as Arabic allows for the placement of the object (patient) of a sentence in initial-sentence position to direct attention to the most focal element in the sentence (Al-Jurgani, 1984; Suleiman, 1989, p.218). It has been argued that L2 users with lower proficiency in the target language are likely to transfer grammatical features from their source language to help them with learning the L2 (N. Ellis, 2002, 2006; R. Ellis, 2008, p.470). Nevertheless, this assumption needs to be further investigated, since the present study did not look in to Saudi learners' perception of the use of the preposing construction in Arabic.

### **Summary**

To sum up, the findings indicate that the three participating groups were sensitive to the contextual effect when placing their acceptability judgements of target constructions, apart from the preposing construction. This indicates that they were sensitive to the information structure of the target constructions, since after all

information structure is part of the sentence grammar, which makes the construction meaningful (Lambrecht, 1994). Moreover, the results also revealed that there was an effect for proficiency, as different proficiency groups showed different performances. Also, there was an effect for the type of construction, which was clear from the high ratings that the participants gave to the reasonably frequent constructions (the *it*-cleft and *wh*-cleft) compared to the less frequent ones (reverse *wh*-cleft and the preposing construction). Therefore, the results lend support to the usage-based approach, which assumes that linguistic knowledge is driven by language users' experience with the target language (Ellis, 2002, 2005). In addition, the results presented evidence of the fact that L2 users gradually construct their system of L2 representation over a considerable period of time and language use (Robinson & Ellis, 2008, p.8), as evident from advanced L2 users' performance when rating the *it*-cleft and the preposing construction.

The following section of this chapter discusses the findings in relation to the participants' confidence levels when rating the acceptability of the use of the target constructions in different contexts.

## **5.2 English Users' Confidence Ratings**

Research Q2: How confident are Saudi L2 users of English and native speakers about the knowledge that guided their decisions in the off-line task?

- a) Is there a difference in participants' confidence level between the felicitous and infelicitous contexts?
- b) Is there relationship between participants' knowledge of the use of focus constructions and their level of confidence?

The second research question asks whether English users were aware of their knowledge of the appropriate contextual use of the target constructions when rating these constructions in the two types of contexts. This question was answered by examining their confidence level. By answering this question, the study goes on to investigate whether there is a relationship between their acceptability ratings and their confidence levels. It has been suggested that knowledge can be considered conscious if there is a statistically significant relationship between the level of confidence and performance (Dienes, 2008; Dienes et al., 1995; Rebuschat, 2013). As such, it was assumed that looking into the relationship between participants' acceptability ratings and their level of confidence would help to determine what type of knowledge the participants employed when completing the off-line task.

The present study used a subjective measure of awareness, namely a confidence-rating task instead of other common methods that have been used to assess whether participants have explicit or implicit knowledge such as verbal reports, which ask participants to verbalise any rule that they notice when performing a given task (Leow, 2000; Leow & Bowles, 2005). Verbal reports have been criticised for the view that knowledge is unconscious if participants are unable to verbalise the knowledge that they have acquired. According to this method, knowledge is considered to be unconscious when participants show an effect of training (e.g. above-chance performance on a grammaticality judgement task), regardless of being unable to describe the knowledge that underlies their performance. It has been argued that verbal reports are an incomplete measure of awareness, given that it is possible to be aware of something without being able to verbally describe it (Rebuschat & Williams, 2012). However, the use of retrospective verbal reports was not possible in the current study, given that the time frame of the study was limited, and it employed both offline and

online tasks that need to be completed by 99 participants from three different language proficiency groups. As an alternative, confidence ratings were found to be more efficient for the purposes of the present investigation. This type of measure is used to assess the conscious state of judgement knowledge (Dienes et al., 1995), based on which participants can judge whether the items are acceptable or not. Confidence ratings are found to provide some information about participants' level of awareness as they access their stored knowledge (Leow, 2015). As such, this kind of measure is likely to provide evidence about the conscious state of participants' knowledge, which is a distinctive feature of explicit knowledge (Reber, 1969, 1976).

As discussed in Chapter 2, explicit knowledge is the knowledge that learners have awareness of (to some degree) and is typically available through controlled processing (N. Ellis, 2005; R. Ellis et al., 2009). It has been argued within the SLA field that learners are more likely to draw on explicit knowledge in untimed grammaticality judgement tests (R. Ellis et al., 2009; Godfroid et al., 2015), since they provide chances for participants to access their explicit knowledge when completing the task (R. Ellis, 2004, 2005; R. Ellis et al., 2009; Godfroid et al., 2015). However, it should be acknowledged that the results obtained from an untimed grammaticality judgement test might not reflect pure explicit knowledge, as they could have been affected by the participants' reliance on their implicit knowledge as well (Rebuschat, 2013). It is worth mentioning here that it is generally accepted that learners draw upon both types of knowledge, implicit and explicit, to complete the task at hand (DeKeyser, 2009; N. Ellis, 2005).

The nature of the off-line task requires participants to evaluate the appropriateness of the use of the focus constructions in two types of contexts (felicitous and infelicitous) and then indicate their level of confidence. These constructions are not

very frequent in English (Biber et al., 1999), hence L2 users might find the task of rating these constructions on a six-point rating scale rather challenging. Accordingly, it is likely that in this situation L2 users would access their explicit knowledge, since they often employ this kind of knowledge when facing difficulties with dealing with task demands and when their implicit knowledge is insufficient (Bialystok, 1982; N. Ellis, 2005; R. Ellis, 1991, 2005; Goss et al., 1994).

The results of the participants' confidence ratings showed consistency across their ratings of the four focus constructions. Although native speakers' acceptability ratings were the lowest in both types of contexts, their confidence levels were the highest of the three groups, followed by those of the advanced L2 users and finally those of the intermediate L2 users. This was expected since it has been argued that the type "of knowledge that L1 and L2 speakers draw on may differ" (R. Ellis et al., 2009, p.99), with L2 users' knowledge being often characterised as partial and incomplete (R. Ellis, 1991; Gass, 1994). The following section presents the discussion of participants' confidence ratings per group in order to investigate what type of knowledge was available for each group when rating the target constructions.

### **5.2.1 Native speakers**

Native speakers indicated that they were 'very confident' when rating the four target constructions. Moreover, the results of the correlation analysis indicated that there was no significant correlation between their confidence ratings and their acceptability ratings of the *it*-cleft and *wh*-cleft constructions in the felicitous context, which was expected since their ratings were at the ceiling and hence statistics cannot show a correlation here. However, the findings could be taken as indicative of their implicit knowledge of the appropriate discourse functional use of these two constructions. This could be explained by Williams's (2009, p.323) argument,

specifically that high confidence levels do not necessarily imply explicit knowledge since native speakers of a language may well be very confident, even though their judgement might be based on implicit knowledge. Native speakers' implicit knowledge of their L1 is often characterised as tacit knowledge (N. Ellis, 2002, 2008, 2011; Long, 2007; Reber, 1976; Wells, 1985; Williams, 2009, p.323).

Nevertheless, there was a weak but significantly negative correlation between native speakers' confidence ratings and their acceptability ratings of the *it*-cleft in the infelicitous context, but no similar finding was observed for the *wh*-cleft construction. The results seem to suggest that native speakers were partly conscious of the information structural violation in the infelicitous context when rating the *it*-cleft as inappropriate, but they were not so in the case of the *wh*-cleft. A likely explanation for this finding could relate to the fact that the *wh*-cleft could be used in other types of context to serve as a presentational and discourse-management device (Hopper, 2001; Kim, 1995). As such, native speakers' implicit knowledge of these discourse functional uses of the *wh*-cleft construction might have played a role when judging its appropriateness in the infelicitous context. In other words, the use of the *wh*-cleft construction is feasible in other contexts and is less restricted to context than the *it*-cleft construction, which makes its use in other contexts somehow more possible, compared to the other constructions. This is supported by the fact that the *wh*-cleft is the only construction that was rated as 'somewhat inappropriate' in the infelicitous context, whereas the rest of the constructions were considered 'inappropriate' in the same context. This is also supported by native speakers' on-line processing, which will be discussed in detail below (section 5.3).

Interestingly, native speakers seem to be partly conscious of their knowledge of the reversed *wh*-cleft and the preposing construction in both types of contexts, as there

was a negative correlation between native speakers' high confidence rating and their low acceptability ratings. This could be due to the fact that the two constructions have non-canonical word order and are not frequently used in English (Biber et al., 1999), which was likely to have caused native speakers to access their metalinguistic knowledge in order to place their judgement. N. Ellis argues that "conscious and unconscious processes are dynamically involved together in every cognitive task and in every learning episode" (2005, pp.340), as well as in both input and output processing. He explains the interplay between implicit and explicit knowledge when using language by claiming that people often rely on automatic processing, but that they also access explicit knowledge when automatic processes fail, such as when communication breaks down. Given that the native speakers in this study were teachers of English as a foreign language who had studied the grammar of the language, it is a fair assumption that the knowledge that guided their decision was partly conscious (R. Ellis, 2008). This is specifically true in the case of the infelicitous use of the *it*-cleft construction and in the acceptable rating of the infrequently used constructions, namely the reverse *wh*-cleft and preposing construction. It could be that they accessed their explicit knowledge to justify their decisions (Rogers, 2016).

From the above discussion, then, the findings suggest that native speakers are conscious of both the information structural violation in the infelicitous context (e.g. as in the case of the *it*-cleft construction), and of the infrequent discourse functional use of some of the target constructions in English (such as the reverse *wh*-cleft and the preposing construction). To my knowledge, no study has investigated native speakers' knowledge of these semantically and structurally complex constructions. The present study is the first of its kind to investigate English native speakers' knowledge of the target constructions. Moreover, the findings support the effectiveness of confidence

ratings as a subjective measure of awareness. Confidence ratings proved to be helpful in the present investigation with regard to revealing a low level of awareness in native speakers' performance. This was seen in the significant relationship between their confidence levels and acceptability ratings (Hamrick, 2013; Hamrick & Rebuschat, 2012, 2013; Serafini, 2013), which could not have occurred if no measure of awareness was employed. The findings obtained from the confidence-rating task provided evidence that the knowledge of native speakers was partly driven by conscious knowledge of the appropriate contextual use of the target constructions, which – as pointed out earlier – could be due to the fact that the native speakers were English teachers and thus had some metalinguistic knowledge of English grammar. All in all, the results are in line with N. Ellis's (2005) claim that “conscious and unconscious processes are dynamically involved together in every cognitive task” (2005, p.340) and that explicit knowledge subserves implicit knowledge in language use.

### **5.2.2 Advanced L2 users**

As for advanced L2 users, they were less confident than native speakers, as their confidence ratings ranged between 'somewhat confident' and 'very confident' when rating the *it*-cleft and the *wh*-cleft constructions. The results of advanced L2 users' confidence ratings indicated that they were aware of the knowledge that guided their decisions; there was no evidence for unconscious knowledge since the guessing criteria was not met (Rebuschat, 2008). This is supported by the results of the Pearson correlation, which revealed a significantly positive correlation between their acceptability ratings and confidence ratings when rating the *it*-cleft and the *wh*-cleft constructions in the felicitous context, but not in the infelicitous one. This is a reverse pattern from that found in the case of native speakers, which is likely to indicate that advanced L2 users were engaged in a conscious form-meaning mapping when rating

these constructions as appropriate. While native speakers relied on their unconscious (implicit) knowledge to judge the appropriateness of the target construction in the felicitous context, advanced L2 users seem to have engaged in a conscious attempt to access their linguistic knowledge, in order to help them out in their decision. This could explain advanced learners' significantly higher acceptability ratings compared to those of native speakers.

On the other hand, the lack of correlation in the infelicitous context seems to suggest that advanced L2 users have no conscious awareness of the information structure violation. Unlike the felicitous context, the infelicitous context did not seem to motivate L2 users to engage in a conscious effort to justify their decision. Instead they might have relied on their implicit knowledge when judging the target constructions as less appropriate in this type of context.

Advanced L2 users were less confident when rating the reverse *wh*-cleft and the preposing construction, compared to the *it*-cleft and the *wh*-cleft constructions, as their ratings ranged from 'guess' to 'somewhat confident'. Although they selected the 'somewhat confident' option more frequently, the fact that they chose the guessing criterion in very few cases is likely to indicate that they were partly conscious of the appropriate contextual use of these constructions. However, the results of the correlation analysis indicated that there was a positive correlation between their acceptability ratings and their confidence ratings when rating the reverse *wh*-cleft in the felicitous context, but not in the infelicitous one. The findings suggest that advanced L2 users were conscious of the knowledge that guided their decisions in the felicitous context, but not in the infelicitous context. As in the case of the previous constructions, their conscious state could be taken as being indicative of their conscious attempt to build on their previously acquired knowledge to reach the correct decision, since the

use of the reverse *wh*-cleft is infrequent in English. The findings are in line with N. Ellis's (2005) weak-interface account, which holds that attention is important for the development of both implicit and explicit knowledge. Accordingly, explicit knowledge development involves a conscious and deliberate effort to learn, which in the present case can be observed in advanced L2 users' conscious decisions (ratings) in the felicitous context.

As for the preposing construction, advanced L2 users frequently indicated that they were somewhat confident, but they also selected the guessing option. As in the case of the reverse *wh*-cleft, this suggests that they were either unfamiliar with or unsure about the appropriate contextual use of the preposing construction. In this regard, the fact that advanced L2 users' confidence levels differed from those of native speakers is likely to highlight the role of proficiency in English. However, the results of the Pearson correlation revealed a negative relationship between their confidence ratings and their acceptability ratings in both types of contexts, which is similar to the pattern found for native speakers. Interestingly, advanced L2 users were similar to native speakers in that they were both conscious of their knowledge when rating this construction as inappropriate in both types of contexts. This finding seems to suggest that both groups were attentive to the formal structure of the preposing construction, as evident from the lack of contextual effect on their ratings of the preposing construction. Moreover, this finding supports the assumption that was proposed to explain the difference in the ratings of the preposing construction between advanced L2 users and intermediate L2 users; specifically that advanced L2 users were more attentive to the formal structure. Hence, this signals their interlanguage development, since attention to form is likely to take place at late stages of proficiency (VanPatten, 1990, 1996).

### 5.2.3 Intermediate L2 users

The results presented in Chapter 4 revealed that intermediate L2 users were the least confident of the three groups. Generally speaking, the findings suggest that they were conscious of the knowledge that guided their decisions when rating the appropriate use of some of the target constructions.

Unlike the advanced L2 users, who seemed to be conscious of their knowledge when rating the *it*-cleft, *wh*-cleft and the reverse *wh*-cleft in the felicitous context only, intermediate L2 users seemed to be conscious of their knowledge in both types of contexts. This was evident from the results of the Pearson correlation, which revealed a significantly positive correlation between their confidence levels and their acceptability ratings for the *it*-cleft, *wh*-cleft and the reverse *wh*-cleft in both types of contexts. Moreover, the correlation analysis for the intermediate L2 users differed from that of advanced L2 users in that in the intermediate L2 user group there were low-scoring participants with low confidence and some high-scoring participants with high confidence when rating the target constructions in both types of contexts. This suggests that intermediate L2 users relied more on their explicit knowledge than advanced L2 users, while advanced L2 users showed evidence of access to both types of knowledge. It could be that intermediate L2 users relied on their explicit knowledge due to their lack of confidence in making a decision intuitively, as evident from their lower confidence level. It has been argued that L2 users often access their explicit knowledge when their implicit knowledge is insufficient, in order to deal with task demands (Bialystok, 1982; N. Ellis, 2005; R. Ellis, 1991, 2005; Goss et al., 1994).

Unlike the other two groups, the findings obtained from the intermediate L2 users indicated that their knowledge does not seem to be conscious when placing their acceptability ratings for the preposing construction in both types of contexts. This is

supported by the fact that no significant correlation was found between their low confidence levels and low acceptability ratings in both types of contexts. Interestingly, intermediate L2 users were the only group who showed sensitivity to the contextual effect when rating this construction. However, the percentage that chose the guessing option was higher for this construction compared to the rest of the constructions. A possible explanation could be that L2 users might notice a grammatical feature in the input but fail to understand its function or use – “noticing without understanding” (Schmidt, 1994, p. 213). In other words, intermediate L2 users might have noticed while judging the preposing construction, along with the rest of the constructions, that their use in the felicitous context was appropriate compared to their use in the infelicitous one, since it has been argued that L2 users are often found to process the input for meaning before processing it for form (VanPatten, 1990, 1996). However, the fact that their performance differed from that of the native speakers and advanced L2 users indicates that they had limited understanding of its use in English. This assumption is also supported by the low confidence of intermediate L2 users when rating the target construction.

An alternative explanation could relate to an indirect influence from their L1 Arabic when rating the appropriateness of the target construction, since a functionally and structurally similar construction is found in Arabic as in *LAYLA ashiqua Qays-un* (*It was Layla that Qasim loved*) (Ouhalla 1999, p.338). The preposing construction in both Arabic and English has the order of OSV and functions as an information-highlighting device. Due to such close similarity, intermediate L2 users might have relied on their prior knowledge of the preposing construction in Arabic in order to interpret the function of the preposing construction in English. It has been argued that the impact of L1 transfer is more evident in lower proficiency levels (N. Ellis, 2002). However, this

assumption is not conclusive since the present study did not investigate Saudi learners' perception of the preposing construction in their L1 Arabic, but future research could look into this possibility.

Worthy of note is the fact that although there were no significant differences between intermediate L2 users' and advanced L2 users' acceptability ratings of the target constructions in the infelicitous context, the two groups seemed to differ with regard to the type of knowledge they employed when placing their judgement. Intermediate L2 users' acceptability ratings significantly correlated with their confidence ratings in the infelicitous context, but no correlation was found in the case of advanced L2 users. This seems to suggest that intermediate L2 users were more inclined to rely on their explicit knowledge to figure out the mismatch between the discourse functional uses of the target constructions in both types of contexts, while advanced L2 users showed evidence of the use of their implicit knowledge (higher confidence levels). It has been argued that L2 users are more confident in their judgements when they rely on their implicit knowledge (Bowles, 2011, p.250; N. Ellis, 2005), as with the case of advanced L2 users in the present study. The result is in line with the claim that implicit knowledge is more likely to be associated with higher stages of proficiency (R. Ellis et al., 2009, p.396), and it signals some sort of interlanguage development (R. Ellis et al., 2009, p.7; Long, 1990).

### **5.3 English Users' On-line Processing**

Research Q3: How do Saudi L2 users of English and native speakers process the focus constructions, as measured by an on-line experiment?

- a) Do proficiency and type of context have an effect on participants' on-line processing of the target constructions?

This section aims to answer the third research question, which asks whether context and proficiency have an effect on participants' on-line processing of the target construction. Online assessments are seen as being better indicators of implicit knowledge than offline measures, because the constraints of processing in real time limit the chances of the participants accessing their explicit knowledge when completing a task (R. Ellis, 2004, 2005; R. Ellis et al., 2009; Godfroid et al., 2015; Jegerski, 2014; Norris & Ortega, 2000). It is believed that time pressure is a better indicator of implicit knowledge than offline measures, because participants do not have time to access their explicit knowledge to complete the task.

The use of the on-line task in the present study was an attempt to provide supporting evidence for the results obtained from the acceptability rating task with regard to participants' knowledge of the target constructions. Specifically, it was hoped that investigating the participants' on-line processing would help explain their performance in the off-line task. As such, the present study used a self-paced reading task to detect participants' sensitivity to the contextual effect when reading the target constructions on a computer screen. In this study, the difference between their reaction times when reading the target constructions in the felicitous and infelicitous contexts was taken to reflect their sensitivity to the appropriate use of the focus constructions in English. It was hypothesised that English users would differ in their on-line sensitivity to the contextual effect due to their different language proficiencies, and that this difference would be evident either in their speed of reading (quantitatively) or their sensitivity to contextual effects on different regions of the construction (qualitatively).

The results of the repeated measures ANOVA revealed no significant main effect for Group, which indicates that the three participating groups read the different regions in the target constructions at a relatively similar speed. This could be due to the fact that the target constructions are not frequently used in English. However, there was a significant main effect with a large effect size for Context on participants' reaction times at different regions when reading the target constructions. The following sections discuss the results of the groups' reaction times when reading each of the target constructions.

### **5.3.1 *It*-cleft construction**

To investigate the effects of context type, pairwise comparisons within each language group followed the overall ANOVA. The results indicated that the three groups showed sensitivity to the contextual effect when reading the *it*-cleft construction, which was also observed in their acceptability ratings. However, native speakers and L2 users were sensitive to the contextual effect at different regions of the *it*-cleft construction, which is mirrored in the significant differences between the three groups' acceptability ratings. Taking an example sentence: *It was a book that Alex read*, native speakers were sensitive to the contextual effect at the Object region (the focused information, e.g., *a book*), while advanced L2 users were sensitive at the Subject (*Alex*) and Verb (*read*) regions. The intermediate L2 users were sensitive at the Object (*a book*) and Subject (*Alex*) regions.

In general, the three groups took longer to read those regions in the infelicitous context compared to the felicitous context, which suggests that the participants had detected something ungrammatical when reading the target construction in the infelicitous context (Ellis, 2004). This is in line with Juffs' (2001) observation that

language users take longer to process ungrammatical items, which in this case was the inappropriate use of the target construction.

Native speakers' performance suggests that they were guided by their implicit knowledge of the information structure of the *it*-cleft construction in order to realise its discourse functional use, as evident from their sensitivity to the contextual effect at the Object region (the focused information). Their on-line processing behaviour lent support to the findings obtained from the off-line task with regard to their implicit knowledge of the use of the *it*-cleft as a focused construction; this was evident from the lack of correlation between their acceptability ratings and confidence ratings. Unlike native speakers, advanced L2 users were sensitive at region five (Subject region) and the Verb region, which appear in the sentence final position.

The fact that advanced L2 users were sensitive at different regions to native speakers indicates a difference between the two groups' processing (Jegerski & VanPatten, 2014). As such, this difference in processing mirrors the difference between the two groups' acceptability ratings. However, the fact that advanced L2 users' significant differences in reading times appeared in the sentence final position suggests that it took them until the end of the sentence to process the inappropriate use of the target construction. It could also be that advanced L2 users might have noticed the inappropriate use of this construction at the Object region but a spillover appeared at the subject region because it took them longer to process the construction as a whole. This behaviour signals some sort of processing difficulty (Jegerski, 2014), which lends support to the finding obtained from the correlation analysis between advanced L2 users' acceptability ratings and confidence ratings. This analysis indicates that advanced L2 users were sensitive to the inappropriate use of the *it*-cleft but that they were partly unconscious of why it was ungrammatical.

As for intermediate L2 users, the fact that they took longer to read the Subject and Object regions in the infelicitous context seems to indicate that they were engaged in semantic processing, since L2 users, especially in lower proficiency levels, have a tendency to process input for meaning before form (VanPatten, 1996, 2009). In other words, it could be that when intermediate L2 users read the noun phrase in the Object region, which is a content word signalling an inanimate noun, they realised that the subject was missing and hence it took them longer to read the Subject when it appeared at the end of the construction. It has been argued that L2 users tend to process the first noun in the sentence as the subject/agent of a sentence (VanPatten, 2009, p.51), as an initial attempt to make form-meaning connections in order to comprehend the input in the target language (VanPatten, 2007). However, the fact that intermediate L2 users showed different processing patterns to the two other groups could be taken as evidence of a different type of difficulty or struggle, which could relate to the limitations of L2 processing (Jegerski, 2014). This provides supporting evidence for their conscious effort to figure out the appropriate use of the *it*-cleft in the off-line task, as evident from the significant correlation between their acceptability ratings and confidence ratings in both types of contexts.

### **5.3.2 *Wh*-cleft construction**

The results also indicated that the three groups showed sensitivity to the contextual effect when reading the *wh*-cleft construction, which was also observed in their acceptability ratings. However, native speakers and L2 users showed different processing patterns, as they were sensitive to the contextual effect at different regions of the construction. The difference between the three groups' on-line processing mirrors the differences in their acceptability ratings of the target construction. Native speakers

were sensitive to the contextual effect at the Object region (the focused information), which appeared at sentence final position (e.g. *What I read was a book*).

Although native speakers were sensitive at the focused element, they took longer to read the Object region in the felicitous context compared to the infelicitous context. A possible explanation for this processing behaviour could be that it is a result of a combination of both the structural feature of the construction and the contrastive focus evoked by the felicitous context. The structure of the *wh*-cleft presents the background (or familiar) information first and the focused (or less familiar) information comes at the end of the construction, which is in keeping with the information flow principle (discussed in Chapter 2). It has been argued that the structure of the *wh*-cleft serves to guide the reader and to explicitly signal the focused constituent, leading to its activation (Callies, 2009; Jucker, 1997). Moreover, the felicitous context in this study evoked a contrastive focus, which seems to bring the Object region (focused information) into additional focus (Biber et al., 1999, p.959). Therefore, native speakers' longer reaction times in the felicitous context suggest that they were sensitive to the discourse function of the *wh*-cleft. However, the shorter reaction times in the infelicitous context can be explained by the fact that the *wh*-cleft construction is not only be used in the presence of a contrastive focus but “also readily occurs in the absence of contrast” (Ward et al., 2002, p.1426). For example, the *wh*-cleft construction can serve as a presentational and discourse-management device (Hopper, 2001; Kim, 1995). In such context, the presentation of the proposition follows the information flow principle (i.e. presenting the old information first followed by the new information), as in canonical sentences (Lambrecht, 1994). As such, the Object region carries an informational focus. This finding is in line with Cowles et al. (2003), who found that contrastive focus and informational focus place different processing loads on native

speakers' processing, with contrastive focus being associated with a greater processing load.

Interestingly, this finding is in line with the results obtained from the correlation analysis between native speakers' confidence ratings and acceptability ratings in the infelicitous context, which suggests that native speakers were unconscious of the information violation in the infelicitous context. Worthy of note is the fact that the processing load that was observed at the Object region of the *wh*-cleft in the felicitous context was not observed when reading the *it*-cleft construction. This is likely to indicate that the focused information (object region) in the *it*-cleft construction was processed with less processing load than in the *wh*-cleft construction. A possible explanation could be that the fronting of the focused element within the *it*-cleft gave it an emphasising effect, which is less salient in the *wh*-cleft. This feature could have facilitated its processing. Moreover, it has been argued that the *it*-cleft is more likely to occur in a situation that requires the activation of a pragmatic presupposition (Lambrecht, 1994), as in the case of the felicitous context.

On the other hand, the two L2 user groups showed different processing patterns not only to native speakers, but also to each other. As mentioned earlier, this was evident from their sensitivity to the contextual effect at different regions. Advanced L2 users were sensitive at the Verb region and the intermediate L2 users were sensitive at the first region (*What*), the Verb region and the region that followed the verb (*was*). The two L2 user groups took longer to read those regions in the infelicitous context compared to the felicitous context, which again suggests that they detected something ungrammatical when reading the target construction in the infelicitous context (R. Ellis, 2004). This is in line with Juffs' (2001) observation that language users take longer to process ungrammatical items, which in this case was the inappropriate use of the target

construction. A possible explanation for their sensitivity to the contextual effect at this region is the fact that the Verb region carries the presupposed information (its information content). In the felicitous context, the presupposition is presented in the preceding question (e.g. Did you say you broke a chair or a table?) and hence advanced L2 users read it faster when they saw it again in the response (the *it*-cleft construction). On the other hand, the question presented in the infelicitous context is an open question (What did you do today?) and it carries no presupposed information. This was likely to cause advanced L2 users to spend longer time on the Verb to process the presupposition being carried by the Verb and hence figure out the inappropriate use of the target construction. Having said this, advanced L2 users' sensitivity at the verb region indicates that they relied on this lexical cue to process the input, which in turn signals some sort of attentional bias.

According to VanPatten's input processing theory, advanced L2 users' processing reflects the way they allocate their attentional priorities to some features of the input to which they normally attend in order to comprehend the input. In the present study, advanced L2 users' sensitivity was at the verb region, which often carries the information content in any sentence (Lambrecht, 1994). However, the fact that the contextual effect appeared only at the Verb region, unlike the case with the *it*-cleft construction where advanced L2 were attentive to both the subject and the Verb regions, suggests that they had less difficulty in processing the *wh*-cleft construction (Jegerski & VanPatten, 2014). This could be due to the structure of the *wh*-cleft construction, since it has a canonical word order that could be more familiar to participants. Indeed, support for this is shown by the fact that they rated this construction as the most appropriate of the target constructions, and by the anecdotal evidence, which indicated

that the canonical word order of the *wh*-cleft construction was one of the reasons for considering it appropriate (see section 5.1.2).

It might very well be that there were spill over effects on the reaction times of the intermediate L2 users that lasted over more than one region. When comparing their data to the other two groups it could be that they experienced an additional processing difficulty due to their limitations in L2 processing (Jegerski & VanPatten, 2014, p.29). Given that they were still at an intermediate level, it could be that the comprehension of the input at their early stages of language acquisition was cognitively demanding (VanPatten, 2007, 2015), which slowed down reading times.

### **5.3.3 Reverse *wh*-cleft construction**

The findings from the repeated measures ANOVA and the post-hoc Bonferroni test revealed a significant main effect for context on the reaction times of the three participating groups when reading the reverse *wh*-cleft. This indicates that they were sensitive to the contextual effects when reading the reverse *wh*-cleft construction, which was also evident in their acceptability ratings. However, native speakers showed sensitivity to the contextual effect at different regions, compared to the L2 user groups. This difference in the on-line processing between native speakers and L2 users was mirrored in their acceptability ratings. As pointed out earlier, native speakers' acceptability ratings were significantly different from those of the L2 user groups, with native speakers rating the target construction lower in both types of contexts.

For native speakers, contextual effects were observed on region 3 (specifically on 'what' in a sentence such as '*a book - was - what - I - read*'), as they took longer to read this region in the infelicitous context compared to the felicitous one. The reversed *wh*-cleft construction has a non-canonical word order with the focal information

(Object) being placed in the sentence initial position. It could be that native speakers attempted to make a meaningful connection between the focal information that was introduced at the start of the sentence and the upcoming information when they read region 3 (*what*).

Unlike the case with the *it*-cleft and *wh*-cleft constructions, native speakers did not show sensitivity to the focused information on the Object region when reading the reverse *wh*-cleft. This suggests that they were not guided by the discourse function of the reverse *wh*-cleft to attend to the focused information. One possible explanation for this observed behaviour is the fact that this construction is less frequently used compared to the *it*-cleft and *wh*-cleft constructions in English; in fact, “reversed *wh*-clefts are infrequent in all registers” (Biber et al, 1999, p.961). This is in line with usage-based approaches, which hold that frequently used constructions are easier to process than less frequent ones, as the frequency of use facilitates the entrenchment of the construction in the users’ minds. Another likely explanation is the fact that the reverse *wh*-cleft construction was found to carry less contrastive interpretation (Weinert, 1995, p.343) in contexts where a contrastive focus is evoked. Native speakers’ on-line processing provides supporting evidence to the lower acceptability ratings that they gave to this construction, compared to the *it*-cleft and *wh*-cleft in the off-line task, as they indicated that they found its use to be somewhat inappropriate.

Unlike native speakers, the two L2 user groups were not only sensitive to the contextual effect on region 3 (What). Their sensitivity to this effect was sustained on more than one region of interest, which indicates that the contextual effect was more pronounced among the L2 user groups. This presumably signals L2 learners’ reliance on non-structural items – such as lexical information – as they are likely to be readily accessible during on-line sentence processing in the L2 (VanPatten, 2014), which could

be due to the non-canonical word order of the reverse *wh*-cleft construction. It has been argued that adult second language learners are less sensitive to syntax (Roberts & Felser, 2011), and that they depend more on semantic and lexical clues than on the grammatical information encoded in these forms. This in turn could be a sign of additional processing difficulty, since no similar processing pattern was found for native speakers (Jegerski & VanPatten, 2014, p.29). As such, the data at hand support the perspective that adult L2 learners might process input in a shallower manner than that of adult native speakers (VanPatten, 2014).

The similar processing behaviour of the two L2 user groups is mirrored in their similar acceptability ratings when judging the appropriate use of the target construction in both types of contexts. A possible explanation for this similar processing could be that both L2 user groups were engaged in some kind of paraphrasing in order to arrive at a meaningful interpretation. It has been argued that L2 learners can “easily paraphrase syntactic patterns that are felt to be difficult” (Callies, 2009, p.118). Another possible explanation could be related to possible L1 Arabic interference. Arabic has two main types of sentences, one of which begins with a noun (which is the topic of the sentence) and is followed by a complement. This pattern is very similar to a *rwh*-cleft construction. Hence, it could be that L2 users were engaged in a literal translation from their native language.

In short, the findings from the self-paced reading experiment showed that the different on-line processing patterns of the reverse *wh*-cleft between native speakers and L2 users mirrored the differences in their performances on the off-line task.

### 5.3.4 The Preposing Construction

The findings obtained from the repeated measures ANOVA indicated significant main effect for Context on native speakers' and intermediate L2 users' reaction times when reading the preposing construction, but no significant main effect was found for advanced L2 users. However, native speakers and intermediate L2 users were sensitive at different regions of the construction. The results of the post-hoc Bonferroni test showed that native speakers were sensitive to the contextual effect on the last region (Verb region), but intermediate L2 users were sensitive at the Object region. Quite surprisingly, each group took longer to read those regions in the felicitous context, compared to the infelicitous one. For native speakers, the fact that their sensitivity to the contextual effect appeared in the sentence final position (Verb region) suggests that they only arrived at a successful interpretation at the end of the sentence, which is likely to indicate an increased processing load.

As suggested in the case of the *wh*-construction, the observed longer reaction times in the felicitous context might reflect native speakers' implicit knowledge of the additional uses of the preposing construction, such as in the spoken register. To illustrate, the fact that the focused information was at the beginning of the sentence (left periphery), which often interacts with prosodic marking in an oral setting (Callies, 2009; Hetland & Molnar, 2001, p.625), could have caused native speakers to spend longer figuring out its discourse functional use when reading the target construction in the felicitous context. Interestingly, native speakers' on-line sensitivity to the contextual effect was not found in their performance on the acceptability ratings task. This indicates that the on-line task was more capable of detecting native speakers' implicit knowledge of the preposing construction than the off-line task. This is in line with previous research (N. Ellis, 2002; R. Ellis, 2008) in that the use of on-line measures

is more likely to tap into speakers' implicit knowledge, compared to off-line measures. It has been argued that some tasks promote the use of implicit knowledge and are accurate measures of this type of knowledge as they measure knowledge indirectly (e.g. through behavioural data), as in a self-paced reading task. On the other hand, other tasks are more likely to tap into explicit knowledge (such as untimed grammaticality judgement tests) (Andringa & Rebuschat, 2015; Bowles, 2011; Doughty, 2003; Han & Ellis, 1998; Norris & Ortega, 2000).

However, the fact that no similar processing pattern was found between native speakers and the two L2 user groups is taken to indicate non-native-like processing, which could be indicative of the limitations of the language processing in L2 users (Jegerski & VanPatten, 2014, p. 29). The difference in on-line processing between native speakers and the two L2 user groups was also evident in their acceptability rating task. Unlike native speakers, advanced L2 users were not sensitive to the contextual effect in both types of tasks, which suggests that they are unfamiliar with the discourse functional use of this construction. In other words, advanced L2 users were not able to predict the discourse functional use of the preposing construction since it is infrequent in the written mode and a dis-preferred option in discourse in English. This is in line with the usage-based approaches to L2 acquisition, which indicate that L2 users' linguistic knowledge is driven by their experience with the target language (Ellis, 2002).

Unlike advanced L2 users, intermediate L2 users were sensitive to the contextual effect in both types of tasks. This seems to suggest that they relied on their implicit knowledge to interpret the function of the target construction, which was evident from the lack of correlation between their acceptability ratings and their low confidence ratings. As suggested earlier, the fact that the preposing construction is

infrequent and a dis-preferred option in the written mode in English makes it unlikely that intermediate L2 users would have acquired its functional use in the target language; rather they seemed to have relied on their L1 to interpret its meaning. Accordingly, the fact that they were sensitive at the Object region (focused information) suggests an L1 Arabic interference, since a functionally and structurally similar construction is found in Arabic. It has been argued that lower proficiency levels are more likely to show the effect of L1 interference, which could be reflected in their tendency for overgeneralisation, especially in cases where the construction of the target language is similar to the one found in their L1 (N. Ellis, 2002).

The findings obtained from the intermediate L2 users' performance in the two tasks suggest a tendency to overgeneralise the use of the preposing construction. This further suggests that they have limited knowledge of the discourse functional use of the preposing construction in English. However, further research needs to confirm whether L1 Arabic has a role in the observed behaviour of intermediate L2 users by investigating their perception of the use of the preposing construction in Arabic. It is worth noting here that some spill over effects could not be detected because the construction was very short, consisting of only three regions (e.g., A book I read) and no words followed the verb region. Hence, future research should consider the inclusion of an additional region at the end in order to control for such an effect.

## **CHAPTER 6: Summary and Conclusion**

### **6.1 Introduction**

The previous chapter provided a discussion of the findings of the present study. This chapter begins (section 6.2) with a synthesis of the results for each of the three main research questions that were investigated in the present study. This is followed by a discussion of the contribution of the study to the field (section 6.3), which includes an overview of the theoretical and methodological contributions of the research and practical implications of the results in the field of SLA (sections 6.3.1, 6.3.2, 6.3.3 respectively). After that, the chapter shifts to present a discussion of the limitations of the study and directions for future research (section 6.4). Finally, the chapter ends with some concluding remarks (6.5).

### **6.2 Summary of the Thesis**

The present thesis reports on the results of an off-line (acceptability ratings task) that investigated a) the knowledge of Saudi L1 Arabic learners of L2 English; and b) the knowledge of British native speakers of English regarding the appropriate contextual use of focus constructions in English. Moreover, the thesis reports on the results obtained from the participants' reaction times in an on-line task (self-paced reading task) that looked into the nature of L2 users' processing of these constructions. Since the target constructions are context dependent, the design of the two tasks utilised two types of contexts (felicitous and infelicitous contexts). This was based on Lambrecht's (1994) treatment of information structure. All in all, the finding of the two tasks are in line with the usage-based approach, which assumes that linguistic knowledge is driven by language users' experience with the target language and by the strength of representation in the mental grammar being sensitive to frequency of

exposure to language input (N. Ellis, 2002). Moreover, the findings also corroborate previous findings that identified the important role of attention in language acquisition (Schmidt, 1990; VanPatten, 1996). The results from the SPR task also indicate that knowledge of the appropriate contextual use of some of the English focus constructions can be developed implicitly (R. Ellis, 1994). Furthermore, the findings are consistent with studies that indicated an effect of type of focus on native speakers' on-line processing (Cowles, 2003), and those that indicated that L2 users' processing of focused information is non-native like (Hopp, 2006, 2009).

To briefly summarise the findings of this study, each research question and the corresponding results relating to English users' linguistic knowledge and processing of the focus construction under investigation, along with the role of awareness in the participants' performance, are provided in the following sections.

### **6.2.1. Research Questions 1: On the knowledge of Saudi L2 users and English native speakers about English focus constructions related to Object focus (clefts and preposing constructions)**

*What do Saudi L2 users of English and native speakers know about the appropriate contextual use of focus constructions in English?*

- a) *Do proficiency (native speaker, advanced L2, intermediate L2), type of context (felicitous vs. infelicitous) and type of construction (it-cleft, wh-cleft, reverse wh-cleft, preposing) have an effect on participants' knowledge of the target constructions?*

It was found that there were significant differences between the three participating groups with regard to the acceptability ratings of the target constructions in the two types of contexts. However, L2 users were similar in their rating of the less

frequently used constructions, namely the reverse *wh*-cleft and the preposing construction. Moreover, the results also revealed that the three groups were sensitive to the contextual use of the target constructions, except for the preposing construction, where intermediate L2 users were the only group to show sensitivity to contextual effects. As far as the effect of the type of construction is concerned, the results revealed that the participants gave higher acceptability ratings for the *it*-cleft and the *wh*-cleft. It was hypothesised that this might be due to the comparatively frequent use of these constructions.

### **6.2.2 Research Questions 2: On the confidence levels of Saudi L2 users and English native speakers**

*To what extent are Saudi L1 Arabic learners of L2 English and native speakers conscious of the knowledge that guided their decisions in the off-line task, as measured by a subjective measure of awareness?*

- a) *Is there a relationship between participants' knowledge of the use of clefts and preposing focus constructions and their level of confidence?*
- b) *Is there a relationship between participants' knowledge of the use of focus constructions and their level of confidence?*

The three participating groups' confidence ratings indicated that they were aware of the knowledge that guided their acceptability judgements in both types of contexts. However, the confidence rating differed according to the level of proficiency in the language, with native speakers being the most confident, followed by advanced L2 users and finally intermediate L2 users. Moreover, the participants' confidence levels also differed according to the type of construction, with the participants being more confident in their rating of the more frequent constructions, namely the *it*-cleft and the

*wh*-cleft constructions. As for the correlation between the participants' acceptability ratings and confidence ratings, the findings indicated that this relationship differed with regard to the type of context, type of construction and proficiency level.

### **6.2.3 Research Questions 3: On the on-line processing of English focus constructions related to Object focus (clefts and preposing constructions) by Saudi L1 Arabic learners of L2 English and English native speakers**

*How do English users process English focus constructions, as measured by an on-line experiment?*

- a) *Do proficiency (native speaker, advanced L2, intermediate L2) and type of context (felicitous vs. infelicitous) have an effect on participants' on-line processing of the target constructions?*

It was found that the three participating groups were sensitive to the context when processing the target constructions, except in the case of the preposing construction, where no contextual effect was found for advanced L2 users. In terms of the effect of proficiency, no significant main effect was found for proficiency. However, the two L2 user groups' processing methods for the target constructions were qualitatively different from each other, as they were from native speakers' processing.

### **6.3 Contribution of the Study to the Field**

The findings of this study have some significant implications for the field of SLA research and L2 teaching. The theoretical contributions of the study will be discussed first, followed by an overview of the methodological implications for SLA, and finally the practical implications.

### **6.3.1 Theoretical implications**

To the best of my knowledge, this study is the first to explore the knowledge and on-line processing of a number of English focus constructions, namely clefts and preposing constructions, by Saudi EFL learners, in the light of experimental data. Moreover, no study has investigated native speakers' knowledge and processing of these semantically and structurally complex constructions. The present study is the first of its kind to investigate English native speakers' on-line processing of the target constructions. Further, the findings support the effectiveness of confidence ratings as a subjective measure of awareness. Confidence ratings proved to be helpful in the present investigation with regard to revealing a low level of awareness in native speakers' performance. This was seen in the significant relationship between their confidence level and acceptability ratings (Hamrick, 2013, Hamrick & Rebuschat, 2011, 2015; Serafini; 2013), which could not have occurred if no measure of awareness was employed.

The fact that both of the L2 user groups showed knowledge of the appropriate contextual use of the focus constructions under investigation, as evident from their sensitivity to the contextual effects when rating and processing the target constructions, suggests that development of L2 users' knowledge of the syntactic means of information highlighting is possible. This is in line with usage-based approaches, which hold that linguistic knowledge is driven by L2 users' experience with the target language and with abstracting regularities from those experiences (N. Ellis, 2002). Furthermore, the fact that the advanced proficiency group of L2 users showed a different performance to the rest of the participating groups indicates that linguistic knowledge develops gradually, as a U-shaped learning behaviour. This is in line with the cognitive linguistic theory of language development (Robinson & N. Ellis, 2008).

According to the usage-based approach, frequency-driven learning involves implicit learning processes and category formation (e.g. prototypes) constructed by learners' interactive learning on the basis of contextualised language use. As learners move from knowledge of individual linguistic items and make generalizations over several instances of language form, they are likely to reach stages in their category formation which are overly general, leading them to display a temporary U-shaped behaviour. This feature is taken as evidence that their established categories are dynamic and are used to interpret new input and create new forms (Tyler & Ortega, 2018).

The research done on frequency to date suggests that frequency effects are evident in different aspects of language learning (Ambridge et al., 2015). According to usage-based theories, all facets of grammar, including words and syntactic structures, are probabilistically interconnected on the basis of one's experience of language (e.g. Diessel, 2015). In this respect, the finding of the present study provide evidence for language users' sensitivity to the frequency with which focused information is expressed formally in English. This was evident from participants high acceptability ratings for comparatively frequent constructions, namely the *it*-cleft and *wh*-cleft.

In the usage-based approach, grammar consists of conventionalized patterns of form and meaning (i.e. constructions) that are interconnected by various types of links that reflect language users' experience of particular grammatical patterns (see Diessel 2015). This claim was of interest to the present study, as the target constructions have different structural features but share the same discourse function (highlighting information). The findings obtained from this study support this claim as different language proficiency groups gave different acceptability ratings, which in turn reflected their different experience with the target constructions.

In addition, the results suggest that attention plays an important, if not vital, role in the process of realising L2 syntactic means for information highlighting. In particular, the data here suggest a link between awareness and knowledge of the appropriate contextual use of the focus constructions in English. The findings indicate that knowledge of the appropriate contextual use of the target constructions can be achieved in the absence of verbalisable rule knowledge – in other words, awareness at the level of understanding (Schmidt, 1990). The performance of the participants in the acceptability rating task was accompanied by some degree of awareness that varied according to the participants' proficiency levels, as evident from the confidence-rating task. The fact that intermediate L2 users showed sensitivity to the appropriate use of the target constructions, despite their low confidence levels, also concords with theoretical models of attention and awareness in SLA (Schmidt, 1995; Tomlin & Villa, 1994) (see section 2.6 for an overview of these models). In particular, the results of the present study appear to support Schmidt's (1995, 2001) argument that noticing, or more specifically conscious registration of, the surface feature of the stimuli has a facilitative role in adult SLA (Schmidt, 2001). When one considers the fact that knowledge of the appropriate use of these constructions was sparked when the participants were in a situation that necessitated noticing the misfit between the use of the target constructions and the infelicitous context, it might appear that noticing could have played an important role in L2 users' understanding of the meaning of the utterance. Noticing might also have played a role in realising the dis-preferred use of the preposing construction in English.

The fact that L2 users, specifically advanced proficiency L2 users, fall short of reaching a native-like performance, appears to be in line with the prediction of a number of theoretical positions within SLA. In particular, this finding could be interpreted in

light of VanPatten's model of input processing (VanPatten, 2002). One of the principles of VanPatten's (2004) input processing model, the primacy meaning principle, is related to learners' tendency to process input for meaning before they process grammatical forms.

To shift the focus towards the evidence of and development of implicit and explicit knowledge, the overall results from the present study could support N. Ellis's (2005) weak-interface position. As part of N. Ellis's model, mental representations are first seeded within explicit memory before they develop into abstract regulation, or implicit knowledge (see section 2.9.3 for discussion). This process occurs over a long period as a result of repeated exposure to patterns within the input. In this regard, the fact that the advanced L2 users' knowledge of the contextual use of the target construction was marked by a higher confidence rating compared to that of intermediate L2 users suggests that advanced L2 users relied more on their implicit knowledge, as it has been argued that L2 users are more confident when relying on their implicit knowledge (N. Ellis, 2005). This could be explained by the theoretical account, which holds that implicit knowledge develops slowly over a longer period as implicit mechanisms work to abstract the grammatical regularities contained in the input (N. Ellis, 2005). However, it is important to state that such an account is speculative, as this study does not provide direct evidence of the interface between implicit and explicit knowledge, or of how these two types of knowledge develop over time.

### **6.3.2 Methodological contributions**

The current study used two types of tasks to investigate English users' knowledge of the focus constructions in English and the nature of their on-line

processing of these constructions. All in all, the experimental techniques developed and used for the current study can be considered as a successful means of detecting participants' knowledge of the discourse functional use of the target constructions. In this regard, it must be pointed out that one needs to be extremely cautious about inferring general conclusions based solely on the data gathered from the tasks in the present study, as they are limited to a comparatively small number of participants. However, one of the positive features of the research design is that off-line and on-line tasks were combined and in fact produced converging and corroborating evidence with regard to both native speakers' and L2 users' knowledge and processing of focus constructions in English.

The incorporation of direct and indirect measures of knowledge proved to be beneficial in that if the study had relied solely on the acceptability rating task, the results would have only provided evidence that the knowledge about the target construction was strongly linked with metalinguistic knowledge, which in turn would have been interpreted as providing evidence that the participants' knowledge was purely explicit. Conversely, if the study had utilised only the SPR (self-paced reading) task, the results would have indicated that the participants had implicit knowledge of the target construction. Instead, the use of both types of measures allowed for a deeper insight into the cognitive processes that the participants employed when dealing with the appropriate contextual use of the focus constructions in two different tasks (off-line and on-line), which were assumed to motivate the use of different knowledge (N. Ellis, 2005).

Unlike most of the input frequency distribution studies that provided the target construction (input) as a decontextualized single item at the sentence level (McDonough & Nekrasova-Becker, 2014; McDonough & Trofimovich, 2013), the

present study presented the target constructions embedded in situated language use by providing contextualized conversations. The use of context was important, since contextualized conversations or texts are part of real situations to which learners are usually exposed. Most importantly, it allowed for better understanding of how language users make use of contextual cues to interpret and process linguistic input.

The strength of the two methods used in this study is reflected in the fact that the two experiments revealed very similar patterns, and as such complemented each other by means of two different methodological approaches, specifically, an off-line task (acceptability ratings task and confidence rating) and an on-line experiment (self-paced reading task). Importantly, my prediction was confirmed, since there were hardly any contradictions. The study has presented evidence that the participants utilised two types of knowledge, or perhaps a single type of knowledge that was utilised in different ways. The results of the participants' online processing of the target constructions, as reflected in the reaction times in the self-paced reading task, indicated that the significant differences in the acceptability ratings between groups were linked to differences in the participants' processing of the target construction. Such a finding highlights the benefits of the use of both direct and indirect tests when investigating implicit and explicit phenomena in SLA (R. Ellis et al., 2009; Leung & Williams, 2011; Norris & Ortega, 2000).

The results of this thesis have a number of methodological implications. Firstly, the study provides positive evidence of the usefulness of subjective measures of awareness in identifying low levels of awareness. The results of the participants' confidence ratings proved to be significant with regard to revealing their level of awareness as they rated the target constructions in the given contexts. However, the learners' high confidence ratings could not be interpreted as indicative of explicit

knowledge, as there is no guarantee that implicit knowledge was not being accessed. In this regard, the use of confidence ratings along with retrospective verbal reports would have produced stronger evidence with regard to the type of knowledge (explicit or implicit) that guided their decisions when rating the appropriate contextual use of the target constructions. Unfortunately, the use of retrospective verbal reports was not possible, given that the time frame of the current study was limited. Nonetheless, future work might consider employing such a method to give firmer evidence of the type of knowledge participants have about the appropriate contextual use of the constructions under investigation.

### **6.3.3 Practical implications**

Based on the results of the present study, some conclusions can be drawn and recommendations can be made with regard to helping L2 learners, particularly those in the advanced L2 proficiency levels, to realise fully the appropriate usage of the focus constructions studied in this thesis. The findings of the present study have shown that knowledge of the appropriate contextual use of the focus constructions under investigation is non-native like, even for advanced Saudi L2 users. In view of the comparatively low discourse frequency use of these constructions, input alone is unlikely to establish a sufficient basis for a native-like competence. As such, teachers and syllabus designers for advanced proficiency levels should consider directing learners' attention towards the conventional means of highlighting information in English via explicit instructions on when to use them, since after all these types of instructions were found beneficial in language learning (R. Ellis, et al., 2009). In this regard, L2 learners might benefit from a task that asks them to read argumentative essays that contain syntactic means for information highlighting, such as clefts, and then to discuss the benefits and significance of such means in conveying a message.

The results of the present study indicate that learners seem to have at least a limited knowledge of the focus constructions under investigation, which may serve as a good starting point to encourage learners to use such sentences in communicative situations. In this regard, it could be useful to expose learners to exercises that are designed to raise their awareness of the fundamentals of information structure. Callies and Keller (2008) suggest that literary texts appear to be a suitable stimulus for engaging learners to use 'riskier' sentence types. They also advocate a teaching unit on information highlighting in a larger unit dealing with text linguistics (style, register, text types, cohesion, focusing), as well as exercises based on different text types (poem, short stories, letters).

Most publications in the field of applied linguistics and SLA that discuss focusing devices briefly present a description of their linguistic characteristics and mention their relevance to language teaching. However, there are very few articles that directly deal with the pedagogical and teaching aspects of language in use. One exception is Blyth (2000), who discusses several techniques for teaching pragmatically-conditioned word-order constructions, which were drawn on findings and methods from three different fields: 1) Focus on Form methodology (a pedagogical approach that aims to focus learners' attention on forms within a meaningful context); 2) discourse analysis; and 3) corpus linguistics (Blyth, 2000, p. 207).

To the best of my knowledge, there are no publications that discuss the significance of the teaching of the appropriate contextual use of focus constructions to Saudi EFL learners. One of the textbooks that is used to teach Saudi learners of English at advanced stages only briefly introduces the *it*-cleft and *wh*-cleft as focusing devices, with a special focus on the syntactic and structural features of these constructions (Hewings, 2005, p.196). In this regard, as suggested by Callies and Keller (2008), it

would be of value to design teaching or self-study materials directed at advanced Arabic-speaking learners of English at university level, and teachers of English as a foreign language in Saudi Arabia; these materials would primarily discuss the linguistic and functional features of focus constructions such as preposing and clefts. These texts or materials might adopt a construction grammar perspective on Arabic and English word order, since “one of the advantages of construction grammar is that it allows teachers to give their students meaningful accounts of grammatical phenomena” (Littlemore, 2009, p.167).

From a language-in-use point of view, students need to understand how the focusing constructions that are available and used in English texts are employed with a discourse-pragmatic intention. It is important to explicitly indicate to learners that native speakers do not use these means randomly but rather choose from several options available in the language to serve their communicative needs. Learners should be encouraged to take risks by using new constructions to serve special communicative needs, but at the same time they should be advised on when and how to use them in the right context in the same way as native speakers do.

Teaching at the advanced proficiency level should adopt a usage-based line of presentation, which helps sharpen learners’ awareness of the fundamentals of information structure and introduces students to and familiarises them with the syntactic means that can be used to highlight information. Advanced L2 users who want to reach a native-like command of the target language need to have adequate exposure to writing conventions in an ESL context in order to be aware of the appropriate syntactic forms that are frequently used by native speakers.

#### **6.4 Limitations and Directions for Future Research**

Despite the significance of its findings, the present study is not without limitations. These limitations should be taken into account by further research, since after all the present study is a first attempt to investigate English users' sensitivity to contextual effects when using focus constructions related to object focus in the written mode in English. To start with, one limitation relates to the fact that this study investigated focus constructions related to object focus only. In this regard, it would be interesting to investigate whether the same findings would be possible if the focus constructions related to subject focus instead of object focus.

Although the off-line task was successful in revealing data rich enough to answer the research question, still, there are several minor shortcomings that can be improved upon and considered in future research. To start with, it was seen as essential to provide the target constructions as different responses to the same question in the rating tasks (in the questionnaire). However, perhaps at times listing them together may have caused an undesired side effect of noticing their close discourse functional use, which may have affected their acceptability ratings in the felicitous context and infelicitous context. Future research should consider placing each of the target construction within a different list of structures, such as passive constructions, in order to avoid any possible side effect of noticing their close discourse functional use.

As far as the on-line experiment is concerned, some shortcomings are linked to the fact that the stimuli did not include a high enough number of comprehension questions after presenting the target constructions in each context. This would have provided supporting evidence for the effect of the type of context on participants' comprehension. The present study was careful not to exhaust the participants with many

comprehension questions in the self-paced reading task, especially since the main reason for including such questions is to disguise the target constructions and prevent them from being noticed by the participants. Moreover, the segment-by-segment presentation did not include an additional region at the end of the construction to account for any spill over effects that might have resulted from reading the last region, particularly in the case of the preposing construction, which has only three regions. Most importantly, the on-line test included reading, while it is acknowledged that phonological information (prosody) carries a lot of information relevant for structure retrieval. In this regard, it would be interesting if future research would consider replicating the present study, utilising phonological information.

Another issue that impacts on the generalisability of this study, to some extent, relates to the research participants. Firstly, the numbers in the three participating groups were relatively low. As such, individual differences might have masked the patterns that could have emerged had the sample size been larger. Thus, it might be useful to replicate the research with a larger sample size so that the results of the present study could be confirmed and perhaps generalised. Secondly, in the present study only Saudi female participants were considered, which may have caused the results to be somewhat biased with regard to gender. Including male participants in this study was not possible for cultural and social considerations. As such, it might be useful to replicate the study and include male participants, in order to find out whether gender differences have an effect on the outcomes of the present study (i.e. whether male participants have different views with regard to the appropriate contextual use of the focus constructions in English). Moreover, all of the L2 users were of Saudi nationality with L1 Arabic. This is likely to limit the extent to which the findings of this study can be generalised to other L2 users with different L1 backgrounds. Thus, the current research could

potentially be replicated with L2 users from other Arabic-speaking countries and from many other L1 backgrounds.

Further, another limitation is the fact that the native speakers in this study were teachers of English who had been granted a Certificate of English Language Teaching to Adults (CELTA). This means that the native speakers in this study had metalinguistic knowledge of English grammar. As such, this may have had an impact on the research data gathered from native speakers in terms of how they rated the acceptability of the target constructions. Therefore, the findings gathered from the English native speakers cannot be generalised to other populations of native speakers with no teaching qualifications. In this regard, it would be interesting to find out whether a replication of the present study with native speakers with no teaching qualifications would reveal similar or different results to those of the present study.

## **6.5 Concluding Remarks**

Although the present study has a number of shortcomings, it attempted to make a contribution to the usage-based approach to SLA by investigating some of the factors that might assist learners in terms of their linguistic and cognitive development. To conclude, this study provided consistent evidence of an existing link between learners' awareness and L2 users' knowledge of the target constructions. I hope that the present study may eventually make a contribution to easing the burden that non-native English speakers face with regard to information structuring, so that they are able to convey their intended message more accurately and to communicate their ideas more efficiently in a near-native-like manner.

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## Appendixes

### Appendix A: Ethics documents

#### Participant information sheet

##### *Foreign language learners' understanding of English grammar*

You are invited to take part in this study. Please take time to read the following information carefully before you decide whether or not you wish to take part.

My name is Nadia Aleraini. I am carrying out this study as part of my Doctoral studies in the Department of Linguistics and English Language. The aim of the study is to find out to what extent English foreign language learners are similar in their knowledge of some aspects of English grammar to native speakers of English. Therefore, I would be very grateful if you would agree to take part in my study.

My study will involve two tasks. The approximate time for completing the tasks will take about 90 minutes.

If you decided to take part, this would involve answering a questionnaire that asks you to rate the acceptability of some sentences in a particular context. You will also be asked to kindly read some sentences on a computer screen. To advance from one sentence to the next you have to press the space button on the keyboard, until you reach the end of the test. Examples of how to complete the questionnaire and do the reading test will be provided.

Taking part in the test will allow you to reflect on your own experiences of learning English. Your participation will provide some insight that will contribute to our understanding of how learners of English as foreign language come to know about some aspects of English grammar. If you wish, I will be happy to provide you with more information about the specifics of the study after your participation (please see below for my contact details).

You are free to withdraw from the study at any time and you do not have to give a reason. If you withdraw while the study takes place or up to two weeks after the time of your participation, I will not use any of the information that you provided. If you express the wish to withdraw later than that, the information you shared with me will still be used for my study because once data becomes anonymised, I can no longer identify participants and extract your data.

All the information collected about you during the course of the research will be kept strictly confidential. Any identifying information, such as names and personal

characteristics, will be anonymised in the PhD thesis or any other publications of this research. The data I will collect will be kept securely.

The results of the study will be used for academic purposes only. This will include my PhD thesis and other publications, for example journal articles. I am also planning to present the results of my study at academic conferences.

If you have any queries or if you are unhappy with anything that happens during your participation in the study, please contact myself via any of the contact means below.

**Further information and contact details:**

Nadia Aleraini ([n.aleraini@lancaster.ac.uk](mailto:n.aleraini@lancaster.ac.uk) or [n.orainy1@gmail.com](mailto:n.orainy1@gmail.com)).

Tel: 0966504453317 (Saudi Arabia)

Tel: 0447455909924 (United Kingdom)

Department of Linguistics and English Language

Lancaster University

County South C33

Lancaster LA1 4YL

United Kingdom

***Thank you for considering participation in this study***



## Consent Form

### *Foreign language learners' understanding of English grammar*

1. I have read and had explained to me by Nadiah Aleraini the information sheet relating to this project.
  
2. I have had explained to me the purposes of the project and what will be required of me, and any questions have been answered to my satisfaction. I agree to the arrangements described in the information sheet in so far as they relate to my participation.
  
3. I understand that my participation is entirely voluntary and that I have the right to withdraw from the study up to 2 weeks after participation. If I withdraw after this period, the information I have provided will be used for the project because it will be difficult to remove data from the analysis when disseminating the findings.
  
4. I understand that all data collected will be anonymised and that my identity will not be revealed at any point.
  
5. I have received a copy of this consent form and of the accompanying information sheet.

Name: .....

Signed: .....

Date: .....

## Appendix B

### Language Background Questionnaire

*Please take a minute to answer the following questions about your language background*

Please write your ID/name

-----

1- What is your gender?

Male

Female

2. How old are you? -----

3. What is your native language?

Arabic

English

Other

4. Do you have an IELTS score? If yes please write the score and the year you took it.

-----

5. Apart from Arabic and English, do you speak other languages?

a. Yes

b. No

6. What other languages do you speak?

1-----

2-----

7. For how many years did you study English?

\_\_\_\_\_

8. When did you begin to receive formal English at school?

- pre-school
- primary school
- intermediate school
- secondary school
- university

9. What is your dominant language at university/in your department?

- a) English
- b) Arabic
- c) Other

10. What is your highest education level?

- a. Undergraduate
- b. Masters
- c. PhD
- d. If other please indicate here: \_\_\_\_\_

11. Have you spent time living in an English-speaking country? If yes, please indicate for how much time.

-----

12. When choosing a language to speak with a person who is equally fluent in Arabic and English, what percentage of time would you choose to speak each language?

1. Arabic                    -----%

2. English                   -----%

13. Do you have any hearing or vision problems? If yes, please indicate what the problem is?

-----

*Thank you for Participating*

## Appendix C

### QUESTIONNAIRE

In this task, you will be presented with a series of situations (32 in total). In each situation, you are asked a question. Below each question you will find a set of responses.

**First**, read the context and the question. Then indicate to what degree you think each response is appropriate in the given situation (**to what extent you think the utterance fits in the context**) by assigning alternative grades on a scale from 1 to 6. *If you think a response is a **very good** option and you would definitely use it in a similar context, **mark 6**. If you think a response is a **very poor** option and you would never use it in a similar context, **mark 1**.* **Please do this for every response provided.**

**Also**, indicate how confident you are about your decision (rating). To do this, please choose one of the options next to each response: *guessing, somewhat confident, or very confident*. Please select the **guessing** option only if you have no confidence whatsoever in your acceptability decision and believed to be guessing. Choose the **somewhat confident** option if you have a small amount of confidence. If you are very confident and sure of your acceptability rating, then select the **very confident** category. The following is an **example**:

**Example:**

You decide to invite your friend for dinner on Saturday. You phone your friend and ask her if she can join you, but she cannot hear you well. She says:

- Are you cooking dinner on Friday?  
You say: No, ...

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. I am going to cook dinner on Saturday.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
b. I made dinner on Saturday.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
c. I will prepare dinner on Saturday.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
d. On Saturday, not Friday.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

1- You decide to fix some broken furniture that was in the garage. There are two broken chairs and a table. You fix only the chairs. Your father comes and asks:

- *Did you fix the broken table?*
- *You say: No, ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. I had fixed the two chairs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I was fixing the two chairs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. I have fixed the two chairs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. I had been fixing the two chairs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. I fixed the two chairs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2- You're going on a trip to the museum, but forget to take your ticket. You tell your friend on the phone that you forgot to take your ticket with you. She says:

- *I am sorry I cannot hear you well. Did you say you forgot to take your money or your ticket?*
- *You say: ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. What I forgot was my ticket.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. It was my ticket that I forgot.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. My ticket was what I forgot.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. My ticket I forgot.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. I forgot my ticket.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3- You are invited to a graduation party and you have to buy some new clothes. So you go shopping and buy a top and a skirt. You come back home and your sister asks:

- *Did you find something nice to wear for the party?*
- *You say: Yes, ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. I was buying a top and a skirt.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I had bought a top and a skirt.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. I bought a top and a skirt.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. I have bought a top and a skirt.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. I had been buying a top and a skirt.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4- You go to a meeting and you realise that you have lost your phone. You go to the secretary's office. The office assistant says:

- *Can I help you?*
- *You say: ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. I lost my phone.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. My phone I lost.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. My phone was what I lost.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. It was my phone that I lost.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. What I lost was my phone.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5- You do not like the colour of your old bicycle so you decide to paint it. Your sister sees the bicycle and says:

- *Did you buy a new bicycle?*
- *You say: No, ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. I had been painting my old bicycle.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I have painted my old bicycle.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. I was painting my old bicycle.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. I had painted my old bicycle.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. I painted my old bicycle.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6- You are washing your car and you accidentally break the mirror. Your brother sees the broken mirror and says:

- *What happened?*
- *You say: ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. The mirror was what I broke.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. The mirror I broke.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. What I broke was the mirror.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. I broke the mirror.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. It was the mirror that I broke.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7- You are in the back garden at your parents' house and decide to water the flowers. Your sister sees you in the garden and says:

- *Did you water the trees?*
- *You say: No, ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. I was watering the flowers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I had watered the flowers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. I had been watering the flowers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. I have watered the flowers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. I watered the flowers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8- You go to the park and you take some bread with you to feed the ducks. Your friend sees you at the park and says:

- *Did you bring something for the ducks?*
- *You say: ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. I brought some bread with me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I had brought some bread with me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. I had been bringing some bread with me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. I was bringing some bread with me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
a. I brought some bread with me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9- You are in a hotel room preparing to go to bed. You go to brush your teeth but the toothpaste is finished. You phone the room service and the lady says:

- Hello, Can I help you?
- You say: ...

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. It was toothpaste that I want, please.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. What I want is toothpaste, please.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. I want toothpaste, please.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Toothpaste is what I want, please.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Toothpaste I want, please.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10- You want to decorate the living room, so you change the wallpaper and the curtains. Later, your neighbour comes over to visit you and says:

- Your living room looks different, did you change the paint?
- You say: No, ...

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. I have changed the wallpaper and the curtains.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I had been changing the wall paper and the curtains.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. I was changing the wall paper and the curtains.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. I changed the wall paper and the curtains.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. I had changed the wall paper and the curtains.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11- You are with your friend in a café and you tell the waitress that you would like some coffee. The waitress takes your order but forgets to write it down. She comes back to your table and says:

- *I'm sorry. I forgot to write down your order. Did you order tea or coffee?*
- *You say: ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. What I ordered was coffee.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. It was coffee that I ordered.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Coffee was what I ordered.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Coffee I ordered.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. I ordered coffee.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12- You are at home and you decide to clean the windows. Your mother phones you and says:

- *What are you doing today?*
- *You say: ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. I was cleaning the windows.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I had been cleaning the windows.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. I have cleaned the windows.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. I had cleaned the windows.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. I cleaned the windows.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13- You are watching TV and suddenly the light goes off. So, you go to your next-door neighbour to borrow some candles. Your neighbour opens the door and says:

- *Is everything alright, can I help you?*
- *You say: ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. A candle I want, please.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I want a candle, please.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. A candle is what I want, please.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. What I want is a candle, please.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. It is a candle that I want, please.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14- You go with your friends on a safari trip. You take pictures of some wild animals. When you come back from the trip, your brother asks:

- *How was your trip?*
- *You say: ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. I had taken pictures of wild animals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I took pictures of wild animals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. I have taken pictures of wild animals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
a. I had been taking pictures of wild animals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I was taking pictures of wild animals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15- You order some beauty products to be delivered to your house. You receive your order the next day. Your friend sees the package and says:

- *Did you buy a pair of shoes?*
- *You say: No, ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. I ordered some beauty products.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I have ordered some beauty products.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. I was ordering some beauty products.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. I had ordered some beauty products.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. I had been ordering some beauty products.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16- You are in the kitchen washing some dishes and you accidentally break a cup. You tell your mother that you broke a cup. Later she asks:

- *Did you say you broke a plate or a cup while you were washing the dishes?*
- *You say: ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. What I broke was a cup.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. A cup was what I broke.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. It was a cup that I broke.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. I broke a cup.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. A cup I broke.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

17- You invite your mother to your house. You phone her to tell her that you are going to make chicken soup for dinner. Your mother phones back and asks:

- *Did you say you made vegetable soup for dinner?*
- *You say: No, ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. I made chicken soup.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. It was chicken soup that I made.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Chicken soup was what I made.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Chicken soup I made.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. What I made was chicken soup.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

18- You are in the kitchen washing some apples. Your brother comes and says:

- *Did you wash any grapes? I would really like some.*
- *You say: No, ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. I had washed some apples.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I washed some apples.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. I was washing some apples.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. I have washed some apples.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. I had been washing some apples.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

19- You are in the library trying to print your assignment. You realise that there is no paper in the printer. The librarian comes and asks:

- *Is everything alright, can I help?*
- *You say: ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. Some paper I want, please.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. What I want is some paper, please.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Some paper is what I want, please.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. It is some paper that I want, please.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. I want some paper, please.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

20- You are in your room fixing a broken shelf. You tell your sister that you have fixed a shelf. Your sister was talking on her phone and did not hear you well. Later she asks:

- *Did you say you fixed a shelf or a drawer?*
- *You say: ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. A shelf is what I fixed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. What I fixed was a shelf.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. It was a shelf that I fixed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. A shelf I fixed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. I fixed a shelf.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

21- Your mother goes to the grocery shop and you ask her to bring some green apples. At the grocer's, she phones you and asks:

- *Did you say you wanted red apples?*
- *You say: No, ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. What I want was green apples.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. It was green apples that I want.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Green apples were what I want.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
a. Green apples I want.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I want green apples.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

22- You want to visit your grandfather. You decide to bake his favourite cake to take with you. Your sister phones and asks:

- *Did you prepare something for grandfather?*
- *You say: ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. I baked his favourite cake.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I was baking his favourite cake.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. I had been baking his favourite cake.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. I had baked his favourite cake.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. I have baked his favourite cake.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

23- You go to the supermarket and you realise that you have lost your wallet. You go back to the supermarket's security office to report it. The security guard asks:

- *What can I help you with?*
- *You say: ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
b. My wallet was what I lost.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
a. I lost my wallet.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. It was my wallet that I lost.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. My wallet I lost.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. What I lost was my wallet.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

24- You are invited to your friends' house and some sandwiches are served. You come back home and your mother asks:

- *Did you eat something while you were out?*
- *You say: Yes, ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. I ate a sandwich at my friends' house.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I have eaten a sandwich at my friends' house.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. I was eating a sandwich at my friends' house.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. I had been eating a sandwich at my friends' house.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. I had eaten a sandwich at my friends' house.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

25- You are on a flight. The flight attendant brings tea. You want some sugar. So, you call the flight attendant. She comes and asks:

- *Can I help you?*

- *You say: ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. Some sugar is what I want, please.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. It is some sugar that I want, please.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. What I want is some sugar, please.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. I want some sugar, please.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Some sugar I want, please.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

26- You decide to go to the library to study for your upcoming exam instead of going over to your friend's house. You come back home in the evening and your mother says:

- *Did you study with your friend today?*

- *You say: No, ....*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. I had been studying alone at the library.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I was studying alone at the library.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. I had studied alone at the library.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. I have studied alone at the library.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. I studied alone at the library.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

27- You go to the cinema to watch a horror movie. You tell your sister that you went to the cinema. She asks:

- *Did you watch an action movie?*
- *You say: No, ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. What I watched was a horror movie.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. It was a horror movie that I watched.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. A horror movie was what I watched.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. A horror movie I watched.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. I watched a horror movie.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

28- You decide to go to the sport centre to play tennis for a few hours. You go after that to your parents' house and your father says:

- *You look tired, what have you been doing?*
- *You say: ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. I have played tennis in the sport centre.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I had played tennis at the sport centre.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. I was playing tennis at the sport centre.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. I had been playing tennis at the sport centre.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. I played tennis at the sport centre.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

29- You go to visit your friend in hospital. You decide to buy some flowers. So you go to the flower shop to buy some. In the flower shop, the shopkeeper asks:

- *What can I help you with?*
- *You say: ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. I would like to buy some flowers, please.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. It is some flowers that I would like to buy, please.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Some flowers is what I like to buy, please.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Some flowers I would like to buy, please.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. What I would like to buy is some flowers, please.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

30- You accidently break your eyeglasses so you buy new ones. Later, one of your friends meets you and says: You look different.

- *Did you change your hair cut?*
- *You say: No, ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. I have bought new eyeglasses.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I bought new eyeglasses.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. I was buying new eyeglasses.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. I had bought new eyeglasses.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. I had been buying new eyeglasses.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

31- You go to the shopping mall and you buy a handbag. You tell your sister that you have bought a new handbag. Later she asks:

- *I know that you bought a bag, but did you buy a backpack?*
- *You say: No, ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. It was a handbag that I bought.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I bought a handbag.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. A handbag was what I bought.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. A handbag I bought.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. What I bought was a handbag.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

32- You want to surprise your sister who has graduated from university with a surprise party. Your mother comes to visit you and says:

- *Did you prepare a party for your sister?*
- *You say: Yes, ...*

	How appropriate is the statement?						How confident are you about your rating?		
	1	2	3	4	5	6	Guessing	Somewhat confident	Very confident
a. I arranged a surprise party for my sister.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. I had arranged a surprise party for my sister.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. I was arranging a surprise party for my sister.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. I have arranged a surprise party for my sister.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. I had been arranging a surprise party for my sister.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*End of test*

*Many thanks for participating*

## Appendix D

Items for the self-paced reading task

### Target Items

#### Felicitous context

**1- You tell your friend that you read a book at the coffee shop. Your friend cannot hear you well, so she says:**

- *Did you say that you read a letter or a book?*

**2- You tell your sister that you brought a bike to the park. Your sister cannot hear you well, so she says:**

- *Did you say that you brought a ball or a bike to the park?*

**3- You tell your friend that you broke a chair in the restaurant. Your friend cannot hear you well, so she says:**

- *Did you say you broke a table or a chair at the restaurant?*

**4- You tell your sister that you bought a new bag. Your sister cannot hear you well, so she says:**

- *Did you say that you bought a bag or a badge?*

**5- You tell your friend that you wrote a beautiful poem. Your friend cannot hear you well, so she says:**

- *Did you say that you wrote a novel or a poem?*

**6- You tell your mother that you drove a big truck. Your mother cannot hear you well, so she says:**

- *Did you say that you drove a truck or a tractor?*

**7- You tell your friend that you sent your neighbour Robert a card on his birthday. Your friend cannot hear you well, so she says:**

- *Did you say that you sent your neighbour a card or a letter?*

**8- You tell your sister that you flew a kite in the park. Your sister cannot hear you well, so she says:**

- *Did you say that you flew a kite or a plane?*

**Infelicitous context**

**1- You read a book at the library. Later your friend phones you to ask you what you have been doing today. She says:**

- *What have you been doing today?*

**2- You brought a bike to the park and you want to tell your sister. Later you are sitting with your sister and she says:**

- *What did you do today?*

**3- You broke a chair in the restaurant and you want to tell your mother. You come back home and your mother says:**

- *How was your day today?*

**4- You bought a new bag from the mall and you want to tell your sister. Your sister saw you at the mall and says:**

- *What did you do today?*

**5- You wrote a poem and you want to tell your sister. Your sister phones you and says:**

- *What did you do today?*

**6- You drove a big truck on the farm and you want to tell your mother. Later you come back home and your mother says:**

- *What did you do today?*

**7- You sent a card to your neighbour. Your friend phones you and says:**

- *What did you do today?*

**8- You flew a kite in the park. Later you come back home and your sister says:**

- *What did you do today?*

## Appendix E

### Target Constructions in the On-line Experiment

#### 1- (*it*-cleft)

	<u>Region 1</u>	<u>Region 2</u>	<u>Region 3</u> <i>(Object)</i>	<u>Region 4</u>	<u>Region 5</u>	<u>Region 6</u> <i>(Verb)</i>
(1)	It	was	a book	that	I	read
(2)	It	was	a bike	that	I	brought
(3)	It	was	a chair	that	I	broke
(4)	It	was	a bag	that	I	bought
(5)	It	was	a poem	that	I	wrote
(6)	It	was	a truck	that	I	drove
(7)	It	was	a card	that	I	sent
(8)	It	was	a kite	that	I	flew

#### 2- (*wh*-cleft)

	<u>Region 1</u>	<u>Region 2</u>	<u>Region 3</u> <i>(Verb)</i>	<u>Region 4</u>	<u>Region 5</u> <i>(Object)</i>
(1)	What	I	read	was	a book
(2)	What	I	brought	was	a bike
(3)	What	I	broke	was	a chair
(4)	What	I	bought	was	a bag
(5)	What	I	wrote	was	a poem
(6)	What	I	drove	was	a truck
(7)	What	I	sent	was	a card
(8)	What	I	flew	was	a kite

### 3- (reversed *wh*-cleft)

	<u>Region 1</u> <u>(Object)</u>	<u>Region 2</u>	<u>Region 3</u>	<u>Region 4</u>	<u>Region 5</u> <u>(Verb)</u>
(1)	A book	was	what	I	read
(2)	A bike	was	what	I	brought
(3)	A chair	was	what	I	broke
(4)	A bag	was	what	I	bought
(5)	A poem	was	what	I	wrote
(6)	A truck	was	what	I	drove
(7)	A card	was	what	I	sent
(8)	A kite	was	what	I	flew

### 4- (Preposing constructions)

	<u>Region 1</u> <u>(Object)</u>	<u>Region 2</u>	<u>Region 3</u> <u>(Verb)</u>
(1)	A book	I	read
(2)	A bike	I	brought
(3)	A chair	I	broke
(4)	A bag	I	bought
(5)	A poem	I	wrote
(6)	A truck	I	drove
(7)	A card	I	sent
(8)	A kite	I	flew

## Appendix F

Filler items for the self-paced reading task

### Filler items

**1- You are at your friend's house. She serves some sandwiches. You come back home and your mother asks:**

- ***Did you eat something while you were out?***

***You say:***

I ate a sandwich at my friend's house.

I was eating a sandwich at my friend's house.

I had eaten a sandwich at my friend's house.

I have eaten a sandwich at my friend's house.

**2- You are invited to a party and you want to buy new shoes. So, you go shopping. You come back home and your sister asks:**

- ***Did you buy something to wear for the party?***

***You say:***

I had bought a pair of shoes.

I was buying a pair of shoes.

I bought a pair of shoes.

I have bought a pair of shoes.

**3- You go with your friends on a trip to the Amazon forest. You take pictures of some birds. When you come back from the trip, your brother asks:**

- ***How was your trip?***

***You say:***

I had taken pictures of birds.

I took pictures of birds.

I had taken pictures of birds.

I was taking pictures of birds.

**4- You go to visit your sick friend. You decide to make her favourite food to take with you. Your sister phones and says:**

- ***Did you prepare something for your friend?***

***You say:***

I made her favourite food.

I was making her favourite food.

I had made her favourite food.

I have making her favourite food.

**5- You go to a restaurant and you order some salad. Your friend comes to join you at the table and says:**

- ***Did you order some appetisers?***

***You say:***

I ordered some salad.

I had ordered some salad.

I was ordering some salad.

I have ordered some salad.

**6- You are at home and it is a Saturday morning. You decide to wash the bed sheets. Your sister phones you and says:**

- ***What are you doing today?***

***You say:***

I have washed the bed sheets.

I had washed the bed sheets.

I was washing the bed sheets.

I washed the bed sheets.

**7- You decide to play football with your friends for a few hours. You go after that to your parents' house and your mother says:**

- ***What have you been doing?***

***You say:***

I have played football with my friends.

I was playing football with my friends.

I had played football with my friends.

I played football with my friends.

**8- You want to surprise your friend who has started a new job with a present. Your mother phones and says:**

- ***What have you been doing lately?***

***You say:***

I bought a present for my friend.

I had bought a present for my friend.

I was buying a present for my friend.

I have bought a present for my friend.

**9- You decide to bake some cupcakes to take with you to the park. Later, one of your friends sees you and says:**

- ***Did you bring something with you today?***

***You say:***

I brought some cupcakes.

I was bringing some cupcakes.

I had brought some cupcakes.

I have brought some cupcakes.

**10- You are in your office writing your weekly report. Your friend comes in and says:**

- ***Did you write something today?***

***You say;***

I had written my weekly report.

I wrote my weekly report.

I was writing my weekly report.

I have written my weekly report.

**11- You decide to go to the office to bring some documents that you need to look at. Later, your friend sees you and says:**

- ***Did you take something from the office today?***

***You say:***

I was taking some documents.

I had taken some documents.

I have taken some documents.

I took some documents.

**12- You are in the garage at your parents' house and decide to paint the shelves. Your sister comes in and says:**

- ***Did you paint something in the garage?***

***You say:***

I was painting the shelves.

I had painted the shelves.

I have painted the shelves.

I painted the shelves.

**13- You order some living room furniture to be delivered to your house. You received your order the next day. Your sister sees the package and says:**

- ***Did you order something yesterday?***

***You say:***

I was ordering some living room furniture.

I ordered some living room furniture.

I have ordered some living room furniture.

I had ordered some living room furniture.

**14- You decide to hang some pictures on the kitchen wall. You were able to hang a few. Later, your friend comes in and says:**

- ***Did you change something in the kitchen?***

***You say:***

I had hanged some pictures on the wall.

I was hanging some pictures on the wall.

I have hanged some pictures on the wall.

I hanged some pictures on the wall.

**15- You decide to fix the fence in the back garden. Later, your neighbour comes to see you and says:**

- ***Did you fix something today?***

***You say:***

I have fixed the fence in the back garden.

I was fixing the fence in the back garden.

I had fixed the fence in the back garden.

I fixed the fence in the back garden.

**16- You do not like the laptop that you bought recently and decide to change it. Your sister sees the new laptop and says:**

- ***Did you buy another laptop?***

***You say:***

I have changed my old laptop.

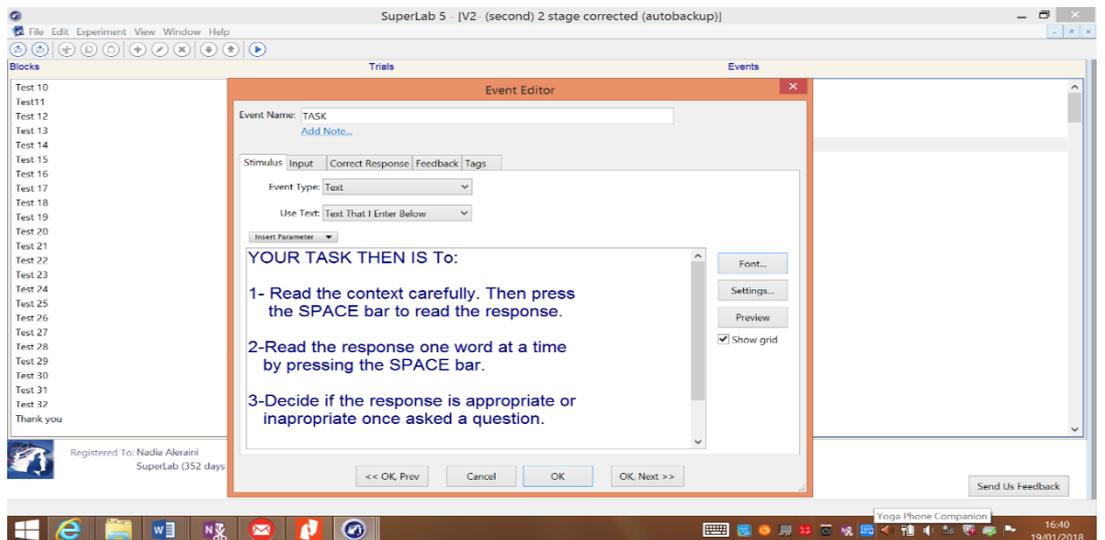
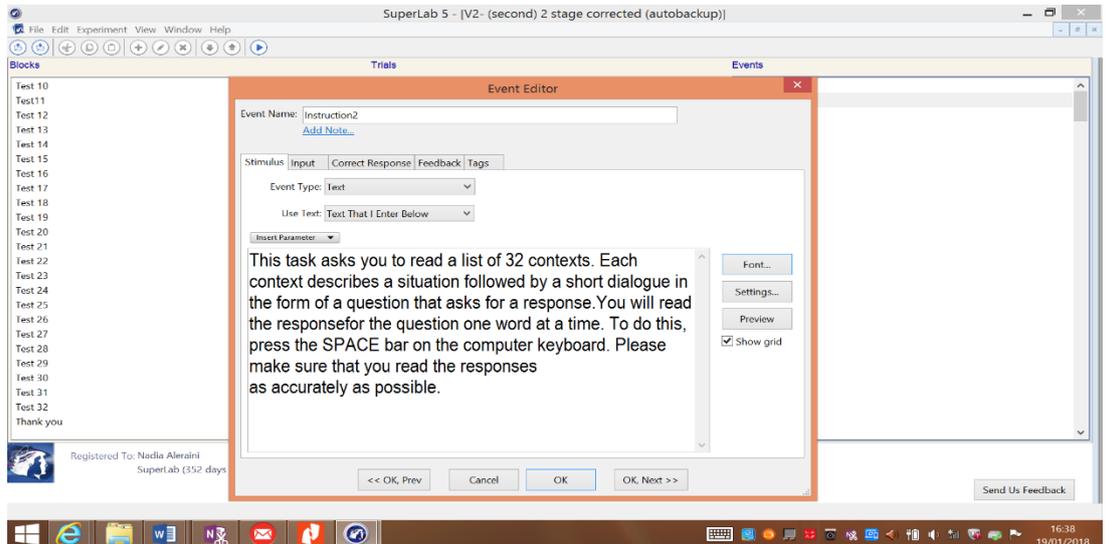
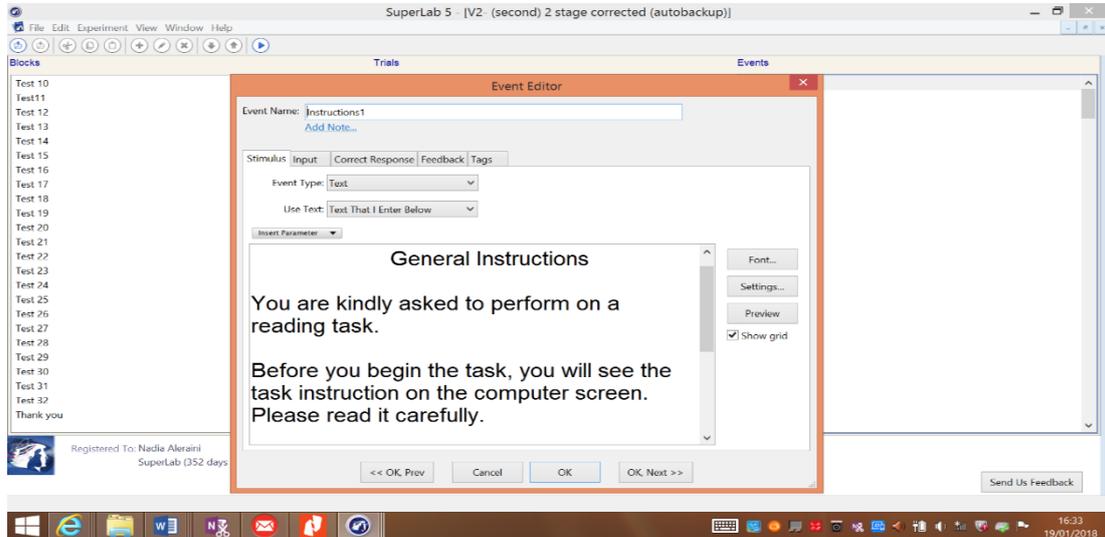
I was changing my old laptop.

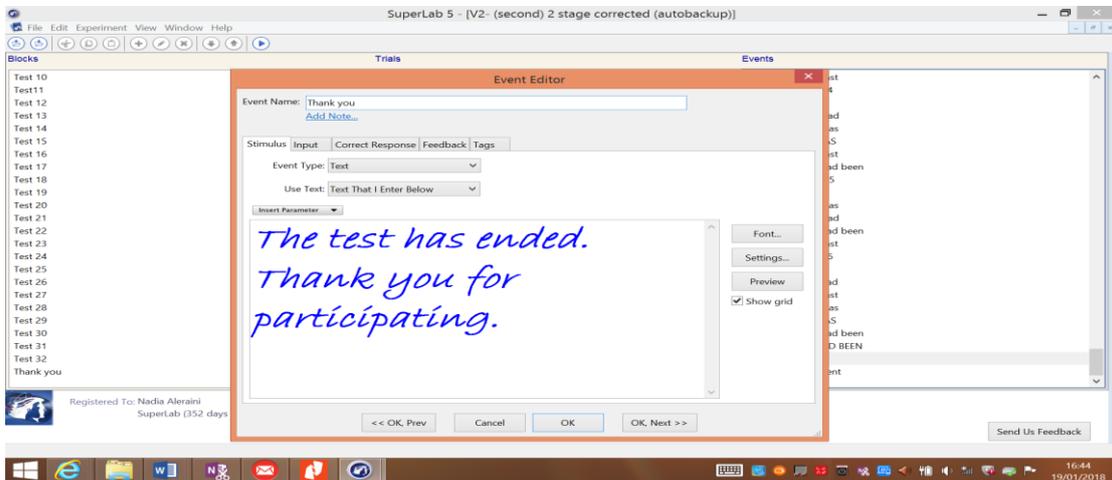
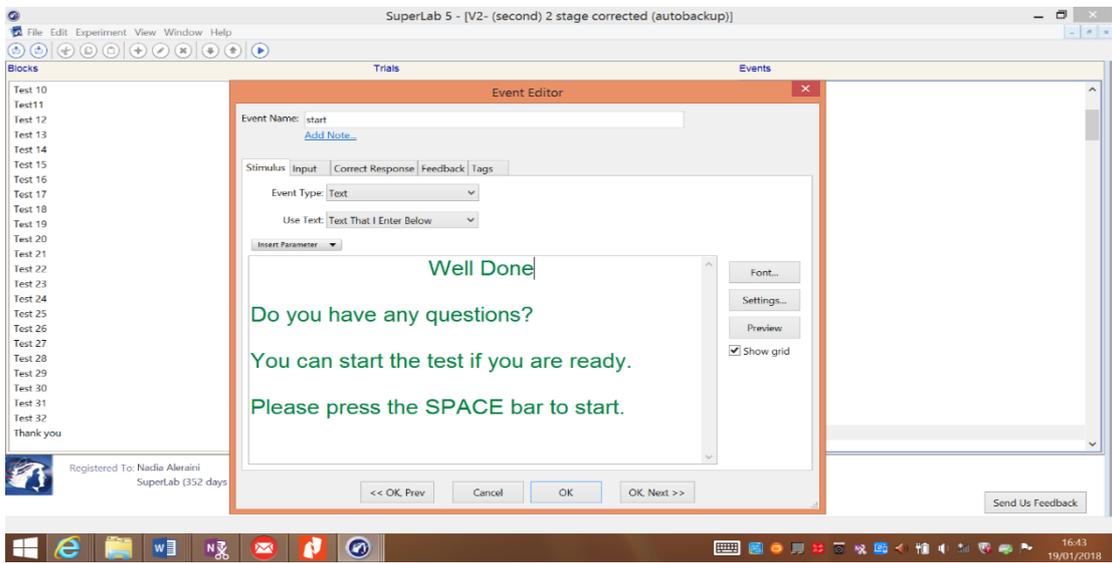
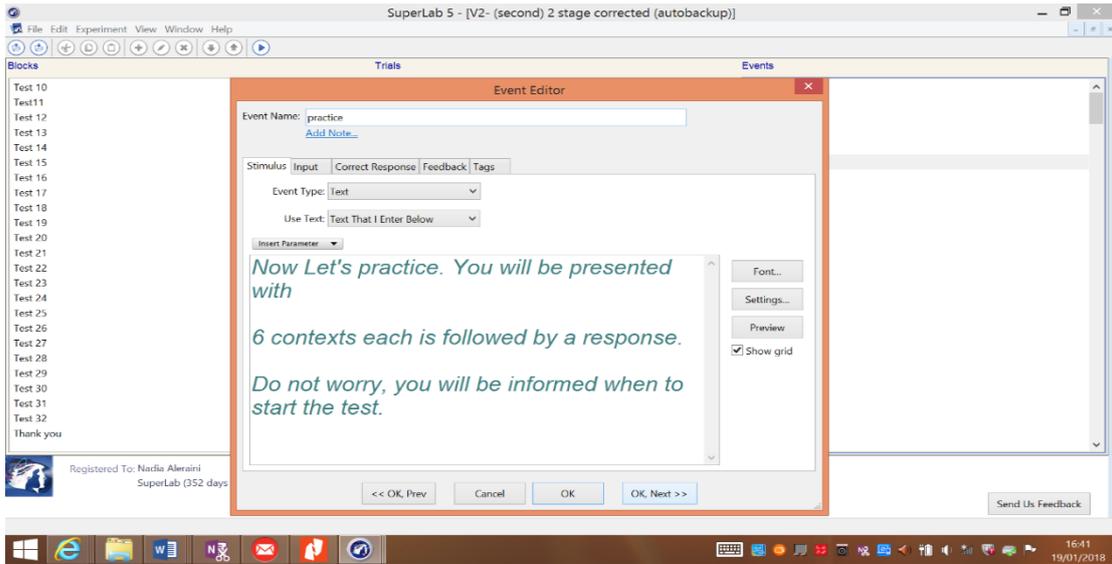
I had changed my old laptop.

I changed my old laptop.

# Appendix G

## Instructions for the on-line experiment





## Appendix H

### Common Reference Levels: global scale

**Table 1:** Common Reference Levels, global scale. N.B. (Common European Framework of Reference for Languages (CEFR, 2001) p. 24,

Proficient User	C1	Can understand with ease virtually everything heard or read. Can summarize information from different spoken and written sources, reconstructing arguments and accounts in a coherent presentation. Can express him/herself spontaneously, very fluently and precisely, differentiating finer shades of meaning even in more complex situations.
	C2	Can understand a wide range of demanding, longer texts, and recognize implicit meaning. Can express him/herself fluently and spontaneously without much obvious searching for expressions. Can use language flexibly and effectively for social, academic and professional purposes. Can produce clear, well-structured, detailed text on complex subjects, showing controlled use of organizational patterns, connectors and cohesive devices.
Independent User	B1	Can understand the main ideas of complex text on both concrete and abstract topics, including technical discussions in his/her field of specialisation. Can interact with a degree of fluency and spontaneity that makes regular interaction with native speakers quite possible without strain for either party. Can produce clear, detailed text on a wide range of subjects and explain a viewpoint on a topical issue giving the advantages and disadvantages of various options.
	B2	Can understand the main points of clear standard input on familiar matters regularly encountered in work, school, leisure, etc. Can deal with most situations likely to arise whilst travelling in an area where the language is spoken. Can produce simple connected text on topics which are familiar or of personal interest. Can describe experiences and events, dreams, hopes and ambitions and briefly give reasons and explanations for opinions and plans.
Basic user	A1	Can understand sentences and frequently used expressions related to areas of most immediate relevance (e.g. very basic personal and family information, shopping, local geography, employment). Can communicate in simple and routine tasks requiring a simple and direct exchange of information on familiar and routine matters. Can describe in simple terms aspects of his/her background, immediate environment and matters in areas of immediate need.
	A2	Can understand and use familiar everyday expressions and very basic phrases aimed at the satisfaction of needs of a concrete type. Can introduce him/herself and others and can ask and answer questions about personal details such as where he/she lives, people he/she knows and things he/she has. Can interact in a simple way provided the other person talks slowly and clearly and is prepared to help.

**Table 2** - The Oxford Placement Test (OPT) bands and equivalence bands test

<b>OPT Band</b>	<b>OPT Score</b>	<b>OPT Language Level</b>	<b>IELTS</b>
9	198-200	Functionally bilingual	
8	190-197	Professional command-expert user	8 and above
7	170-189	Highly proficient- very advanced user	7.5
6	150-169	Proficient- advanced user	6.5
5	135-149	Upper intermediate- competent user	5.5
4	120-134	Lower intermediate- modest user	4.0
3	105-119	Elementary-limited user	3.0
2	90-104	Basic-extremely limited user	
1	80-89	False beginner-minimal user	
0	Below 79	Beginner	