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**The role of first language transfer in the acquisition of
definiteness in specific and generic contexts
by Saudi-Arabic learners of English**

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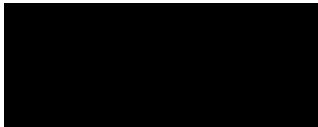
Abstract

Studies on the acquisition of definiteness in English by Arabic learners have largely focused on the errors made using articles. The present study investigates the accuracy of Saudi-Arabic learners with regard to the different features associated with definiteness: specificity and genericity. Arabic, like English, contains a definite article and an indefinite article; however, article usage differs between the languages in that Saudi-Arabic tends to drop the indefinite article as it is not obligatory, as it is in English. The purpose of this study is therefore to examine the accuracy with which learners employ specificity and genericity and the effect of the first language on learners' accuracy. The thesis examines the effects of proficiency level and vocabulary level (receptive and productive). Two experimental studies were carried out, the first focusing on specificity by testing the Bottleneck Hypothesis (Slabakova, 2008) and the Fluctuation Hypothesis (Ionin et al., 2004). The former posits that learners are able to map features between L1 and L2 and that similarities and differences between languages affects acquisition. The latter hypothesis relates to definiteness and specificity, postulating that learners fluctuate between article settings until they acquire the Article Choice Parameter in English. The second experiment focused on genericity with singular and plural contexts, testing the Bottleneck Hypothesis (Slabakova, 2008) and the Representational Deficit Hypothesis (Hawkins & Chan, 1997), which argues that learners cannot acquire a new uninterpretable feature if it is already set in their L1. These experiments demonstrated that the accuracy of Saudi-Arabic learners of English varies according to definiteness features, as the participants performed more accurately with specificity than with genericity. First language transfer affected uses involving genericity more than those involving specificity. The other factors – proficiency level and receptive and productive vocabulary knowledge – affected the learners' accuracy with respect to both specificity and genericity.

Declarations and Statements

DECLARATION


This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree.

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STATEMENT 1

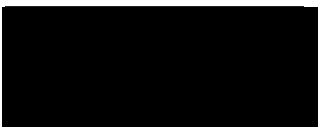
This thesis is the result of my own investigations, except where otherwise stated. Other sources are acknowledged by giving explicit references. A bibliography is appended.

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STATEMENT 2

I hereby give my consent for my thesis, if accepted, to be available for photocopying and for interlibrary loan, and for the title and summary to be made available to outside organisations.

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List of Abbreviations

ACP: Article Choice Parameter

arg: argumental nouns

BH: Bottleneck Hypothesis

CP: complement phrase

CLIL: Content and Language Integrated Learning

D: Determiner

DP: Determiner Phrase

FH: Fluctuation Hypothesis

FRH: Feature Reassembly Hypothesis

GDPR: General Data Protection Regulation

GenSLA: Generative Second Language Acquisition

IELTS: International English Language Testing System

L1: First language

L2: Second language

N: Noun

NMP: Nominal Mapping Parameter

NP: noun phrase

pred: predicate nouns

RDH: Representational Deficit Hypothesis

RRCs: restrictive relative clauses

SD: standard deviation

SLA: second language acquisition

UG: Universal Grammar

VP: verb phrase

V2: verb-second

Chapter 1 Introduction

1.1 Introduction

After Arabic, English is the second language officially taught in Saudi Arabia. Students learn English as a foreign language from elementary until the end of secondary school (ages 6 to 18), proving its importance as a language to be investigated with Saudi-Arabic learners to determine how the features of English may affect Saudi-Arabic learners' accuracy. Fassi Fehri (2012, 2013) illustrated the features of Arabic and how they differ from those of other languages, particularly English. The differences between first language (L1) and second language (L2) acquisition have prompted researchers to consider the ways, if any, in which learners acquire L2 in the same innate manner as L1.

L1 is considered a crucial source affecting the process of L2 acquisition. Odlin (2006) defines L1 transfer as 'the influence resulting from similarities and differences between the target language and any other language that has been previously (and perhaps imperfectly) acquired' (p. 27). When learners face challenges acquiring a second language, they recall elements of their L1 (or another language) to facilitate and overcome them (Jarvis and Odlin, 2000). Ortega (2009) argues that L1 transfer has a positive and a negative direction. The positive occurs in the case of similarities between L1 and L2, as these give the learner a head start in acquiring the target language. Vocabulary similarities between languages, for example, would help the learner's reading comprehension, while a familiar writing system or script between the languages would assist the learner's writing ability. Similarities with regard to syntactic structure would see the learner more quickly acquire the articles, word order and relative clauses of the target language (Odlin, 2006).

The negative direction arises in four behaviours. The first of these is underproduction, which can be interpreted as an act of avoidance whereby the learner avoids a phenomenon, they consider difficult. The second behaviour is overproduction, where the learner tends to overuse certain features even in positions that do not require them. The third behaviour involves production errors, which can be classified as substitutions, calques, and alterations of the structure. The fourth and

final behaviour is misinterpretation: in acquiring the target language, a learner may infer a feature that does not occur in that language as a result of misunderstanding the feature. This may be found if, for example, L1 and L2 differ in word order (Odlin, 2006).

Ortega (2009) indicated that possession of one or more L1 impacts on the acquisition and utilisation of an L2, suggesting that L1 transfer does not occur ‘mechanistically or deterministically’ (p. 53) but comes from ‘tendencies and probabilities’ (p.53) which learners consciously or unconsciously depend on in their L1, forming the assumption that what works in L1 could also work in L2. Ortega (2009, p.53) noted:

Pre-existing knowledge of the mother tongue influences interlanguage development by accelerating or delaying the progress learners make along the natural, development pathways (e.g. orders of accuracy, natural sequences and developmental stages), but it neither predetermines nor alters such pathways.

Definiteness, for instance, differs between English and other languages. Definiteness refers to the use of the definite article “the” to express definite contexts and the indefinite article “a/an” to express indefinite contexts. Although definiteness is a common feature of English, Saudi-Arabic learners tend to demonstrate difficulty with this feature. The English article system has been the subject of much research, such as that carried out by Jarvis (2002) and Master (1997), who focused on how L1 affects the acquisition of English articles. The results indicated that English articles are difficult to acquire across all L1 groups, and that difficulties arise from the differentiation of L1 background (Jarvis, 2002).

Learners with no existing article system can be predicted to have a disadvantage in processing English articles, and during the acquisition process they tend to switch between articles. Learners with native languages which possess no articles also tend to make errors of omission and substitution (Master, 1997). Learners who already speak a language with an article system begin by doing the same, such as substituting “the” with “one” or “this”, but this stage does not last long as the learners then tend to overuse the article, which is known as overgeneralisation (Jarvis, 2002).

Research has determined that first language has an impact on learners’ acquisition of a target language, and this varies according to L1, and the feature being acquired. Differences between L1 and L2 may lead to the negative transfer behaviours

described earlier. Definiteness is a critical feature of English, and studies have shown that Saudi-Arabic learners frequently have difficulty with the English article system (Alhaysony, 2012; Albalawi, 2016; Al-Qadi, 2017). While English and Arabic both possess article systems, they differ in significant ways: English has obligatory use of both definite and indefinite articles, while Arabic uses the definite article, but the indefinite article is often omitted. It has been observed in previous research that Saudi-Arabic learners demonstrate particular problems with the English indefinite article (Alhaysony, 2012; Albalawi, 2016; Al-Qadi, 2017). These studies have focused on the errors that learners make when employing definite and indefinite articles. Fewer have focused on specificity (Al-Zahrani, 2011) or genericity (Crompton, 2011; Sabir, 2015; Abumlhah, 2016; Hermas, 2020a, 2020b). It would therefore be valuable to investigate both specificity and genericity with Saudi-Arabic learners as much uncertainty remains about how accuracy with the different features of definiteness might present with Saudi-Arabic learners. The present research explores these two features of definiteness – specificity and genericity – to discover whether learners are able to distinguish between them or whether they experience varying difficulty according to the particular feature.

Definiteness consists of interpretable and uninterpretable features. The interpretable features are related to semantics, contribute to interpretation, and cannot be eliminated before being spelled out. In English, these are [\pm definite], the definite article “the” for [+definite], and the indefinite article “a/an” for [-definite] in English. The uninterpretable features are connected to the morphosyntactic structure of sentences and should be eliminated before being spelled out. These are the uninterpretable number feature with [\pm plural] features for definiteness which are related to the nouns that follow the article and must be checked for singularity and plurality. For example, [-definite] features must have [-plural] as in “a cat” because English does not allow the bare singular as in “*cat”. On the other hand, the [+plural] feature can be used with [-definite] as in “cats” with plural-s and “the cats” with [+definite] feature and plural-s for [+plural] feature.

There are several key differences between this system and the Arabic system. Arabic possesses the definite article “al-” with [+definite], used with [\pm plural] contexts, as in “al-kitab” [the book] and “al-ktob” [the books], and bare singular nouns with [-definite], [-plural], as in “kitab” [book] and bare plural nouns with [-definite] and

[+plural] as in “ktob” [books]. The difference between English and Arabic is therefore that English distinguishes between the singular and plural contexts and employs the indefinite article with [-plural] and plural nouns with [+plural]. English, in addition, does not allow bare singular nouns with indefiniteness, while Arabic drops the indefinite article and allows bare singular nouns with indefiniteness and the bare plural with plural contexts.

In English, specificity is determined by definiteness using the definite and indefinite article to indicate certain and uncertain conditions, shown in (1) and (2), below.

- (1) Peter intends to marry **a merchant banker** –
- a. even though he doesn't get on at all with her. [+specific, -definite].
 - b. though he hasn't met one yet. [-specific, -definite]
- (2) Joan wants to present the prize to **the winner** –
- a. but he doesn't want to receive it from her. [+specific, +definite]
 - b. so, she'll have to wait around till the race finishes. [-specific, +definite]
- (Lyons, 1999, p.167).

In Arabic, specificity is also determined by definiteness, but the difference lies in the article used. Arabic employs the definite article “al-” for definite contexts [+specific, +definite], [-specific, +definite] and bare singular nouns with indefinite contexts [+specific, -definite], [-specific, -definite]. The difficulty with specificity for Saudi-Arabic learners can be found in the use of the indefinite article with [+specific, -definite], [-specific, -definite], as they must acquire the indefinite article “a/an” to be used in L2 English.

The second definiteness feature in L2 English to be investigated, genericity, consists of two types: NP generic, which refers to kinds and species with the definite article with singular contexts as in (3) and bare plural (plural-s) with plural contexts as in (4), and sentence generic, incorporating generalisations using an indefinite article with singular contexts as in (5), and the bare plural with plural contexts as in (6).

NP generic:

- (3) The dinosaur is extinct. (NP generic singular)
- (4) Dinosaurs are extinct. (NP generic plural)

Sentence generic:

- (5) A potato contains vitamin C. (Sentence generic singular)
- (6) Potatoes contain vitamin C. (Sentence generic plural)

Arabic uses the definite article only with generic references with singular and plural contexts and, unlike English, does not have different types. Saudi-Arabic learners may therefore find difficulty with generic references as learners must acquire the interpretable feature [-definite] with the indefinite article and map it with the uninterpretable feature [-plural] with the sentence generic singular. Learners have to acquire plural-s for [+plural] feature and map the [+definite] with [+plural] for the NP generic plural and [-definite] with [+plural] with the sentence generic plural. Interesting results may therefore be found from investigating how learners' accuracy differs according to the generic references with singular and plural contexts.

The learnability issue for Saudi-Arabic learners with definiteness and specificity comes from acquiring the indefinite article in L2 English, as this is dropped in the learners' L1. The learnability issue for genericity emerges from acquisition of the indefinite article and plural -s, as only the definite article is used in L1 with generic references. To predict how the learners perform with these learnability issues, this research reviews second language acquisition hypotheses related to L1 transfer and whether learners are able to acquire new interpretable and uninterpretable features. This also includes examining the effect of L1 transfer by testing hypotheses related to Universal Grammar (UG) introduced by Chomsky (1995), which focuses on how L1 is acquired and how linguistic knowledge is represented in the mind. The generative approach investigates whether access to UG is still available for L2 learners by introducing Generative Second Language Acquisition (GenSLA) hypotheses.

Starting with Slabakova's (2008) Bottleneck Hypothesis (BH) that will be tested with definiteness, specificity and genericity. This proposes that learners have Full Transfer/Full Access from their L1 and can acquire new features in L2. It also posits that similarities between L1 and L2 could facilitate acquisition while differences between L1 and L2 could lead to difficulties in acquiring new features.

Alongside this, the Fluctuation Hypothesis (FH) of Ionin et al. (2004) will be reviewed. This relates to definiteness and specificity, positing that learners fluctuate

between article settings with definiteness and specificity until they acquire the Article Choice Parameter (ACP) in English, which involves using definiteness to determine the article with specificity, as in (1) and (2) above. FH provides predictions with regard to definiteness and specificity as it is only related to the setting of article with these two features.

The final hypothesis that will be tested is Hawkins and Chan's (1997) Representational Deficit Hypothesis (RDH). This maintains that learners have partial access to UG and learners will be able to acquire a new interpretable features but will not able to acquire a new uninterpretable syntactic feature in L2 that has already been acquired in L1 after the critical period. As outlined above, the uninterpretable feature with definiteness is related to the uninterpretable number feature with [\pm plural] features. RDH affords predictions with genericity and will therefore be investigated with singular and plural contexts in the NP generic with the sentence generic singular and plural.

The study also investigates the roles of other factors that might affect learners' accuracy, including proficiency level, receptive vocabulary knowledge and productive vocabulary knowledge. At the time of writing, no controlled studies investigating the role of receptive and productive vocabulary knowledge in specificity and genericity acquisition for Saudi-Arabic learners have been carried out.

This thesis includes two experiments, the first examining definiteness and specificity, constituting the pilot study, and the second involving genericity and anaphoric references. The first experiment reviews the predictions according to BH (Slabakova, 2008) and FH (Ionin et al., 2004) to determine how proficiency level and receptive and productive vocabulary knowledge affect the learners' acquisition of definiteness and specificity in English. The outcomes of the first experiment helped shape the methodology of the second. While the first experiment used only grammatical judgement tasks with definite and indefinite articles but without singular and plural contexts, the second employed a judgement task and a forced-choice task adapted from Snape (2008, 2013). The experiment also investigates generic references with singular and plural contexts, examining interpretable and uninterpretable features by reviewing the predictions in light of BH (Slabakova, 2008) and RDH (Hawkins and

Chan, 1997). These tasks have not previously been used with Saudi-Arabic learners but only with learners from other L1 backgrounds (e.g. Japanese and Spanish), which provided the chance to compare the results of the Saudi-Arabic learners with those from other L1 backgrounds to help reveal the effect of L1 transfer. The tasks include generic references as test categories and anaphoric references as control categories. Finally, the investigation examines the effect of proficiency level and receptive and productive vocabulary knowledge with generic references in singular and plural contexts.

1.2 The contribution of the thesis

This thesis should contribute to enhanced understanding of how Saudi-Arabic learners' accuracy is affected by specificity and genericity and to what extent their L1 might impact their accuracy, incorporating in addition the role of proficiency level and receptive and productive vocabulary knowledge. The thesis employs methods not used before with Saudi-Arabic learners with specificity and genericity, two new approaches to understanding the article system with this group. Further understanding of this would help develop the accuracy of Saudi-Arabic learners by clarifying which features might require greater focus and to help future research investigating these features in the classroom with these particular learners. The motivation for pursuing this topic comes directly from personal experience teaching English to Saudi-Arabic learners and observing persistent problems in the use of articles.

1.3 Overview of the thesis

Chapter 1 (Introduction) comprises an introduction to the study and its aims, providing an overview of the topic, the contribution of the thesis and an overview of the thesis.

Chapter 2 (Literature review: Definiteness in English and Arabic [specificity and genericity]) demonstrates the difference between English and Arabic with regard to definiteness and interpretable and uninterpretable features by reference to previous studies. It also describes the differences with definiteness, specificity, genericity and anaphoric references between English and Arabic through prior studies which have investigated the acquisition of these features in English. After detailing these features

and the learnability issues associated with them, hypotheses which provide predictions on how learners perform with these learnability issues will be reviewed in Chapter 3.

Chapter 3 (Generative Second Language Acquisition Hypotheses) includes explanations of BH (Slabakova, 2008), which, postulating that a mismatch between features of L1 and L2 can lead to difficulties in acquiring them, provides predictions for definiteness, specificity and genericity. The chapter also reviews FH (Ionin et al., 2004), which is related to the setting of definiteness and specificity. This gives predictions on definiteness and specificity contexts and is excluded in the first experiment. Finally, the chapter provides an overview of RDH (Hawkins and Chan, 1997), which posits that learners cannot acquire new uninterpretable features in L2 if such a feature has already been acquired in L1 and provides predictions with genericity only, as this investigation deals with singular and plural contexts in the second experiment.

Chapter 4 (First experiment: the effect of definiteness and specificity and the role of proficiency level and vocabulary knowledge), details the first experiment, which was originally intended as a pilot study. The chapter outlines the first experiment's research questions and predictions according to the Bottleneck Hypothesis (Slabakova, 2008) and Fluctuation Hypothesis (Ionin et al., 2004). The methodology for the experiment is described, including participants' information, research instrument, the procedure followed, and the method of data analysis. The chapter gives the results of the experiment and includes a discussion. The outcomes of this experiment shaped the instruments and procedure of the second experiment, detailed in Chapter 5.

Chapter 5 (Second experiment: the effect of genericity and the role of proficiency level and vocabulary knowledge) defines the research questions and predictions for the second experiment according to BH (Slabakova, 2008) and RDH (Hawkins and Chan, 1997). The methodology includes detail on participants, research instruments, the procedure followed and data analysis. The results of the experiment are given and discussed.

Chapter 6 (General conclusion) provides an overview of the thesis and briefly summarises the findings of the two experiments which form this overall study, along

with their respective discussions. This chapter demonstrates the contribution of the thesis and provides suggestions for future research.

Chapter 2 Literature Review

Definiteness in English and Arabic (specificity, genericity)

This thesis focuses on the acquisition of specificity and genericity with Saudi-Arabic learners of English. However, a broader understanding of definiteness is essential to understand specificity and genericity. This chapter describes the differences between English and Arabic in relation to definiteness, familiarity, specificity, and genericity, as Arabic and English employ different article systems.

Definiteness and familiarity (antecedent and anaphora) will be discussed, followed by specificity and genericity. First, the differences are presented between definite and indefinite and the interpretable and uninterpretable features regarding definiteness are clarified to demonstrate the learnability issues with these features for Saudi-Arabic learners. Previous studies which have investigated errors with Saudi-Arabic learners in using definite and indefinite articles will be reviewed to ensure a full background of relevant studies into definiteness with Saudi-Arabic learners is provided.

The afterword demonstrates the Article Choice Parameter (ACP) and the four types of definiteness and specificity [+specific, +definite], [+specific, -definite], [-specific, +definite] and [-specific, -definite], as well as the differing article use between English and Arabic with these four contexts. Existing studies into the acquisition of definiteness and specificity in English with various L1 backgrounds, which will be tested in the first experiment, are also described.

The chapter introduces and reviews Nominal Mapping Parameters (NMP) to show the difference between English and Arabic with nouns and argument positions in light of Chierchia's (1998) nominal mapping distributions of English with [+argument, +predicate] and Arabic with [-argument, +predicate]. In order to provide a comprehensive background for both experimental studies, genericity, which is the focus of the second experiment, will also be discussed in terms of the differences between English and Arabic, and previous empirical research into this will be examined.

2.1 Definiteness

Definiteness is a universal semantic feature present in both English and Arabic. Definiteness can be represented by an element in the noun phrase that indicates definite or indefinite nouns (Lyons, 1999), and this may vary between languages. It can be a lexical item, as in English, with definite “the” and indefinite “a/an”, or an affix, as in Arabic, with definite “al-” as a prefix and indefinite “-n” as a suffix in formal written contexts only.

Ionin et al. (2004) refer to definiteness as follows: ‘If a Determiner Phrase (DP) of the form [D NP] is [+definite], then the speaker and hearer presuppose the existence of a unique individual in the set denoted by the NP’ (p. 5). The DP is a phrase consisting of a determiner, such as “the” and “a/an” in English, along with a noun, where the determiner is the head of the phrase as in “the car”. The determiner and the noun must agree in their relation, discussed in detail in Section 2.1.2. The following section details the article systems in English and Arabic, along with examples the use of articles in the two languages.

2.1.1 Definiteness and familiarity in English and Arabic

Definiteness in English is defined by the use of an indefinite article and the definite article, two concepts which usually form a DP and combine with a noun phrase (NP). These can be described as ‘definite and indefinite noun phrases, in that the definiteness or indefiniteness stems from the presence of the article, which has as its essential semantic function to express this category’ (Lyons, 1999, p.2). In English, lexical items are overtly marked in sentences. Definiteness is considered part of the functional morphology of the language and a universal semantic feature (Slabakova, 2014).

As shown in example (7), the indefinite article “a” is used to introduce the referent for the first time, as in “a school”, while the definite article “the” is used to express familiarity and refer back to the same, previously mentioned, “school”. Indefiniteness shows novelty, indicating that the listener is not familiar with or aware of the reference used in the context, while the definite article represents that both the speaker and listener are familiar with the referent.

(7) I visited **a** school. **The** school facilities were organised.

Familiarity is related to novelty and usually related to the antecedent and the anaphora (i.e. the indefinite article is used to introduce a new, unfamiliar, reference, while the definite article is used form a relationship between antecedent and the anaphora). Roberts (2003) noted that familiarity is ‘determined by whether there is already information about a corresponding discourse referent in the local context of interpretation, the context being a file of information held in common by the interlocutors in the discourse’ (p. 294).

In English, the theory of familiarity was introduced and developed by Christophersen (1939), Heim (1982) and Lyons (1999). It argues that the definite article “the” and the indefinite articles “a/an” form a discourse referent that differentiates between a novel referent and a familiar one, as in examples (8) and (9). Christophersen (1939) examined familiarity in these terms: ‘The article “the” brings it about that to the potential meaning (the idea) of the word is attached a certain association with previously acquired knowledge, by which it can be inferred that only one definite individual is meant. That is what is understood by familiarity’ (p. 72).

(8) I bought a dress this afternoon.

(9) I bought the dress this afternoon.

The sentence in example (8) can be used when the dress mentioned has no place in the knowledge of the listener and is new to them. The sentence in example (9) is suitable when both of the conversation’s participants are aware of and share the same reference, in this case, “the dress”.

(10) Alice bought a book yesterday. The book was really interesting.

In example (10), the indefinite article is used for the first reference to “a book”, but when the same referent is mentioned again, it is referred to using the definite article “the book”; as can be seen here, there is an antecedent and anaphoric relationship between the two utterances. Example (11) illustrates the hypothesis more clearly.

(11) I bought a book and a magazine. The magazine was much cheaper than the book.

In example (11), the speaker first introduces the referents using the indefinite article, since they are not known to the listener and considered to be unfamiliar. Later, when

they have already been mentioned, the definite article is used, indicating that the references are now familiar. This relationship in the discourse is called the antecedent and the anaphora. The antecedent is the first part of example (11), while the anaphora is the second part. The referents in the second sentence “the book”, “the magazine” are familiar to the hearer, since they refer to a preceding DP “a book”, “a magazine”.

Some researchers, including Hawkins (1978), Heim (1982) and Prince (1981, 1992), have presented the familiarity hypothesis in terms of novelty–familiarity conditions. Hawkins (1978) proposed dividing the use of the definite article into four situations. First, the anaphoric, a category in which the speaker uses the antecedence /anaphoric relationship to identify the definite article, as illustrated in examples (10) and (11). The second is the immediate situation, where the speaker says something, and the listener must be in the same situation to be able to understand the referents, as in examples (12), (13) and (14).

(12) Watch out, the dog will bite you. (Heim, 1982, p. 239)

(13) Don't go in there, chum. The dog will bite you. (Hawkins, 1978, p. 103)

(14) Pass me the hammer, will you? (Lyons, 1999, p.6)

The speaker and listener are both present in the same situation: in example (12), they can both see “the dog”, therefore the speaker uses the definite article to refer to “the dog”. The third situation involves a wider context, as in (15), where “the president of Ghana” is considered to be general knowledge.

(15) The president of Ghana is visiting tomorrow. (Lyons, 1999, p.3)

The final situation involves an associative anaphora, where the speaker can use synonymy or a verbal phrase to identify the definite article, as in examples (16) and (17).

(16) I got a taxi from the station. On the way the driver told me there was a bus strike. (Lyons, 1999, p.3)

(17) Mary stopped to look at a house. The door was open. (Hawkins, 1978, p. 101)

Lyons (1999) argued that there is an association relationship between the taxi and any part of it, e.g. “wheels, seat or driver” that would be related to it as a meronymy, as (16), where “the driver” is referred to using the definite article despite not having been previously mentioned. As the speaker has already mentioned “a taxi”, and it is familiar knowledge that taxis have drivers, the use of the definite article “the driver” rather than the indefinite is appropriate. So, English has both indefinite “a/an” and definite “the” articles, as well as antecedent and anaphoric references related to definiteness. English definiteness has other features related to articles, such as specificity and genericity, which are explained in detail in sections 2.3 and 2.5, respectively, and form the focus of this study into English specificity and genericity to demonstrate the accuracy of Saudi-Arabic learners regarding different features of articles. As mentioned earlier, this is critical because Arabic possesses an article system which significantly differs from that of English.

Definiteness in Arabic is a bound morpheme overtly marked in nouns. In Arabic, the indefinite article is the suffix “-n”, and the definite article is the prefix “al-” (Fassi Fehri, 2012), as seen in example (18). The indefinite article, which occurs in the standard Arabic morphologically in written forms (Awad, 2011), is not always used in Arabic as it is in English. ‘In formal, standard and classic Arabic, indefiniteness can be (optionally) represented by small, non-morphemic accents suffixed to words’ (Awad, 2011, p. 5). The indefinite article also only occurs phonologically in Modern Standard Arabic (Abudaljuh, 2016), with speakers of other dialects, except some Bedouin dialects, tending to drop the indefinite article “-n” (Al-Malki et al., 2014). This is true for Saudi Arabic speakers, who drop the indefinite in the absence of the definite article “al-” and use bare nouns to indicate the indefinite context. Dialects such as Syrian Arabic (Sarko, 2009) and Moroccan Arabic (Fassi Fehri, 2012) use bare nouns for the indefinite context. Therefore, definiteness in Arabic concerns the use of the prefix “al-” for the definite context and bare nouns for the indefinite context. The definite article i.e. the prefix “al-”, as in (18), is always used in spoken and written forms of the language.

(18) Eshtarutu Kitab-u-n. **Al**-Kitab-u Momtia.

(I bought **a** book. **The** book is interesting.)

Jaber (2014) stated that, in Arabic, the definite article “al-” is used to express familiarity with the attached noun. He suggested that familiarity in Modern Standard Arabic has three dimensions which depend on the knowledge of the speaker and the listener: anaphoric familiarity, shared knowledge familiarity and situational familiarity. Anaphoric familiarity uses the definite article to refer to a previously mentioned noun, as in examples (19)a and (19)b, focusing the listener’s attention through the linguistic context.

(19)

a. Two men talking

marar-tu bi- **radʒul-i-n** yatʕlub-u musaaʕadah, fa-saaʕd-tu **r-radʒul**
 passed-1 by- **a man-Gen-N** 3.ask-Nom help, so-helped-1 **the-man**

(I passed a man asking for help, so I helped the man.)

b. A student talking to her friend on the phone

ʔams, iltaqay-tu **tʕaalib-a-n** dʒadiid-a-n. **atʕ-tʕaalib-u**
 yesterday, met-1 **a student-Acc-N** new-Acc-N. **The-student-Nom**

yaskun-u bidʒaanib-i baytii

3-live-Nom. next to-Gen house-my

(Yesterday, I met a new student. The student lives next to my house.) (Jaber, 2014, p. 72)

In example (19)a, the speaker first introduces the noun without using the definite article “al-”, indicating that the noun “radʒul” is indefinite [a man]. At the second reference “al-radʒul”, the speaker uses the definite article “al-” as in [the man]. The indefinite article is used first, to deliver novel information to a listener unfamiliar with “the man”. Then, the definite article is used to refer back to the man (who is now familiar to the listener), indicating that this is the same man to whom was previously referred. The definite article is used to refer to the man the second time in order to draw a co-referential relationship between “the man” previously mentioned and “the man” mentioned again in the same sentence. This sort of familiarity does not imply that the listener knows the referent, rather, the definite article is used to show that the speaker has already introduced the referent (using the indefinite context) and to indicate that the speaker is still talking about the same referent.

Jaber's (2014) second type of familiarity is shared knowledge familiarity. Here, there is no relevance to the linguistic context and no requirement to use the indefinite article with the first mention of the referent. The referent is referred to using the definite article even if it has not been mentioned before. The use of the definite article “al-” in this sort of context indicates that the interlocutors share the same knowledge; the speaker uses the definite article to assure successful reference to the listener, as in examples (20)a and (20)b.

(20)

- a. ʔaxiiran, iʔtaray-tu **l-hisʕaan**
 finally, bought-1 **the-horse**
 (Finally, I bought the horse.)
- b. hal ʔaahad-ta **l-musalsal-a** ʔams?
 q watched-2.sg **the-series-Acc** yesterday?
 (Did you watch the series yesterday?) (Jaber, 2014, p. 74)

In example (20)a, the speaker uses the article “al-” to refer to “l-hisʕaan” [the horse]. The horse is known to the speaker and listener: they share the same knowledge, so both interlocutors understand which horse is being referred to. In example (20)b, both interlocutors know “al-musalsal” [the series], so it is referred to using the definite article “al-”.

Jaber’s (2014) third type of familiarity is situational familiarity. The definite article “al-” is used to refer to items if both interlocutors are present in the same situation and can envision the referent that the speaker is talking about, as in examples (21)a and (21)b below.

(21)

- a. A father helping his son improve his spelling

yaa ?ibn-ii, ?amsik **al-qalam**, wa-ktub maa ?umlil-hi ?alay-k

Oh son-my, hold **the-pen**, and-write what I.dictate-it to-you

(Oh my son, hold the pen and write what I dictate to you.) (Jaber, 2014, p. 76)

- b. A host reminding his guests to drink the tea he served them before it cools down

fal-na?rab. **f-?aay-a** qabla ?an yabrad

let-3.Pl.drink **the-tea**-Acc before to 3.cool down

(Let us drink the tea before it cools down.) (Jaber, 2014, p. 77)

In example (21)a, the speaker uses the definite article “al-” to refer to “al-qalam” [the pen]. The familiarity in such a context is driven by the physical situation. The listener can see referent, i.e. the pen, therefore the speaker uses the definite article. In example (21)b, the speaker refers to “f-?aay-a” for [the tea] using the definite article “al-”, because the listener is in a physical situation in which the referent can be seen and so understands what “tea” the speaker is talking about.

In summary, English has both definite and indefinite articles, while Arabic has a definite article and drops the indefinite article because it is not obligatory as it is in English. Both English and Arabic possess definite articles and share the same features of familiarity and anaphoric references. Definiteness comprises semantic and morphosyntactic features that learner have to acquire: semantic features relate to the interpretable, such as [\pm definite], and morphosyntactic features, such as number agreement with definiteness as in [\pm plural], relate to uninterpretable features. Interpretable and uninterpretable features in English and Arabic are further discussed below to show the learnability issues that Saudi-Arabic learners might face while acquiring English definiteness.

2.1.2 Interpretable and uninterpretable features in definiteness

When learning English, the interpretable and uninterpretable features of definiteness must be acquired. DP in English comprise a number of features which define the function: person, number and definiteness. Functional features are classified as either interpretable or uninterpretable. Interpretable features, related to semantics, contribute to interpretation and cannot be eliminated before being spelled out which

means production in written or oral form, such as the definite article [+definite] and the indefinite article [-definite]. By contrast, uninterpretable features, which should be eliminated before being spelled out, are connected only to the morphosyntactic structure of sentences: for example, the nouns that follow the article must be checked for singularity and plurality before being spelled out.

The Minimalist programme introduced by Chomsky (1995) suggested that there are different features, as in movement or agreement, that could be checked and deleted before being spelled out. For DP, Adger (2003) argued that an agreement mechanism occurs between the determiner and the nouns that classify the interpretable and uninterpretable features with definiteness in English. The lexical items are merged between the Determiner (D) and the Noun (N) and must agree. The D and the N are therefore in a c-command relationship, which undergoes a checks and values Feature [F] through an uninterpretable feature [u F], as in (22).

In configuration

(22) X[F:val].....Y[u F:] (Adger, 2003, p. 169).

The interpretable feature X must be valued and checked by the uninterpretable feature Y. If the feature is valued, the uninterpretable feature can be spelled out, as in (23).

(23) X[F:val].....Y[u F:val] (Adger, 2003, p. 169).

Although English possesses the definite article “the” and the indefinite article “a/an”, there are nouns that can occur without an article, known as null determiners (\emptyset).

Adger (2003) stated that null determiners in English are bare plural nouns only, such as “books”, and there are no singular null determiners such as “* book”. To ensure that no singular null determiner occurs, Adger (2003) suggested an agreement mechanism between the indefinite article and nouns by introducing the feature specification with an uninterpretable number [u number] with D, as in (24).

(24) D [indef, u num:] (Adger, 2003, p. 261)

Then, when D is combined with the N, the N will be checked and valued by the [u number] feature in D.

- (25) a. D [indef, ~~num~~:sing] man[sing]
 b. D [indef, unum:pl] men[pl] (Adger, 2003, p. 261)

In (25)a, the singular-valued D receives the indefinite article “a/an” and is then spelled out, and the plural D gets the null determiner (\emptyset). It is therefore clear that English has restrictions with indefinite articles and the null determiner (\emptyset). The indefinite article is encoded by the number feature and only accepts [-plural] and [-definite], while the null determiner (\emptyset) receives [+plural] and [\pm definite]. The definite article does not have such restrictions as it accepts [\pm plural] with [+definite] contexts. Therefore, English has three morphemes in this regard: “the” for the definite article used with [\pm plural], “a/an” for the indefinite article used with [-plural] only, and plural-s used with bare plural for [+plural] contexts with [\pm definite].

Nouns have [μ number], which is an uninterpretable feature, while the definite article, indefinite article and null determiner (\emptyset) are interpretable features. The noun and articles are merged in the agreement relation with the number feature of the articles (an interpretable feature) and nouns (an uninterpretable feature) and valued. Once valued, the uninterpretable feature can be spelled out (Snape, 2006).

Arabic possesses the definite article with definiteness contexts and employs the null determiner (\emptyset) to express indefiniteness with singular, dual and plural (Alzamil, 2015). Arabic, like English, encodes number in definiteness with [\pm plural]. However, Arabic has singular, dual and plural, whereas English has only singular and plural. Abumlhah (2016) argued that the two languages have similar definite articles, as the definite article “al-” accepts the same [\pm plural] with [+definite] contexts as does the English “the”. The languages differ, however, in that Arabic uses a null determiner in all indefinite contexts regardless of number, which is the null determiner (\emptyset) with [\pm plural], while English has two articles encoding [μ number] with indefinite contexts, both the article “a/an” with [-plural] and the null determiner (\emptyset) with [+plural] with plural -s. The task then falls to the learners to acquire the new uninterpretable number feature [-plural] in indefinite contexts and a new uninterpretable number feature [+plural] with the null determiner (\emptyset).

Table 2-1: Definiteness with English and Arabic

Definiteness	English	Arabic
[+definite], [\pm plural]	the	al-
[-definite], [-plural]	a/an	Ø bare singular
[-definite], [+plural]	Plural-s	Ø bare plural

By this logic, Saudi-Arabic learners would face difficulty with [-definite], [-plural]. Arabic has [-definite] but does not have an article equivalent to “a/an” in English that distinguishes between number in the DP and uses bare singular nouns, highlighted in Table 2-1 (above). Previous studies into the acquisition of definite and indefinite articles in English by Saudi-Arabic learners have focused on the types of errors made by Saudi-learners while using definiteness. These studies establish a view about the learnability issues that learners face when acquiring English.

2.1.3 Previous studies with definiteness errors by Saudi-Arabic learners

Studies such as Albalawi (2016) have found that the source of errors made by L2 English learners with the definite and indefinite articles is L1 transfer. Albalawi’s (2016) study involved 120 female undergraduate Saudi-Arabic learners completing a written task. The results showed that the learners made a total of 1,179 grammatical errors, 188 of which were related to English articles, comprising 10% of all grammatical errors. The two particular errors the study highlights are the addition of the article “the” where no article is required and the omission of the indefinite article “a/an”. The first of these can be seen in (26).

(26) Everybody like the travelling (like travelling) (Albalawi, 2016, p. 192).

This error was due to L1 transfer: the definite article is used frequently in Arabic and negative transfer affects acquisition and leads to errors in the target language. The other common error, omission of both articles but more frequently the indefinite article, can be seen in (27).

(27) Dubai is beautiful city (a beautiful city) (Albalawi, 2016, p. 192).

This error is due to the fact that the L1 article system is different from that of the target language, so the learners omitted the indefinite article (Albalawi, 2016).

Another possibility could be the complexity of the article system in English. The article errors made by the female Saudi-Arabic learners appear to be due to L1 transfer and the complexity of the article system (Alhaysony, 2012). A study by Alhaysony (2012) aimed to answer two questions concerning the type and source of errors produced by Saudi-Arabic learners. The 100 participants were in their first year of study, and they were asked to write an essay on one of six proposed topics relating to life and culture. To discover error type, the data analysis utilised the surface structure taxonomy of errors, focusing on substitution, omission and addition. In terms of sources, the study focused on interlingual errors centred on L1 transfer and intralingual errors unrelated to L1 influence but related to the target language. The results revealed that omission of articles was the most frequent error, and omission of the indefinite article “a/an” occurred more frequently than omission of the definite article “the”. Unnecessary addition of the article “the” was the second most frequent error, followed by substitution as a low-frequency error.

This shows that the source of the errors was not only interlingual (arising from the transfer of L1 features) but also intralingual (arising from the English language), particularly with regard to the process for learning articles in L2. The types of errors that were caused by the target language were due to overgeneralisation, incomplete understanding of the rule and ignorance of the rule restrictions. The error of adding the article “the” was due to excessive use of the definite article in Arabic: learners showed negative transfer from L1 to the target language. However, the addition of the article was not caused by the L1 effect alone, as there were situations where the target language was the source of the errors due to the complex system of articles in English, shown in examples (28)a and (28)b.

- (28) a. ...a nice stories... (nice stories)
 b. ...a beautiful cities... (beautiful cities) (Alhaysony, 2012, p. 63)

In examples (28)a and (28)b, learners used the indefinite article with plural nouns, which is incorrect use in English structures. The complexity of article usage, along with L1 transfer, affects article acquisition and (through negative transfer of L1 features) leads to overgeneralisation and hypercorrection.

Using different approaches would improve understanding of the sources of errors made by Saudi-Arabic learners. A study by Al-Qadi (2017) noted that investigating the types of errors made by learners and interviewing teachers would provide greater insight into both the types of errors and their source(s). Aiming to do this, 50 male undergraduate Saudi-Arabic learners and five teachers were recruited, with the learners completing a written test consisting of 15 multiple-choice options and the teachers being interviewed with five questions to investigate their methods of teaching English articles (Al-Qadi, 2017).

The first question, regarding the types of errors learners make, resulted in 311 errors, classified into three error types: omission, addition and substitution. The highest number of errors (173) involved addition; of these, the most frequent addition errors were with overuse of the definite article “the” (71%), followed by the indefinite article “an” (16.18%) and the indefinite article “a” (12.70%). The second type of error was substitution, with 83 errors, of which 49% involved “a”, 30.12% involved “an” and 20.48% involved “the”. Omission was the lowest frequency error with 55: in 40% of these errors, “the” was omitted; in 34.54%, “a” was omitted; and in 25.45%, “an” was omitted. The second question related to the sources of these errors. 56% were found to be interlingual (i.e. related to L1 influence) and 44% were intralingual (i.e. related to the English language article system). Of the interlingual errors, addition comprised the highest number (123), followed by omission (33 errors) and substitution (17 errors). Of the intralingual errors, 66 involved substitution, 50 involved addition and 22 involved omission. The study confirmed that both L1 and the complexity of the English article system contributed to the learners’ errors. The interviews with the teachers showed that 60% of the errors made by learners are related to L1 negative influence, while 40% are related to L2 (Al-Qadi, 2017).

Al-Qadi’s (2017) results reflect those of Alhaysony (2012) and Albalawi (2016), showing that L1 influences the errors made with definite and indefinite articles in L2

English. However, L1 is not the sole source of these errors, as both Alhaysony (2012) and Al-Qadi (2017) argued, with the complexity of the article system in English representing a significant alternative source. Thus, it is important to examine the different features of definiteness, such as specificity and genericity, and determine how these might affect learners' accuracy when using definite and indefinite articles in English.

The present study focuses on specificity and genericity to discover whether these definiteness features affect Saudi learners' accuracy differently, rather than only investigating the errors, as has been done in previous studies. With regard to specificity, there are similarities and differences between English and Arabic, discussed in Section 2.3, along with previous studies which have explored the acquisition of specificity in English with different L1 learners. English and Arabic genericity will be discussed along with previous studies with different L1 backgrounds in Section 2.5. Firstly, however, section 2.2 describes the Article Choice Parameter, which is related to the classification of article use with definiteness and specificity in different languages. The Article Choice Parameter assists understanding of how English and Arabic employ articles with definiteness and specificity.

2.2 Article Choice Parameter

The Article Choice Parameter (ACP) for definiteness and specificity was proposed by Ionin et al. (2004). The parameter proposes that language has two settings for articles that are used to distinguish between definiteness and specificity:

- 1- The definiteness setting, which uses definiteness to distinguish between articles, as in English – the use of the article “the” would indicate [+definite] and the use of “a/an” would indicate [-definite].
- 2- The specificity setting, where articles are distinguished on the basis of specificity, as in the Samoan language – “le as” [+specific] and “se” [-specific].

Ionin et al. (2004) suggested that the articles in a language distinguish according to either definiteness or specificity. About the setting on definiteness in English, they stated: ‘conditions on specificity can be satisfied, or not satisfied, in both definite and

indefinite contexts' (Ionin et al., 2004, p. 9). They also provided a table that illustrates article choice distribution (Table 2-2, below).

Table 2-2: Article choice parameter distribution (Ionin et al., 2004, p. 13)

Articles distinguishes on definiteness Articles distinguishes on specificity

	+definite	-definite		+definite	-definite
+specific			+specific		
-specific			-specific		

Therefore, the article system of a language can be distributed according to definiteness or specificity. English and Arabic use definiteness to distribute articles and have the same four types: [+specific, +definite], [-specific, +definite], [+specific, -definite], and [-specific, -definite]. The difference lies in article use between English and Arabic as expanded below.

2.3 Specificity in English and Arabic

The difference between definiteness and specificity in English is related to the knowledge shared by the speaker and listener. Definiteness is related to knowledge shared by both parties, while specificity is related to what is known only to the speaker (Ionin et al., 2004). To illustrate, examples (29) and (30) show the difference between definiteness and specificity with four contexts of [\pm specificity, \pm definite], showing that both the definite and indefinite can have specific and non-specific meanings.

(29) Peter intends to marry **a merchant banker** –

- a. even though he doesn't get on at all with her. [+specific, -definite].
- b. though he hasn't met one yet. [-specific, -definite]

(30) Joan wants to present the prize to **the winner** –

- a. but he doesn't want to receive it from her. [+specific, +definite]
- b. so, she'll have to wait around till the race finishes. [-specific, +definite]

(Lyons, 1999, p.167)

Here, the definite and indefinite articles are used with nouns without any overt marker of specificity and rely on context to disambiguate, which means that definiteness is not affected by specificity and works separately from it. Specificity may be both satisfied and unsatisfied with both definiteness contexts (definite and indefinite) (Ionin et al., 2004). What determines specificity is context, as in (29)a: “even though he doesn’t get on at all with her” is what determines that the speaker is referring to someone specific without mentioning the name of the person, using the pronoun “her” to refer to the person. On the other hand, in example (29)b – “though he hasn’t met one yet” – the speaker does not have someone particular in mind, which makes this non-specific. Examples (29)a and (29)b are both indefinite. In example (30), “the winner” is definite, with two contexts of specificity. The first, example (30)a, is specific “but he doesn’t want to receive it from her”, as there is someone in the speaker’s knowledge from whom “the winner” does not want to receive the prize. In example (30)b, the winner is not yet known and so is non-specific: the race must be finished so that the prize can be awarded.

Regarding specificity in Arabic, the language has an article system used to indicate definiteness and specificity through context. Like English, Arabic has four contexts, shown in examples (31)a [+specific, +definite]; (31)b [-specific, +definite]; (31)c [+specific, -definite]; and (31)d [-specific, -definite]. These show that specificity depends on the context of the sentences, similar to English specificity. Specificity may be indicated when both the speaker and the listener share the same knowledge. Arabic specific and non-specific readings depend on context (Jaensch and Sarko, 2009), using the definite article “al-” in [+definite] contexts and the null determiner (Ø) to express [-definite] contexts, as in (31)c and (31)d.

(31)

a. [+specific, + definite]

Son: Abi maada taf9el fi hatha al-mustashfa.

Daddy what do in this the hospital

(What are you doing in this hospital, daddy?)

Father: kontu ?zoru **al-modeer** en?hu Sadeqii.

I was visit **the manager** he’s friend my

(I was visiting the manager. He’s my friend.)

b. [-specific, +definite]

fi sebaq as- sayarat

at race the cars

(At a race.)

A: kaan ?as-sebaaq momte9

Was the race interesting

(The race was interesting.)

hel yomkonani ?n oqabel **al-faiz**?

May I in meet **the winner**?

(May I meet the winner?)

B: na9am yomkoniki thaleka.

Yes you may this

(Yes, you may.)

c. [+specific, -definite]

fi al-maktaba

In the library

(In a library)

Librarian: hel tabHatu 9en šayin ya Taleb?

Do you look for something student

(Are you looking for something, student?)

Student: na9am ?bHatu 9en **kitab** ?Sfer taraktahu huna.

Yes I look for **book** yellow I left here

(Yes, I am looking for a yellow book I left here.)

d. [-specific, -definite,]

A: ?oredu ?n ?thhabu ila. al-maktaba?

I want in go to the library

(I want to go to the library.)

B: lematha?

Why?

(Why?)

A: ana musafer wa ?oredu ?n ?sta9eer **kitab** li ?qra?hu fi aT- Tareeq.

I travel and I want in borrow **book** to read on the way.

(I am travelling, and I want to borrow a book to read on the way.) (Elwerfalli, 2013, pp. 80–81)

Example (31)a uses the definite singular and the [+specific], as the speaker says “kontu ?zoru **al-modeer** en?hu Sadeqii” [I was visiting the manager. He’s my friend.]. In example (31)b, the speaker does not know the winner in person, so this is [-specific]; however, there is a winner, so the speaker uses the definite article: “hel yomkonani ?n oqabel **al-faiz?**” [May I meet the winner?]. In (31)c, the speaker is referring to “a book” without using the definite article, as the listener does not know about “the book”, i.e. the context is indefinite: “na9am ?bHatu 9en **kitab** ?Sfer taraktahu huna” [Yes, I am looking for a yellow book I left here]. However, the speaker uses [+specific], as the book belongs to him. Example (31)d, “ana musafer wa ?oredu ?n ?sta9eer **kitab** li ?qra?hu fi aT- Tareeq” [I am travelling, and I want to borrow a book to read on the way] is [-specific], as no particular book is referred to and the listener does not share knowledge of any specific book with the speaker; there is also no use of the definite article “al-”, which indicates that the context is indefinite.

The four contexts of English and Arabic in terms of [±specificity, ±definite] (comprising [+specific, +definite], [-specific, +definite], [+specific, -definite], and [-specific, -definite]) means articles are distributed according to definiteness in both languages, and specificity depends on context rather than the articles. The difference between English and Arabic with regard to specificity is the article each language employs to indicate definiteness. English uses the definite article “the” with [+definite], the indefinite article “a/an” with [-definite] and the bare plural with plural contexts to express indefiniteness (Table 2-3, below) . In Arabic, the definite article “al-” is used with [+definite]. As Arabic usually drops the indefinite article, the difference lies with the [-definite], with Arabic using null determiners (Ø), which could be bare singular with singular contexts and bare plural with plural contexts to indicate indefinite contexts.

Table 2-3: Differences between English and Arabic regarding definiteness and specificity

Definiteness and specificity	English	Arabic
[+specific, +definite], [\pm plural]	the	al-
[-specific, +definite], [\pm plural]	the	al-
[+specific, -definite], [-plural]	a/an	Ø Bare singular
[-specific, -definite], [-plural]	a/an	Ø Bare singular
[+specific, -definite], [+plural]	Plural-s	Ø Bare plural
[-specific, -definite], [+plural]	Plural-s	Ø Bare plural

Definiteness and specificity have been investigated in many studies with a focus on how English is acquired by L1 Arabic-learner groups, discussed in the following section.

2.3.1 Previous studies on the acquisition of specificity with L1 Arabic in English

Research into the acquisition of definite and indefinite articles with definiteness and specificity in L2 English with L1 Arabic have shown that the indefinite article tends to present greater difficulty than the definite article. A study by Jaensch and Sarko (2009), for instance, showed that Syrian-Arabic fluctuates with [+specific, -definite] between the definite and indefinite article with indefinite article contexts as a result of the difference between the L1 and L2 article systems. The study used two groups of participants: L1 Syrian-Arabic learners of L2 English and L1 Japanese learners of L2 German. Both L2 languages have article systems, with similarities: both English and German have definite and indefinite articles and singular count nouns require the use of an article. In addition, both allow specific and non-specific readings depending on the context, as in English examples (32) and (33) below (English).

(32) [-specific, +definite] Narrow scope

Conversation between two police officers

Police Officer Clark: I haven't seen you in a long time. You must be very busy.

Police Officer Smith: Yes. Did you hear about Miss Sarah Andrews, a famous lawyer who was murdered several weeks ago? We are trying to find **the** murderer of Miss Andrews – his name is Roger Williams, and he is a well-known criminal.

(Ionin et al., 2004, p. 22)

(33) [+specific, -definite] Wide scope

Phone conversation

Jeweller: Hello, this is Robertson's Jewellery. What can I do for you, ma'am?

Are you looking for some new jewellery?

Client: Not quite – I heard that you also buy back people's old jewellery.

Jeweller: That is correct.

Client: In that case, I would like to sell you **a** beautiful silver necklace. It is very valuable – it has been in my family for 100 years! (Ionin et al., 2004, pp. 22–23).

English and German also demonstrate differences in this area: German uses one of three grammatical genders for nouns (masculine, feminine and neuter), and marks number and case with one of four cases (nominative, accusative, dative and genitive).

With regard to the L1 languages in the study, Japanese has neither an article system nor grammatical gender. It employs four case markers – nominative “-ga”, accusative “-o”, dative “-ni” and genitive “-no”, similar to German (Jaensch and Sarko, 2009), but Japanese (unlike German) may omit the case marker in casual speech. The Arabic language has an article system but the definite article “al-” is a bound morpheme, while the indefinite is marked by bare singular and bare plural nouns. Arabic also has both specific and non-specific readings, depending on context, as in English.

Jaensch and Sarko's (2009) research questions were 1) Would Syrian-Arabic learners perform more accurately with the definite article than Japanese learners? 2) Would Japanese learners fluctuate between the definite and indefinite article in the definite non-specific context? 3) Would both groups fluctuate between the definite and indefinite article in the indefinite and specific context? (Jaensch and Sarko, 2009).

The participants were 37 Japanese and 52 Syrian-Arabic learners, who were divided into three levels (lower-intermediate, upper-intermediate and advanced) according to a proficiency test. There were also eight L1 German speakers and nine L1 English speakers as a baseline to the study. The instrument used in the study was an elicited gap-fill task focusing on articles and was similar in English and in German.

The results showed a target-like performance for the Syrian-Arabic speakers with the use of the definite article, with no significant difference between them and the English group, although the Syrian-Arabic learners demonstrated lower accuracy with the indefinite article. The Japanese learners experienced problems with both definite and indefinite articles, and there was a significant difference between the Japanese learners and the German control group. The results show that the Japanese learners were significantly worse than the Syrian-Arabic learners in the use of both definite and indefinite articles. For specificity, Syrian-Arabic learners did not show any difference between definiteness and specificity, but their performance significantly differed with the indefinite context depending on the specificity of the article, particularly with [+specific, -definite], where they overused the definite article (Jaensch and Sarko, 2009). The Japanese learners behaved similarly in definite and indefinite contexts.

The Syrian-Arabic learners outperformed the Japanese learners in the definite context, indicating positive L1 transfer, and the Japanese learners performed in the same manner with specific and non-specific readings. Syrian-Arabic learners, on the other hand, showed the effect of specific and non-specific contexts with the indefinite article and fluctuated in the indefinite context, unlike the Japanese learners.

Other contexts with indefinite articles could be problematic with L1 Arabic learners, as shown by Abudalbuh (2016). The 30 L1 Jordanian-Arabic participants fluctuated between definite and indefinite articles with [+specific, -definite] and [-specific, -definite] in a forced-choice task consisting of 50 short dialogues. The participants were divided into three levels (advanced, intermediate and low).

Table 2-4: Results of Jordanian-Arabic learners for definiteness and specificity
(Abudaljuh, 2016, p. 113)

	[+specific, +definite]	[-specific, +definite]	[+specific,-definite]	[-specific,-definite]
Advanced	100.0%	96.7%	87.5%	100.0%
Intermediate	85.0%	80.0%	57.5%	71.7%
Low	65.0%	51.7%	32.5%	48.3%

Table 2-4 (above) shows that the learners were more accurate with definite than with indefinite contexts. The lowest accuracy was achieved in the [+specific, -definite] context, with 87% (advanced level), 57.5% (intermediate level) and 32.5% (low level). This indicates that proficiency level affects accuracy with article use in English, as the advanced learners displayed target-like performance compared to intermediate and low learners, which corresponds to the results of Jaensch and Sarko (2009), which showed Arabic learners with advanced proficiency demonstrated better accuracy with definiteness and specificity. Abudaljuh (2016) found that the learners were more accuracy with definite than indefinite contexts, regardless of specificity. Therefore, indefinite articles can be said to be problematic for Saudi-Arabic learners, affecting their specificity performance.

It is possible that explicit teaching could affect the acquisition of definiteness and specificity. For example, Sabir (2015) investigated definiteness and specificity in the classroom with a pre- and post-test to gain better understanding of long-term accuracy with Saudi (Hejazi) Arabic-learners with definiteness and specificity in L2 English. The study investigated explicit teaching and translation activities with specificity and genericity, and consisted of 67 participants (13 elementary level, 36 lower-intermediate and 18 upper-intermediate) along with 23 L1 English speakers as a control group. The participants were divided into four intervention groups (24 translation explicit, 15 translation impact, 18 explicit gap-fill and 17 implicit gap-fill). The participants completed four tasks: an elicited written production task, an article elicitation task, an acceptability judgement task and a proficiency test. These tasks were used as a pre-test, an immediate post-test and a delayed post-test given one month later.

The results for specificity showed that the intermediate Saudi learners were target-like with three types of specificity [+specific, +definite], [-specific, +definite] and [-specific, -definite]. However, all learners except the 15 explicit gap-fill group showed low accuracy with [+specific, -definite], with no effect of explicit teaching, and no differences were found between the immediate post-test and the delayed post-test. The same was found with lower-level learners, who demonstrated a high rate of errors with [+specific, -definite], with no improvement found after the intervention. The results for genericity are presented in Section 2.5.1.

To sum up this section, previous studies (Jaensch and Sarko, 2009; Sabir, 2015; Abudalbh, 2016) investigating definiteness and specificity with Arabic learners have shown that learners achieved greater accuracy with the definite article than with the indefinite, and that specificity was affected by L1 omission of indefinite articles, as the learners tended to overuse the definite article. There are no existing studies which have examined definiteness and specificity with receptive and productive vocabulary knowledge, as all previous studies have used only proficiency level.

Thus, the first experiment in the current study investigates definiteness and specificity with Saudi-Arabic learners and the effect of proficiency level along with receptive and productive vocabulary, explained in detail in Chapter 4. The study investigates not only specificity, but also genericity, to reveal whether learners' performance differs according to definiteness features. Genericity in English and Arabic along with previous studies which have focused on the acquisition of generic types (NP generic and sentence generic) are presented in Section 2.5, while detail on the second experiment in the current study, related to generic types, can be found in Chapter 5.

In order to help understanding of noun classification in English and Arabic, the following section describes the Nominal Mapping Parameter developed by Chierchia (1998), which classifies languages according to their nominal domain.

2.4 Nominal Mapping Parameter

Chierchia (1998) introduced a classification of languages according to how they refer to kinds, with every language varying in their nominal domain. Chierchia (1998) argues that nouns must perform two roles. The first of these is restricting quantifiers,

as in “every woman”, and predicating situations, as in “David and Alice are teachers”, where nouns act as predicates. Predicate nouns [+pred] are nouns that must be identified by articles or other determiners in order to occur as subjects, and predicates are restricted by determiners. In English, singular nouns are restricted with articles; the definite article for [+definite] contexts and indefinite articles for [-definite] contexts. The second role for nouns is as devices used to reference kinds, such that they can be arguments, where nouns are used as names of kinds. Nouns in this theory appear in two perspectives as argumental nouns [+arg], which may occur without licensed articles to refer to kinds.

Chierchia (1998) suggested that nouns, with their predicate and argument properties, can be actualised in the language by using [\pm arg] and [\pm pred]. ‘Take [\pm arg], [\pm pred] as features constraining the way in which the syntactic category N (and its phrasal projections NP) are mapped into their interpretations’ (Chierchia, 1998, pp. 352–353). For example, NP [+arg, -pred] would reveal that N is mapped to the argument but cannot be mapped to the predicate (Chierchia, 1998), as in the Chinese and Japanese languages. Chierchia named this classification the Nominal Mapping Parameter (NMP). The theory suggests that there is a mapping between the syntactic and semantic types which categorises languages into three types: determiner language, determiner-less language or mixed language. This division types languages according to NP argument position, which is the subject and object position in the sentence.

Chierchia's (1998) three types are [+arg, -pred] languages such as Chinese and Japanese, [-arg, +pred] languages such as Spanish and Arabic, and NP [+arg, +pred] languages such as English and Germanic languages, which are used for generic contexts. For the first type NP [+arg, -pred] languages like Chinese and Japanese, NP is argumental and allows bare nouns to occur without determiners. Examples of this in (34) and (35) below are presented from the Chinese language. In (34), “rice” is in singular form and (35), “table” is in plural form, the nouns do not have the plural marker (-s) even though (35) is in the plural form. Plural forms are therefore treated as mass nouns and none of the nouns contain the plural marker (-s).

(34) yí lì mǐ

one CL rice

(one (grain of) rice)

(35) liǎng zhāng zhuōzi

two CL table

(one [piece of] table) (Chierchia, 1998, p.354)

In such languages, all nouns are in the mass form and there is no obligatory plural marking. Moreover, these languages do not possess article systems, so they are lacking the DP structure. The structure of these languages as presented by Chierchia (1998) is that NP [+arg, -pred] languages generalise bare arguments and all nouns are in mass form, lack plural markers and use a generalised classifier system.

The second type is [-arg, +pred] such as Spanish and Arabic, in which nouns are always in predicate positions and bare nouns are not allowed (resulting in these languages having no argument position). Since the count/mass distinction occurs with predicates, in these languages there are both count and mass nouns. As they possess count nouns, these languages have a plural marker (-s) on nouns. Al-Malki et al. (2014) also consider Arabic an [-arg, +pred] language, as it does not allow nouns to occur in argument positions in generic contexts. Example (36) shows that Arabic does not allow bare nouns in generic contexts. Example (36)a is the correct form, with the definite article “al-” even with the plural marking. Example (36)b is ungrammatical due to the absence of the definite article “al-” from the noun “dainasour-at-u”[dinosaurs].

(36)

a. **al-dainasour-aat-u** mungaridh-at-un.

DEF- dinosaurs-FEM-PLU extinct-FEM-PLU

(**The dinosaurs** are extinct.)

b. ***dainasour-at-u** munga

dinosaurs-FEM-PLU extinct-FEM-PLU

(**Dinosaurs** are extinct.) (Al-Malki et al., 2014, p. 23)

Moreover, these languages will not allow argument positions since they do not have a bare noun in generic positions, as seen in French (Chierchia, 1998). French lacks the null determiner (\emptyset), which are nouns without an article, and therefore cannot

have bare argument positions. On the other hand, languages such as Italian and Spanish, which are [-arg, +pred], have the null determiner (\emptyset), but this can be only governed by a close lexical head (Chierchia, 1998). ‘NP [-arg, +pred] languages: modulo the availability of null D, we will have either no bare argument or bare argument restricted by conditions that typically govern the distribution of phonological null elements’ (Chierchia, 1998, p.356).

The final type of language is NP [+arg, +pred], such as English and Germanic languages. This type accepts nouns as being predicative and argumental, which entails those nouns can denote both kinds and predicates. Having both the argument and the predicate, the NP in these languages can have both bare argument and predicate-restricted nouns. Mass nouns occur bare, without an article, which is an argument, and singular count nouns occur with articles. Plural nouns, like “dogs” and “tables”, may also occur bare according to the context. Chierchia (1998) presents the characteristics of these languages as having both mass and count noun distinctions. Mass nouns as well as plural nouns can occur in bare arguments, but singular count nouns cannot. Table 2-5 (below) summarises the three types of language according to the Nominal Mapping Parameter.

Table 2-5: Chierchia’s (1998) nominal mapping distributions

[+arg], [-pred]	[-arg], [+pred]	[+arg], [+pred]
Chinese, Japanese and Thai	Spanish and Arabic	English and Germanic languages
No plural marker (-s); all nouns are mass; bare nouns allowed. (No article system.)	Plural marker present; bare nouns not allowed. (Article system.)	Plural marker present; bare plural nouns allowed. (Article system.)

To summarise Chierchia's (1998) system, the Nominal Mapping Parameter classifies languages into three types. The first is [+arg], [-pred], associated with languages such as Chinese, Japanese and Thai; the second is [-arg], [+pred], found in the Romance languages and Arabic; and the third is [+arg], [+pred], which characterises

English and the Germanic languages. This classification system can assist when exploring the differences between English and Arabic in the generic references that form the focus of the current study. English possesses both definite and indefinite articles and allows bare mass nouns as well as plural markers on nouns. By contrast, Arabic possesses an article system with differences from English, disallows argumental positions, allows only predicate restrictions and has plural markers on nouns. The learnability issue with regard to the Nominal Mapping Parameter for Arabic learners is that they are required to set nouns with [+arg] so as to use bare plural nouns in English. Both English and Arabic generic references are detailed below.

2.5 Genericity with English and Arabic

For English genericity, Krifka et al. (1995) introduced two types: kind-referring NP generic and characterising sentence generic. Kind-referring NPs refer not to a particular item or group of items, but to the kind, as in (37). The object referred to is not an ordinary or individual object, but the reference is to the kind (Krifka et al., 1995), as in (37)a and (37)b: there are many types of birds, so to refer to a certain kind, such as “the dodo” and “blackbirds”, it is appropriate to use the definite article with singular nouns, as in (37)a, and plural-s, as in (37)b.

(37)

- a. **The dodo** had two legs and is now extinct.
- b. **Blackbirds** often re-use the same nest several times and are increasing in numbers. (Lyons, 1999, p.183)

Examples (38)a, (38)b and (38)c show reference to the kind of “potato”. The definite article is used in (38)a and (38)c because the reference made is related to the kind and is in the singular context. For the bare plural, the bare plural noun is used in a kind-referring NP, as in (38)b. Use of the definite article and bare plural with kind is known as the NP generic. Examples (38)a and (38)b relate to kind-referring NP or NP generic, while (38)c is an example of object-referring NP because of the position of the noun (Krifka et al., 1995).

(38)

- a. **The potato** was first cultivated in South America.
- b. **Potatoes** were introduced into Ireland by the end of the 17th century.
- c. The Irish economy became dependent upon **the potato**. (Krifka et al., 1995, p. 2)

Only one context allows the use of the definite plural in generic references, and that is with nationalities, as in (39). Both (39)a and (39)c are acceptable in the definite generic context. Nationalities should occur with the definite article in kind-referring NP generic, with both singular and plural.

(39)

- a. **The Italian** drinks rather a lot, though I must say Luigi is very abstemious.
- b. ***An Italian** drinks rather a lot, though I must say Luigi is very abstemious.
- c. **The Italians** drink rather a lot, though I must say Luigi is very abstemious.
- d. **Italians** drink rather a lot, though I must say Luigi is very abstemious.

(Lyons, 1999, p.184)

On the other hand, the definite article in the generic context does not accept mass nouns, and they will therefore occur as bare mass nouns in a general manner, not as referring to the kind (by using the definite article). Lyons (1999) indicates that mass nouns which do not have singular forms are like plurals that accept neither the indefinite article “a/an” nor the definite article “the” in generic use, as in (40), which is considered grammatically incorrect.

(40) *The oil is expensive (Fassi Fehri, 2004, p. 46).

Chierchia (1998) and Dayal (2004) argue that the definite article in English represents maximality. For instance, “the dinosaur” can present the entire set of “dinosaurs” in that context. The definite plural “the dinosaurs are extinct” denotes the maximality of dinosaurs in the context, but with a non-generic reading. Ionin et al. (2011) defined uniqueness and maximality:

- a. Uniqueness: A sentence of the form [the α] β presupposes that α contains at least one element x and that α contains at most one element x , and asserts that the unique x which is α is also β .

- b. **Maximality:** A sentence of the form [the α] β presupposes that α contains a maximal element x and asserts that x is β (where a maximal element x of a set α is an element of α , which has all the other elements of α as its parts) (Ionin et al., 2011, p. 246).

The other generic type is characterising sentences, or the sentence generic, which refers to generalisations as opposed to certain or particular sentences that present particular events or items. Krifka et al. stated that ‘much of our knowledge of the world, and many of our beliefs about the world, are couched in terms of characterising sentences’ (1995, p. 3).

(41)

- a. **A potato** contains vitamin C, amino acids, protein and thiamine. (Krifka et al., 1995, p. 3).
 b. John smokes **a cigar** after dinner. (Krifka et al., 1995, p. 3)
 c. **Frogs** are awake. (Lyons, 1999, p.189)

In example (41)a, the noun “potato” has been used to introduce a fact about potatoes, which indicates that there is no certain potato that contains vitamins, but that potatoes in general have them. This is in contrast to example (38), where the sentences refer to a certain kind of potato rather than a member of the kind.

Therefore, in this sort of context, it is appropriate to use the indefinite article with singular nouns, as in (41)a, and the bare plural for plurals, as in (41)c. Characterising sentences may be used to indicate a general fact, as in (41)a, or a habit, as in (41)b. Thus, according to research, English generic reference consists of NP generic, which uses the definite article for singular contexts and bare plural nouns for plural; and sentence generic, which uses the indefinite article for singular contexts and bare plural nouns for plural. This differs from Arabic generic reference, explained below.

According to Chierchia (1998), Arabic is [-arg], [+pred]. The generic in Arabic is relatively simple, in that the definite article “al-” is used with singular, plural and mass nouns, as in (42). Using the indefinite noun is grammatically unacceptable in Arabic with singular (42)a, plural (42)c, and mass nouns (42)e. The definite article is used only in the generic context, since the indefinite article is used for existential interpretation only (Fassi Fehri, 2012).

(42)

a. ***kalb-u-n** yamlik-u ?arbac-a ?arjul-i-n.**dog-Nom-IND** has-Nom four-Acc legs-Gen-IND

(A dog has four legs.)

b. **al-kalb-u** yamlik-u ?arbac-a ?arjul-i-n**the-dog-Nom** has-Nom four-Acc legs-Gen- IND

(The dog has four legs.)

c. ***kilaab-u-n** tamlik-u ?arbac-a ?arjul-i-n**dogs-Nom- IND** have-Nom four-Acc legs-Gen- IND

(Dogs have four legs.)

d. **al-kilaab-u** tamlik-u ?arbac-a ?arjul-i-n**the-dogs-Nom** have-Nom four-Acc legs-Gen- IND

(The dogs have four legs.)

e. ***zayt-u-n** ġaali-n**oil-Nom- IND** (is) expensive- IND

(Oil is expensive.)

f. **al-zayt-u** ġaali-n**the-oil-Nom** (is) expensive- IND

(Oil is expensive.). (Al-Malki et al., 2014, p. 22)

(43)

a. **al-mamooth-u** mungaridh-un**DEF-mammoth-SG** extinct-SG

(The mammoth is extinct.)

b. ***mamuth-u** mungaridh-un**mammoth-SG** extinct-SG

(Mammoth is extinct.)

c. ***mamuthun** mungaridh-un**IND- mammoth-SG** extinct-SG

(A mammoth is extinct.)

d. **al-dainasour-aat-u** mungaridh-at-un**DEF- dinosours-FEM-PLU** extinct-FEM-PLU

(The dinosaurs are extinct.)

- e. ***dainasour-at-u** mungaridh-at-un
dinosaurs-FEM-PLU extinct-FEM-PLU
 (Dinosaurs are extinct.)
- f. ***dainasour-at-u-n** mungaridh-at-un
dinosaurs-FEM-PLU-IND extinct-FEM-PLU
 (Dinosaurs are extinct.)
- g. **al- dubb-u al-ghathib-u** khateer-un
Def-dubb-SG Def- ghathib-SG khateer -SG
 (The angry bear is dangerous.) (Al-Malki et al., 2014, p. 23)

According to Krifka et al. (1995), the generic classification of English includes kind-referring NPs and characterising sentences. Arabic does not have this classification and uses only the definite article with generic expressions, as in (42) and (43). Unlike English, Arabic does not distinguish between NP kind singular and plural, as in (43), and characterising sentences, as in (42), and uses the definite article with all types of nouns. Arabic has a singular, (43)a, and plural (43)d, which must both contain the definite article. Examples (43)b, (43)c, (43)e and (43)f are all considered grammatically incorrect, for the use of a bare singular noun in (43)b, a plural in (43)e, and the indefinite article in (43)c and (43)f.

Al-Malki et al.(2014) clarified the differences between English and Arabic in generic references. Arabic allows the definite article with both the NP generic (kind-donating) and the sentence generic (characteristic and habitual references), treating singular, plural and mass nouns with the article “al-”. English differentiates between the NP generic and sentence generic, using the definite article for the singular NP generic and bare plural nouns with the plural NP generic, while the singular sentence generic is marked using the indefinite article and sentence plural with bare plural nouns. Al-Malki et al. (2014) maintained that the complexity of the generic reference in English, which distinguishes between the NP generic and the sentence generic, increases the difficulty of acquisition for learners. The differences between English and Arabic regarding generic references are summarised in Table 2-6 (below).

Table 2-6: Comparison between English and Arabic in generic and anaphoric references

Generic and anaphoric references	English	Arabic
NP generic singular [+definite], [-plural]	the	al-
NP generic plural [+definite], [+plural]	Plural-s	al-
Sentence generic singular [-definite], [-plural]	a/an	al-
Sentence generic plural [-definite], [+plural]	Plural-s	al-
Anaphoric singular [+definite], [-plural]	the	al-
Anaphoric plural [+definite], [+plural]	the	al-

In contrast to English, which uses definite, indefinite and plural -s with the generic context, Arabic employs only the definite article to express the generic. Arabic also does not morphologically distinguish between the NP generic and sentence generic as English does, and Arabic does not have different classifications for the generic context. Both languages use the definite article with singular and plural contexts for anaphoric references. Previous studies on acquiring generic reference in L2 English are presented in the following section.

2.5.1 Previous studies on the acquisition of genericity in English

Learners' accuracy with generic references in English have been shown to be influenced by L1 transfer, as a result of which learners perform differently with the NP generic and sentence generic depending on L1 background. Studies such as that of Ionin et al. (2011) have concluded that L1 transfer affects learners' accuracy with generic references in article-less languages, such as Russian and Korean, as these learners were shown to underperform when compared with L1 English speakers. (Ionin et al., 2011). In English, the NP generic refers to the kind or species, and there are two correct options: the definite article with the singular context and the bare plural with the plural context, as in "the dinosaur is extinct" and "dinosaurs are extinct". For the sentence generic, the indefinite article is used for the singular

context and bare plural nouns are used in the plural context, as in “an angry bird is dangerous” and “angry birds are dangerous”.

Russian and Korean also have NP generic and sentence generic references. Despite being considered article-less, Russian has definite and indefinite readings of the singular and plural, depending on the context. Russian, like English, has an obligatory distinction between singular and plural but, unlike English, lacks morphological markers to distinguish between the NP generic and the sentence generic. Korean requires a classifier occurring with the NP in order to express number or quantifiers. Korean treats all nouns as mass nouns and has the singular marker “-ul” and the plural marker “-tul”, but these are not obligatory. Korean also has a generic distinction between the NP generic, which uses “-tul”, and the sentence generic, which uses “ka”. Thus, all three languages, Russian, Korean and English, have a generic context with NP generic and sentence generic. The differences between them arise from the morphological expression of genericity. English possesses a morphological marker for both the NP generic (with the definite singular) and the sentence generic (with the indefinite singular).

Ionin et al.’s (2011) study examined whether L2 English learners with an article-less L1 would be able to distinguish between the two generic types (NP generic and sentence generic) and recognise the morphological marker that exists in each type in L2 English. The participants consisted of L2 English learners – 45 L1 Korean and 33 L1 Russian, along with a control group of 22 L1 English speakers. The participants completed an acceptability judgement task that focused on generic and non-generic contexts. The non-generic context consisted of anaphoric singular and plural (discussed in Section 2.1.1) as a control category in the task. The generic context consisted of the NP generic and the sentence generic, as the experimental category. The learners completed sentences by rating five options (definite singular, indefinite singular, bare singular, definite plural and bare plural) from 1 to 4. The participants also completed a cloze test and background questionnaire.

For the anaphoric references, the definite singular was the target for the singular and the definite plural was the target for the plural. The anaphoric was the control category in the task, to provide insight into whether the learners had acquired the basic article system in English. In the results for the anaphoric references, for all

groups, the definite singular (i.e. the target response) was rated above the other four options with the anaphoric singular, and the definite plural was rated highest with the anaphoric plural. The results showed that the learners tended to rate the bare plural more highly than they should have done in the anaphoric singular, but not above the definite plural, and that the learners had acquired definiteness and numbering in English, which are the basic properties for definiteness (Ionin et al., 2011).

For generic reference, there were two targets for each type: the definite singular and bare plural for the NP generic, and the indefinite singular and the bare plural for the sentence generic. The control group performed as expected. For the L2 English groups, for the NP generic the bare plural was rated significantly above the other four options, but the definite singular (which was also a target option for the NP generic) was not rated significantly differently from the other options. For the sentence generic, the learners rated both target options (the indefinite singular and the bare plural) above the other three (non-target) sentences (Ionin et al., 2011).

The study therefore revealed that the learners were able to acquire the basic elements of the English article system. The results from the control category (anaphoric reference) in the task show that they selected only the target option and rejected the others. For generic reference, both L2 learner groups showed sensitivity to the distinction between the NP generic and sentence generic. For the NP generic, the correct responses were the definite singular and bare plural. Both groups of L2 learners selected only the bare plural with the NP generic and gave a low rating to the definite singular. For the sentence generic, the correct responses were the indefinite singular and bare plural nouns; the learners selected both of these. This indicates that the learners had not yet acquired the NP generic in L2, as they were not able to select the definite article with NP generic (as the L1 English speakers had done) (Ionin et al., 2011).

Another angle on this subject comes from a study by Snape (2013), which suggests that learners with an L1 article system perform differently than learners with an article-less L1 system due to L1 transfer. L1 Japanese (article-less) and L1 Spanish (which has an article system) have been shown to perform differently with the NP generic and sentence generic (Snape, 2013). Although Japanese is article-less, it employs demonstratives, numerals and classifiers. Japanese uses the topic marker

“wa” with the bare NP to refer to NP generic and sentence generic, as in examples (44) and (45).

(44) NP generic

Sono kyoryu-wa zetsumetsushi-ta.

that dinosaur-TOP die out-PAST TENSE

(The dinosaur died out.) (Snape, 2013, p. 74)

(45) Sentence generic

Sono jyagaimo-wa bitamin C to amino-san-o fukunde i-ru.

that potato-TOP vitamin C and amino acids-ACC contain-ASP-NON-PAST

(The potato contains vitamin C and amino acids.) (Snape, 2013, p. 74)

In Spanish, there are no bare nouns and NPs must occur with articles. Spanish uses the definite article “la/el” to refer to the singular NP generic and the definite article “las/los” with the plural marker -s to refer to the plural NP generic, as in examples (46)a and (46)b. At the sentence level, the indefinite article “una/un” is used with the singular sentence generic, as in (47), and the indefinite article “unas/unos” is used with the plural marker -s to express plural forms with the sentence generic. The definite plural has both generic and specific readings (Snape, 2013).

(46) NP generic

a. El dinosaurio está extinto.

the dinosaur is-PRES-SG extinct

(The dinosaur is extinct.)

b. Los dinosaurios están extintos.

the dinosaurs are-PRES-PL extinct

(The dinosaurs are extinct.) (Snape, 2013, p. 75)

(47) Sentence generic

Una patata contiene vitamina C y aminoácidos.

a potato contain-PRES-SG vitamin C and amino acids

(A potato contains vitamin C and amino acids.) (Snape, 2013, p. 76)

Whereas in Japanese the topic marker “wa” is used with both the NP generic and sentence generic, Spanish does not use bare nouns and the definite is employed with the NP generic and sentence generic plural. The participants in Snape’s (2013) study comprised 24 L1 Japanese and 18 L1 Spanish advanced English learners, and 35 L1

English speakers as a control group. The instrument used was an acceptability judgement task consisting of 40 items: 20 items for the anaphoric (a control category containing singular and plural) and 20 generic references, including NP generic and sentence generic. The structure of the task was similar to that used by Ionin et al. (2011).

The results showed that all groups were able to rate the definite singular above the other four (non-target) options for the anaphoric singular, while the definite plural was rated highest for the anaphoric plural. Despite the differences between Japanese and Spanish, all L2 learners demonstrated that they had acquired the basic properties of the article in L2 English, i.e. the anaphoric reference (Snape, 2013). For generic reference, the L1 English group rated the two target responses in the NP generic (definite singular) above the other three options. For the sentence generic, the indefinite singular and the bare plural were the highest-rated options.

For the L1 Japanese learners, there was no significant difference between ratings for the definite singular and the bare singular and indefinite singular, but a significant difference was found between ratings for the bare plural and the definite plural. The Japanese learners gave a low rating to the definite singular (a target response for the NP generic), rating the bare plural more highly. For the sentence generic, they gave high ratings to the indefinite singular and the bare plural. The L1 Spanish learners selected the definite singular and the bare plural above the other three options, and for the sentence generic they gave higher ratings to the indefinite singular and the bare plural. The findings showed that the Japanese learners demonstrated low accuracy with the NP generic singular due to L1 influence (Snape, 2013), and were more accurate with the sentence generic, which was in line with the prediction that the learners would possess the basics of the English article system, facilitating the acquisition of sentence generic singular. For the bare nouns, Japanese learners have an article-less L1 thus they were accurate, while the Spanish learners, with definite and indefinite articles in their L1, found the bare plural nouns problematic.

Snape's (2013) results show that the Spanish learners were target-like with both the NP generic and sentence generic, while the Japanese learners found difficulty with the NP generic. ' [In the] acquisition of genericity, even advanced learners of English from article-less L1s continue to have problems with generic uses' (Snape, 2013, p.

91). The results of Snape (2013) reflect those of Ionin et al. (2004, 2011), who also found that L1 influenced the acquisition of generic reference in English, and that learners with different L1 backgrounds behaved differently due to L1 influence.

Furthermore, speakers of languages with an article system tend to perform differently according to system in their L1. Languages with different article systems from English include L1 Spanish (with an article system), L1 Turkish (with an article system), and L1 Japanese (article-less), and research has shown that learners with these L1s perform differently. Primary here are studies by Ionin et al. (2011), previously described, and Snape et al. (2013). The former concluded that L1 background affects accuracy with generic reference in acceptability judgement tasks, while the latter used a forced-choice elicitation task. The participants in Snape et al. (2013) were 50 L1 Spanish, 88 L1 Turkish and 33 L1 Japanese learners, along with 17 L1 English speakers as a control group. Both English and Spanish have article systems, while Turkish has an indefinite article system and Japanese has no article system. The learners completed a forced-choice elicitation task consisting of 66 dialogues. The results differed between the three groups, with performance diverging especially between the NP generic and the sentence generic. The study concluded that the learners performed differently from the L1 English speakers due to L1 transfer.

The results also demonstrated that the learners distinguished between the NP generic and sentence generic, and that proficiency level played a role with generic references, particularly with the NP generic singular (definite article). Here, the advanced Spanish learners demonstrated high accuracy, while the Turkish and Japanese learners had difficulty with the NP generic singular, which can be largely attributed to the absence of the definite article from their L1 (Snape et al., 2013). For the sentence generic singular (indefinite article), the Spanish learners displayed no difficulty using the indefinite article, in contrast to the Japanese and Turkish learners, again due to L1 transfer. Proficiency level was shown to influence article choice, especially with NP singular contexts (Snape et al., 2013).

The Nominal Mapping Parameter is also relevant here, in that count and mass nouns affect learners' accuracy with the definite article in English. In a study exploring learners' ability to use the definite article to distinguish count and mass nouns with

NMP, Snape (2008) found that L1 Japanese and L1 Spanish backgrounds could reset NMP in L2 English, and were able to acquire both the uninterpretable number feature and the features that accompany the DP. The study included 75 participants: 30 L1 Japanese and 30 L1 Spanish learners, as well as 15 L1 English speakers. The first hypothesis of the study was that L2 learners with different L1s would be able to reset and use the English parameter [+arg, +pred], since Spanish is [-arg, +pred] and Japanese is [+arg, -pred]. The second hypothesis was that Japanese learners might experience difficulties using the definite article with singular, plural and mass nouns, because the definite article has different pragmatic uses. The method consisted of a grammatical judgement task and a forced-choice task. The results showed that the participants were able to reset the NMP.

As described earlier, the distinction between interpretable and uninterpretable features lies on whether or not the feature should be eliminated before being spelled out. Interpretable features are related to semantics, contribute to interpretation and cannot be eliminated before being spelled out, whereas uninterpretable features, which should be eliminated before being spelled out, are connected only to the morphosyntactic structure of sentences. The results showed that even advanced Japanese learners experienced difficulties with the different pragmatic uses of the definite article due to the effect of L1 on their ability to use the definite article in L2. The Spanish learners were more accurate as a result of the existence of the uninterpretable number feature in nouns and the fact that the DP is part of their L1 grammar (Snape, 2008).

The use of two different tasks has been found to impact on learners' accuracy. A study by Snape (2018) found that L1 Japanese learners showed different outcomes between a picture matching task and a forced-choice elicitation task. Varying accuracy was found from these different tasks with the generic definite and the unique definite, with the participants comprising 47 Japanese learners of English and 26 L1 English speakers as the control group. The difference between the generic definite and unique definite is that the former refers to an entire kind, such as 'Fact is, the panda is protected by law in China', (Snape, 2018, p. 85) referring not only one panda but all of them, while the latter refers to only one individual panda, as in 'It's obvious, the panda is large and cuddly' (Snape, 2018, p. 85). This is relevant because, as mentioned, Japanese is an article-less language.

The picture matching task consisted of 30 items with six sentence types: definite generic category, definite unique (singular) category, definite plural category, indefinite generic plural category, indefinite generic singular category. The learners read the sentence and circled one or two related pictures. The forced-choice elicitation task consisted of 50 items with the same six types as the picture matching task (Snape, 2018). The study addressed two questions: 1) Can Japanese learners distinguish between the definite generic and definite unique with a picture matching task? 2) Can Japanese learners distinguish between the definite generic and definite unique with a forced-choice elicitation task? (Snape, 2018).

The learners demonstrated target-like performance with the picture matching task, selecting two pictures more often with the generic definite, with 22%, compared to the definite unique, with only 8%. The learners often selected one picture for the definite unique, with 92%, compared with the definite generic, with 78%. In the forced-choice elicitation task, the learners failed to select the definite article with generic definite around 83% of the time but proved more accurate with the definite unique. The results of the two tasks showed differing results, whereby the learners were more accurate with the picture matching task than the forced-choice elicitation task (Snape, 2018).

Previous studies investigating generic references in English with various L1 backgrounds and different tasks have revealed L1 background affects performance, and learners' accuracy differs according to the type of tasks they are required to carry out. It therefore follows that L1 Arabic learner would also perform in ways predictable with their L1 as result of transfer.

As explained in Section 2.5, Arabic only employs the definite article with generic references, so the use of the indefinite article in L2 English is likely to prove problematic for Arabic speakers. Recent studies by Hermas (2020a, 2020b) have found that L1 Moroccan Arabic learners face difficulty with the indefinite article with generic references in L2 French and L3 English due to L1 transfer. The first study (Herma, 2020a) investigated the acquisition of genericity with L1 Moroccan Arabic learners of L3 English, and the second (Herma, 2020b) investigated the acquisition of generic references with L1 Moroccan Arabic learners of L2 French. The aim of the first was to investigate the sensitivity of generic references with L1

Moroccan Arabic learners of L2 French and L3 English and whether the learners would be able to distinguish between the NP generic and sentence generic. Hermas (2020a) used an acceptability judgement task with 27 Moroccan Arabic speakers, with 12 L1 English speakers as the control group. The aim of the second (Herma, 2020b) was to investigate whether the learners would be able to use articles accurately with the NP generic and sentence generic, and distinguish between the NP generic and sentence generic in French, with 22 Moroccan Arabic (and a control group of 18 L1 French speakers) using an acceptability judgement task. The difference between Arabic, French and English regarding the use of articles with generic contexts is presented in Table 2-7 (below), taken from Hermas (2020a, p.272).

Table 2-7: Genericity with Moroccan Arabic, French and English

	NP generic				Sentence generic			
	Indefinite singular	Definite singular	Bare plural	Definite plural	Indefinite singular	Definite singular	Bare plural	Definite plural
Moroccan Arabic	#	√	#	√	#	√	#	√
French	#	√	*	√	√	√	*	√
English	#	√	√	#	√	#	√	#

Table 2-7 shows the generic reference differences between the three languages. Both French and English have an indefinite article, although unlike English, French does not allow bare nouns with the NP plural and sentence plural. However, French does allow the use of indefinite and definite articles with the sentence generic, while English does not, and Arabic only allows the definite article with generic references in singular and plural contexts. The Moroccan Arabic learners were therefore most likely to face difficulties with indefinite articles in both L2 French and L3 English.

The results showed that the L1 Moroccan Arabic learners of L3 English showed high accuracy with the definite singular with the NP generic and the bare plural with the NP generic and sentence generic, but low accuracy with indefinite articles, tending to

use the definite plural despite the fact that this is not allowed in English. The results indicated that the Moroccan Arabic learners faced difficulties distinguishing between the NP generic and sentence generic as they did not demonstrate target-like performance (Hermas, 2020a). The results with L1 Moroccan Arabic learners of L2 French showed that they were accurate in judging the definite singular and plural with the NP generic and sentence generic, but still demonstrated low accuracy with the indefinite article due to L1 transfer (Hermas, 2020b).

Alzamil (2015) found that L1 Arabic and L1 Mandarin Chinese learners of L2 English showed similar accuracy with the indefinite specific and definite and indefinite articles with generic references. The study investigated the acquisition of the indefinite article with specific contexts using singular, plural and mass nouns, and indefinite and definite articles with the generic using singular, plural and mass nouns in subject and object positions. Mandarin Chinese possesses no article system and only uses nouns in a post-verbal position, while Arabic has an article system with subject and object positioning. Arabic differs from English in its use of bare nouns to express indefiniteness and uses the definite article only with generic references while English employs the definite and indefinite articles as well as bare plurals with generic references. The participants were 66 L1 Mandarin Chinese and 56 L1 Arabic learners classified into three proficiency levels (lower-intermediate, upper-intermediate, and advanced). The study aimed to investigate whether L1 Arabic and L1 Mandarin Chinese showed L1 transfer and whether the L1 learners fluctuated between definiteness and specificity with [-definite, +specific] contexts in English. The two tasks used were 1) a forced choice elicitation task consisting of 48 conversations with [-definite, ± specific] using singular, plural and mass nouns, and [±definite and +generic] using singular, plural and mass nouns, and 2) a story recall oral production task (Alzamil, 2015).

The findings showed that noun positions (subject and object) had no effect with indefinite specific and generic references. For the indefinite specific, for the [+specific, -definite] and [-specific, -definite] singular and plural, both L1 Mandarin Chinese and L1 Arabic learners demonstrated similar levels of accuracy. However, proficiency level was important, as the advanced learners were more accurate than the upper-intermediate ones, and the upper-intermediate learners were more accurate than the lower-intermediate ones. For the [+specific, -definite] and [-specific, -

definite] mass nouns, the lower- and upper-intermediate learners of both L1 languages overused the indefinite article (the non-target item) rather than the bare plural (the target item). However, the advanced groups employed the bare plural accurately with [+specific, -definite] and [-specific, -definite] mass nouns (Alzamil, 2015).

For generic references, with the [+definite, +generic] singular, only the L1 Arabic advanced learners performed accurately using the definite article (the target item). While the lower- and upper-intermediate learners did employ the definite article (the target item), indefinite article (non-target item) use was also high. For [+definite, +generic] plural, both L1 groups at all levels performed poorly, overusing the bare plural (non-target item) instead of the definite article (the target item). As for [-definite, +generic] with singular, plural and mass nouns, both language groups showed similar accuracy using the indefinite article with [-definite, +generic] singular and bare plural nouns with [-definite, +generic] plural and mass nouns. Again, the advanced group showed more accuracy than the upper-intermediate group and the upper-intermediate group was more accurate than the lower-intermediate one. Overall, the learners demonstrated greater accuracy with the forced-choice elicitation task than the story recall task due to the effect of the task type. Neither language group showed any L1 effect as both performed similarly with indefinite specific and generic references. The results of Alzamil's (2015) study can be contrasted with those of Hermas (2020a, 2020b), who found that L1 Moroccan Arabic learners struggled with generic references with L2 French and L3 English due to L1 transfer.

Crompton (2011) explored the types of errors made by Arabic learners of English in a corpus obtained from argumentative essays written by undergraduate students in their first and second years. The errors were considered to be the result of L1 transfer due to the differences between the L1 and L2 article systems and generic reference. The participants in Crompton's (2011) study were from several Arab nations but resident in the United Arab Emirates. The corpus included 95 essays with a total word count of 42,391, analysed according to the tokens "the" and "a" and Ø, identifying whether these articles had been used correctly and, if not, which article had been used instead. The results showed that the participants used the definite article correctly with non-generic (specific) references; most of the errors were with

generic references (countable and uncountable) and most concerned overuse of the article “the”. Of the learners’ errors, 44% were with generic non-count nouns, 38% with generic plural count nouns and 12% with generic singular count nouns. These results are similar to those of Hermas (2020a, 2020b) in terms of the demonstration of L1 transfer, although each study used different methods to obtain and analyse their data.

The production of the plural generic has been investigated by Azaz (2019) with L1 English learners of L2 Arabic (15 beginners, 15 low-advanced and 11 high-advanced) along with 10 L1 Arabic speakers as a control group . The aim was to investigate L1 English speakers’ acquisition of the definite generic and definite specific in L2 via two research questions: 1) To what extent does L1 transfer affect the learners’ productions of definite plural with specific and generic readings? 2) In those learners who showed L1 transfer, how does the definite plural appear in their textbooks? English and Arabic both use the definite article with specific plural contexts (explained in Section 2.3). For generic references, English uses the bare plural with plural contexts while Arabic uses the definite plural with plural generic references (outlined in section 2.5). The two tasks in the study were a prompted sentence completion and a prompted oral narrative. The oral narrative task was carried out with the two advanced groups as it was considered too difficult for the beginner groups (Azaz, 2019).

Performance varied among the L1 English learners. In the prompted sentence completion for the definite plural specific (target item), the mean score in the beginner group for use of the definite article was 75.64%, with 24.36% using bare plurals (non-target item). The low-advanced group scored a mean of 93.53% with the definite article, with only 6.47% using bare plurals (non-target item). The high-advanced group was very similar to the low-advanced group, with 97% using the definite article and 3% the bare plural (non-target item) (Azaz, 2019).

These results showed that while the high-advanced group performed better than the other two groups, the gap between the low- and high-advanced group was considerably smaller than the gap between the beginner group and the low-advanced group. The results for the definite plural with specific reading was expected as both L1 English and L2 Arabic use the definite article to convey specific meaning with

plural contexts. However, the results were different for the definite plural generic. The beginner group employed the non-target item (bare plural) with a mean score of 83.5% and the target item (definite plural) with 16.5%. The low-advanced group scored around the chance level, with 49.16% for the definite plural (target item) and 50.84% for the bare plural (non-target item). The high-advanced were the only group to score the definite plural accurately, with the target item mean score of 92% and only 8% for the non-target item. In the prompted oral narrative task carried out only with the low-and high-advanced groups, the results were similar to the prompted sentence completion, with the high-advanced showing high levels of accuracy while the low-advanced scored around the chance level (Azaz, 2019).

These findings showed that the L1 English speakers exhibited wider variation with the generic reading than the specific reading, with the exception of the high-advanced learners who generally used the definite plural with generic references accurately in L2 Arabic. The beginners and low-advanced employed the bare plural more frequently than the definite plural, which was the target item, and this can be attributed to L1 transfer.

Another explanation for the low accuracy of the beginner and low-advanced groups could involve the lack of explicit teaching of the definite generic in the textbook (Azaz, 2019). The effect of explicit teaching has been addressed by Sabir (2015) and Abumlhah (2016) with L1 Arabic learners of L2 English.

Investigating the effect of explicit teaching is an important way to obtain further information about generic references with Arabic learners. Both Sabir (2015) and Abumlhah (2016) have investigated the acquisition of genericity and specificity with Arabic learners at the intervention stage. Sabir (2015) examined explicit teaching and translation activities with Saudi (Hejazi) Arabic learners of English with specificity and genericity, presented in detail in Section 2.3.1. Sabir (2015) argued that linguistically-informed language classrooms might produce improved results with genericity with Saudi-Arabic learners. However, the learners failed to demonstrate increased accuracy with the definite singular, indefinite singular and bare singular due to L1 transfer. The study concluded that explicit teaching and translation activities resulted in no improvement in learners' accuracy reading genericity (Sabir, 2015).

Abumlhah's (2016) findings contrast with those of Sabir (2015). Abumlhah (2016) investigated the acquisition of genericity and specificity with L1 Najdi-Arabic learners of English, focusing on how these articles were taught implicitly or explicitly in the classroom. 54 Najdi-Arabic learners took part in the study along with 10 English speakers. The participants were divided into three groups (22 explicit instruction, 22 implicit instruction and 10 uninstructed as a control group). The method involved a pre-test, a post-test and a delayed post-test after eight weeks using a forced-choice task, a written task and a sentence repetition task. The results showed that the explicit and implicit groups performed more accurately than the control group with generic plural contexts, with the explicit group showing more long-term accuracy than the implicit group. Abumlhah (2016) therefore concluded that explicit teaching leads to greater accuracy with Najdi-Arabic learners with genericity and specificity.

The previous studies described above demonstrated that the differences between L1 and L2 with generic references lead to difficulties, and that L1 transfer effects can arise from differences in L1 background. For this reason, the second experiment in the current study focuses on Saudi-Arabic learners' accuracy with generic contexts. An acceptability judgement task and a forced-choice task will be employed to investigate if learners' accuracy varies according to task type, and the effect of proficiency level as well as receptive and productive vocabulary knowledge will be examined with generic references, which has not previously been done with Saudi-Arabic learners. The following section (below) contains a summary of Saudi-Arabic learners' learnability issues with specificity and genericity.

2.6 Summary of Saudi-Arabic learners' learnability issues with specificity and genericity in English

The main learnability issue for specificity between English and Arabic emerges from the different articles that the languages employ (Table 2-8, below).

Table 2-8: Learnability issue with definiteness and specificity

Definiteness and specificity	English	Arabic
[+specific, +definite], [\pm plural]	the	al-
[-specific, +definite], [\pm plural]	the	al-
[+specific, -definite], [-plural]	a/an	Ø Bare singular
[-specific, -definite], [-plural]	a/an	Ø Bare singular
[+specific, -definite], [+plural]	Plural-s	Ø Bare plural
[-specific, -definite], [+plural]	Plural-s	Ø Bare plural

The yellow highlighted rows in Table 2-8 above show the different use of [+specific, -definite] and [-specific, -definite] with [-plural] contexts. Arabic has only one indefinite article, which is a null determiner (Ø) used with [\pm plural], while English uses “a/an” with [-plural] and plural -s for [+plural] to determine [-definite] with [\pm specific]. The learners may therefore overuse the definite article with [-definite] contexts. This learnability issue with definiteness and specificity results from the difference between English and Arabic with [\pm specific, -definite], [-plural] contexts, therefore, the current first experiment focuses on singular contexts only when testing learners' accuracy with definiteness and specificity.

Genericity is more complicated, as English employs definite and indefinite articles as well as the bare plural (plural-s) to express generic references with two types (NP generic and sentence generic), while Arabic only uses the definite article with [\pm plural] (Table 2-9, below).

Table 2-9: Learnability issue with generic references

Generic references	English	Arabic
NP generic singular [+definite], [-plural]	the	al-
NP generic plural [+definite], [+plural]	Plural-s	al-
Sentence generic singular [-definite], [-plural]	a/an	al-
Sentence generic plural [-definite], [+plural]	Plural-s	al-

Table 2-9 highlights the key differences in yellow. Generic references are likely to present difficulties for Saudi-Arabic learners in using the indefinite article with the sentence generic singular and plural-s with the NP plural and sentence plural, as Arabic employs only the definite article with generic references. Thus, it can be predicted that Saudi-Arabic learners overuse the definite article in place of the indefinite and plural-s. For generic references, there are further differences in singular and plural contexts between English and Arabic, so the focus of the second experiment lies on learners' accuracy with generic references in singular and plural contexts. To predict how Saudi-Arabic learners perform with these learnability issues, the following chapter introduces Generative Second Language Acquisition (GenSLA) Hypotheses to clarify predictions.

Chapter 3 Generative Second Language Acquisition Hypotheses

The generative approach has been refined with the minimalist programme introduced by Chomsky (1995). Through his career, Chomsky (1965, 1995, 1997) investigated L1 acquisition via his theory of Universal Grammar (UG) (Chomsky, 1965). UG focuses on how L1 is acquired and how linguistic knowledge is represented in the mind by addressing three aspects of language acquisition: (1) speakers of a certain language will have the same internal representation, regardless of the different inputs they have in that language; (2) speakers will be able to produce sentences they have not heard before, which means that they will know how to form new expressions; and (3) L1 speakers will be able to distinguish the correct form in their language subconsciously.

From this, Chomsky (1997) suggested that language is innate to the human brain. In support, Cook and Newson (2014) stated that ‘all human beings share part of their knowledge of language; UG is their common possession regardless of which language they speak’ (pp. 1–2). The theory claims that language consists of universal principles possessed by all humans, and that languages are distinguished by their parameters (or features). These differences in language parameters have attracted the attention of second language researchers, who have explored the extent to which UG is available for L2 learners.

The generative approach investigated this by introducing Generative Second Language Acquisition (GenSLA) hypotheses. Some research has found that there is no access to UG for L2 learners (Bley-Vroman, 1990), while other research has concluded that there is partial access (Hawkins and Chan, 1997), stating that learners cannot acquire new uninterpretable features in L2 that are already instantiated in L1. Another set of studies have found evidence for Full Transfer/Full Access (Schwartz and Sprouse, 1996), arguing that knowledge of L1 forms the initial state of acquisition of L2 (allowing Full Transfer), and if learners fail to transfer representations from L1 to L2 then they can subsequently restructure the input by adopting from UG (known as Full Access).

This chapter tests several GenSLA hypotheses, which propose different levels of UG access. Representational Deficit Hypothesis (RDH) by Hawkins and Chan (1997)

assumes partial access, while the Bottleneck Hypothesis (BH) by Slabakova (2008) assumes Full Transfer /Full Access. The Feature Reassembly Hypothesis (FRH) by Lardiere (2009) also supports Full Transfer/Full Access, and discussed as an element of BH. The Fluctuation Hypothesis (FH) by Ionin et al. (2004) relates more to the setting of parameters (definiteness and specificity) than the role of L1 transfer and argued that learners have full access to the principles of UG and parameter settings. These hypotheses have been selected because they offer differing predictions of how Saudi-Arabic learners may perform with definiteness, specificity, and genericity, addressing the aims of the two experiments conducted in this thesis.

The predictions of the first experiment emerge from BH (Slabakova, 2008) and FH (Ionin et al., 2004), while the predictions of the second are drawn from BH (Slabakova, 2008) and RDH (Hawkins and Chan, 1997), as these best address the aims of each experiment.

BH (Slabakova, 2008) is utilised in both the first and second experiments to provide predictions for how the Saudi-Arabic learners will perform with definiteness, specificity, genericity and anaphoric references. This is appropriate as the hypothesis relates to morphosyntactic features, which implies that learners can map from L1 to L2 if the features already exist in their L1, and if not, the learners can acquire new features in L2. BH (Slabakova, 2008) states that the presence of similarities between L1 and L2 help learners acquire these L2 features as the learners can map them, as proposed by FRH (Lardiere, 2009). However, differences between features in L1 and L2 make the acquisition process more difficult.

For the first experiment, FH (Ionin et al., 2004) will be reviewed as this is related to definiteness and specificity, stating that learners fluctuate between article settings until they acquire the Article Choice Parameter (ACP) in English. For the second experiment, RDH (Hawkins and Chan, 1997) will also be detailed, as this maintains that learners cannot acquire a new uninterruptable feature in L2 if it is absent in their L1. The first hypothesis, BH (Slabakova, 2008), is reviewed below.

3.1 Bottleneck Hypothesis (BH)

BH focuses on how a second language is acquired (Slabakova, 2008, 2010, 2014, 2015, 2019). Much research has addressed the question of what is easy or difficult to acquire in Second Language Acquisition (SLA), and why. BH is a minimalist theory which addresses this issue, suggesting that functional morphology forms the ‘bottleneck’ of L2 acquisition, as shown in Figure 3-1 (below). Acquisition of syntax, semantics and pragmatics may be smooth in SLA, but the difficulty in acquiring a second language emerges from functional morphology as this varies across languages. Slabakova (2019) argued that functional morphology forms this bottleneck because ‘it bundles a variety of semantic, syntactic and morphophonological features that have an effect on the acceptability and the meaning of the whole sentence’ (p. 2).

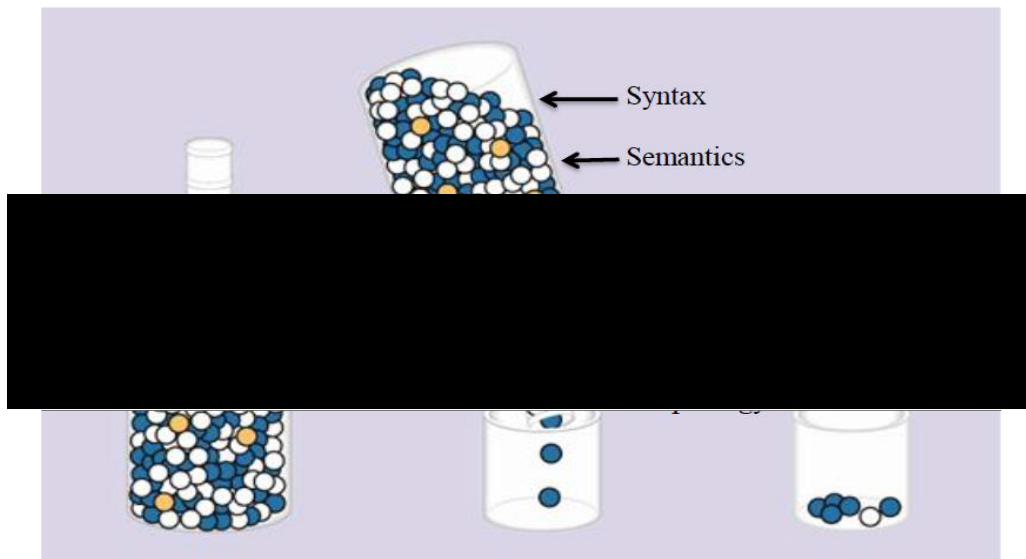


Figure 3-1: Bottleneck Hypothesis diagram (Slabakova, 2014, p.8)

Functional morphology hosts abundant information about grammatical meanings through uninterpretable features, such as aspect, tense and definiteness, as well as information about distance and movement. Slabakova (2014) introduced the language faculty of Reinhart (2006) to illustrate the position of the functional lexicon and how it interacts and interfaces with other language faculties, as seen in Figure 3-2 (below).

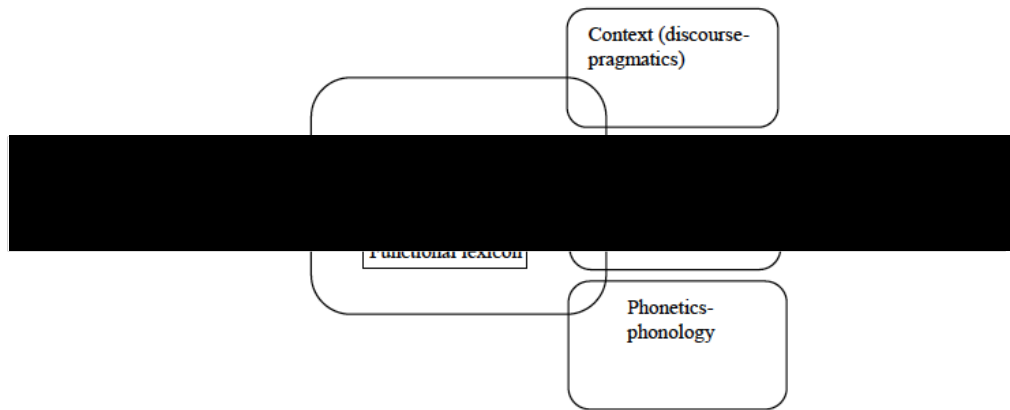


Figure 3-2: Language faculty (Reinhart, 2006, p.3)

Figure 3-2 illustrates the two formal features associated with the interpretable and the uninterpretable. As explained in Section 2.1.2, interpretable and uninterpretable features differ in that the former are related to semantics, contribute to interpretation and cannot be eliminated before being spelled out, while uninterpretable features should be eliminated before being spelled out and are connected only to the morphosyntactic structure of sentences. These concepts are demonstrated in example (48). The interpretable features are singular and third person, and the uninterpretable features are subject-verb agreement.

(48) He often take-s the bus.



- Agree
- [3rd person, singular subject]
- [Tense: present]
- [Aspect: habitual]
- Overt subject obligatory
- Nominative subject

Verb stays in verbal phrase (Slabakova, 2014, p. 5)

The hypothesis proposes that the properties which are difficult for learners to gain are lexicon and functional lexicon, while the properties which are easy to gain include syntax and semantic, pragmatic and discourse meaning. These properties are

easy to acquire due to their universality, unlike functional lexicon, which differs between languages. BH predicts that functional morphology will pose numerous difficulties for learners, particularly where features are bundled, i.e. where learners need to acquire several features and meanings, and where there is diversity or a mismatch in features between L1 and L2. These concepts are demonstrated in examples (49) and (50), which express the mismatch between aspectual tenses in Spanish and English.

(49)

a. Guillermo robaba en la calle. (habitual event)

Guillermo rob-IMP in the street.

(Guillermo habitually robbed [people] in the street.)

b. Guillermo robó en la calle. (one-time finished event)

Guillermo rob-PRET in the street.

(Guillermo robbed [someone] in the street.)

c. Guillermo robaba a alguien en la calle quando llegó la policía. (ongoing event)

Guillermo rob-IMP someone in the street when arrived the police.

(Guillermo was robbing someone in the street when the police arrived.)

(Slabakova, 2010, p. 282)

(50)

a. Felix robbed (people) in the street. (habitual event)

b. Felix robbed a person in the street. (one-time finished event).

c. Felix was robbing a person in the street (when the police arrived). (ongoing event) (Slabakova, 2010, p. 282)

The English past progressive tense refers to an ongoing event in the past, as in (50)c, while the Spanish imperfect tense can express both ongoing and habitual events, as in (49)a and (49)c. A further difference between the two languages is that the English simple past tense can express both a one-time finished event and a habitual event, while the Spanish preterite tense expresses only the former. This differentiation in aspectual tense causes acquisition difficulties for learners and is the difficulty posed by the functional lexicon referred to by Slabakova (2008), i.e. diversity between languages and bundled features, as in (48), cause acquisition difficulties for learners. This is the reason that the functional lexicon is the bottleneck of SLA.

This hypothesis argues that once features are acquired, learners should be aware and informed of the semantic consequences, whether or not they have been taught. Slabakova (2014) argues that features are acquired at different times and that learners can acquire syntactic meaning which is part of an inflectional morpheme before realising that production of the morphology is obligatory in the language. For example, when English learners fail to use the suffix “-ed” in the past tense, this does not imply that they have failed to understand the past tense itself. Slabakova (2014) suggests that this might result from dissociation between ‘overt expression and underlying knowledge of abstract syntactic features’ (p. 9). BH is linked to the Missing Surface Inflection Hypothesis proposed by Prévost and White (2000), although BH focuses on the process of comprehension of syntactic features while Missing Surface Inflection Hypothesis relates to the (mainly oral) production process of features. BH argues that functional lexicon is the most persistent sticking point in SLA since it contains all the formal features of grammar and is difficult to produce and comprehend, even for L1 speakers (who do not pay much attention to the features). Following from this, Slabakova (2014) suggests that ‘what is difficult for non-native speakers is also difficult for low-educated native speakers who have had little exposure to complex syntactic constructions’ (p. 15). A number of studies have examined the dissociation noted by Slabakova (2014), including Lardiere (1998), Prévost and White (2000), Dabrowska and Street (2006), McDonald (2008) and Li (2012). These have focused on the difficulties learners may experience during the acquisition of the morphology function.

Slabakova (2019) detailed five complicating factors which affect the acquisition of functional morphology: (1) morphosyntax-semantic mismatches, (2) feature reassembly, (3) functional redundancy, (4) opacity and (5) construction frequency. The first factor, mismatches of syntactic and semantic features between L1 and L2, renders the features difficult to acquire. In the case of a mismatch between L1 and L2 relating to the article system and genericity, for example, difficulties in acquisition will result. The acquisition of genericity has in fact been investigated by Ionin et al. (2011) with regard to the acquisition of NP generic and sentence generic that use definite, indefinite and bare plural nouns in L2 English by L1 Korean and L1 Russian (languages that lack article systems) learners (explained in detail in Section 2.5.1).

For the second factor, feature reassembly, Lardiere (2009) argued that L2 acquisition is not switch-setting and that it is, rather, remapping from L1 to L2, terming this a ‘formidable’ (Lardiere, 2009, p.175) learning task. FRH by Lardiere (2009) proposes that the difficulties or errors experienced by L2 learners are related to features already packaged into their L1, necessitating feature redistribution to gain the L2 features; there is a mapping stage followed by reassembly of the features. Learners can benefit from features in their L1 which are similar to those in their L2, employing them differently by mapping between the two.

Slabakova (2019) examined the results of Hwang and Lardiere (2013) as an example of feature reassembly difficulties learners might face. Hwang and Lardiere (2013) investigated the acquisition of the Korean plural marker “-tul” by L1 English speakers. The study focused particularly on intrinsic and extrinsic plural markers, which both use “-tuli”, shown in (51) and (52). In (51), the intrinsic plural marker is used as a plural marker with nouns, similarly to English, while in (52), the extrinsic plural marker is not restricted to nouns, but can be used with adverbs and locative phrases as a distributive marker, which is different from English and therefore where the learnability issue lies with L1 English speakers acquiring Korean as L2.

- (51) ai(-tul)-i hakkyo-ey ka-ss-ta. (intrinsic)
 child(-pl)-nom school-to go-past-decl

With -tul: ([The/some specific] children went to school.)

Without -tul: (A/the child or [some, non-specific] children went to school.)

(Hwang and Lardiere, 2013, p. 59)

- (52) haksayng-tul-i yelsimhi(-tul) enehak-ul. kongpuha-n-ta. (extrinsic)
 student-pl-nom intently(-epl) linguistics-acc study-pres-decl

(The students study linguistics intently.) (= Every student studies linguistics intently.) (Hwang and Lardiere, 2013, p. 59)

The study consisted of 77 L1 English speakers in four groups (12 low-intermediate, 30 high-intermediate, 17 low-advanced and 18 advanced), with 31 L1 Korean speakers as a control group. The participants completed five tasks employing intrinsic and extrinsic plural markers. The results showed that the learners were more accurate with the intrinsic plural marker than the extrinsic plural marker due to the

difference between L1 and L2. Hwang and Lardiere (2013) also found that accuracy with intrinsic and extrinsic plural markers increased with proficiency level.

Lardiere (2016) later suggested that grammatical representation possesses definiteness in functional categories such as Determiner (D) and Number (N), which have a set of morphosyntactic feature-values such as [\pm definite] and [\pm plural]. For example, [-definite] must match with [-plural] in English: the morpheme “a/an” must agree with the lexical items (noun) as being [-plural] as in “a cat”, while a singular noun without the indefinite article would be grammatically incorrect as in “*cat”. The major task for learners is to assemble the lexical items with the morphosyntactic features the languages accept, necessitating they acquire both the feature and the lexical items that match with the feature in order to able to employ it accurately. With definiteness, L2 English learners are required to match the [-definite] with [-plural] to use the features correctly.

Slabakova (2019) provides evidence for the third factor, functional redundancy, through two studies conducted by Lardiere (1998) and Li (2012) on the acquisition of L2 English by children and adults. The adult subject in Lardiere's (1998) study was Patty, an L1 Cantonese Chinese speaker living in the United States. The child participants in Li (2012) were six L1 Mandarin Chinese speakers, also resident in the United States. Patty's performance seemed to indicate that she would not progress further, which is known as fossilisation, while the children's performance seemed to increasingly develop, as shown in Table 3-1 (below).

Table 3-1: L2 English learners' performance of functional morphology in an obligatory context (Slabakova, 2019, p. 13)

	3 sg. agreement	Past tense on lexical verbs	Suppletive forms for be	Overt subjects	Nom. case	V in VP
Lardiere (1998)	4.5	34.5	90	98	100	100
Li (2012)	16	25.5	93	100	100	--

Table 3-1 illustrates a clear division between the incidence of verbal inflection (4.5% and 34.5%) and other aspects of related syntactic features, such as overt subjects, the nominative case, and the verb in the verb phrase (VP) (more than 98% accurate), indicating that neither Patty nor the children were producing the overt morpheme but that they knew what it stood for. Learners are unable to acquire all L2 features and information simultaneously, but the morphological, semantic and syntactic features must be acquired to effectively acquire the morphemes.

The fourth factor is opacity. Slabakova (2019) gave examples of opacity using differential object marking in Spanish, where the object marker “a” can be used with a person but not an object, as in (53), where “a” used with “María” is grammatically accepted, unlike in (54), where “a” used with “mesa” [table] is ungrammatical. With the marker “a”, both specificity and animacy must be considered in order to achieve grammatically correct use. Montrul and Bowles (2009) noted that differential object marking in Spanish is a difficult feature to acquire, even for learners with advanced proficiency.

(53) Juan vio a María.

Juan saw DOM María

(Juan saw Maria.)

(54) *Juan vio a la mesa.

Juan saw DOM the table

(Juan saw the table.) (Slabakova, 2019, p. 14)

The fifth and final factor, construction frequency, takes examples from Slabakova (2015), which compares the accuracy of clitic left dislocation and fronted focus in Spanish with L1 English learners (in the first experiment) and topicalisation and fronted focus in English with L1 Spanish speakers (in the second experiment). Fronted focus is similar in Spanish and English, with the main difference lying in the existence of the resumptive pronoun in Spanish but not in English. L1 transfer was beneficial regarding fronted focus, as both languages share the same features, but not with regard to clitic left dislocation and topicalisation, which supports the construction frequency factor. Taken together, these five factors might affect those acquiring functional morphology.

It can be concluded that the rational BH is based on the following features: functional morphology represents differences in syntax and semantics between languages; narrow syntactic operator and meaning is universal in all languages; undertaking functional morphology is a required step for learners to acquire the syntax and meaning of the second language; and practicing functional morphology is important. Studies supporting BH and FRH, one of the elements in BH, are described in the following section.

3.1.1 Previous studies with BH

BH has been supported by studies such as Azaz (2019) and Jensen et al. (2020). As explained above, functional morphology is difficult to acquire in L2, and this was investigated by Jensen et al. (2020) in a study derived from Jensen (2016) with L1 Norwegian speakers studying English as a second language. The study was designed to answer three questions: (1) Is functional morphology more difficult to acquire than narrow syntax? (2) Is functional morphology a more continuous problem than narrow syntax? (3) Which features of syntax and morphology will be more difficult? The focus lay on acquisition of subject–verb agreement, which is considered a part of functional morphology, with verb movement as a narrow syntax feature. These features were selected because Norwegian lacks overt agreement in morphology, in contrast to English, and Norwegian is a verb-second (V2) language, with this word

order required, while English is a subject–verb–object language. The participants of the study were 60 students from the seventh grade (11-12 years old) and upper secondary school (15-18 years old), who completed an acceptability judgement task, a proficiency test and a personal questionnaire.

The participants showed weaker performance in morphology features than syntactic ones. The overall results indicated that subject–verb agreement is more difficult to acquire than verb movement for learners with both high and low proficiency. Although significant development with verb movement was observed between seventh grade and secondary school students, verb agreement development was minimal (Jensen et al., 2020). These findings initially support BH, as the participants' performance differed between functional morphology and syntactic movement, with lower accuracy achieved in functional morphology (Jensen et al., 2020). Differences between participants in functional morphology also emerged according to proficiency level, again supporting BH in that functional morphology is difficult to acquire in L2. The study contributed to the field by determining the various challenges involved in improving acquisition of the syntax feature, as well as ascertaining whether this process is simpler than the morphological one (Jensen et al., 2020).

Further support for BH came from a study by Azaz (2019), which investigated the production of definite plural with specific and generic references with L1 English learners of L2 Arabic. The details of this study were elaborated in Section 2.5.1, and they support BH (Slabakova, 2008) through the conclusion that some features are easy to acquire while others are challenging. Definiteness as part of the functional morphology, which is the bottleneck of acquisition, increases the difficulty of acquiring the definite plural with generic references (Azaz, 2019). Learners require explicit teaching with generic references in order to successfully acquire the definite plural in L2 Arabic (Azaz, 2019).

FRH (Lardiere, 2009) is an element of BH, the predictions of which surrounding definite and indefinite articles have been the subject of several empirical studies with various L1 backgrounds (Momenzade and Youhanaee, 2014; Cho, 2017).

Cho (2017) conducted research on the acquisition of the definite article in L2 English through different contexts with 37 L1 Korean speakers (22 intermediate and 15 advanced) and 26 English speakers forming the control group. The data was collected using an acceptability judgement task, a proficiency test and a personal questionnaire. Korean is an article-less language which uses the demonstrative “ku” (“that”) to denote the anaphoric, while English employs the definite article for anaphoric reference. The four contexts examined in the study were: (1) direct anaphoric with explicit same NP antecedent, (2) taxonomic anaphoric with explicit lexically associated antecedent, (3) anaphoric bridging with implicit antecedent, and (4) non-anaphoric bridging with no antecedent. The learnability issue is that English uses a definite article in all four contexts, being [+definite, ±anaphoric], while Korean is [+definite, +anaphoric] and uses the demonstrative “ku” with the first three contexts and \emptyset with non-anaphoric bridging (Cho, 2017).

In the intermediate group, the learners rated the definite article above the indefinite article with anaphoric contexts but not with non-anaphoric contexts. Intermediate learners were able to map “ku” in L1 with the definite article “the” in L2 and correctly rate direct anaphoric, taxonomic anaphoric and anaphoric bridging, but not non-anaphoric bridging due to L1 influence. In the advanced group, the learners rated the definite article above the indefinite article in two contexts (direct anaphoric and taxonomic anaphoric), but in the other two contexts (anaphoric bridging and non-anaphoric bridging) they rated both definite and indefinite articles highly, with no significant difference between them ($p = 0.14$ and $p = 0.072$, respectively) (Cho, 2017).

The advanced learners’ results indicated that they were able to reassemble the feature from L1 to L2, with an absence of L1 influence. However, the advanced learners’ results differ from those of the L1 English speakers as they were yet to develop a full understanding of definiteness in L2 (Cho, 2017). The study supports FRH as both the intermediate and advanced learners were able to map and reassemble the feature from L1 to L2. While Cho (2017) studied different contexts with the definite article in an article-less language, a study by Momenzade and Youhanaee (2014) used L1 Persian, which possesses an article system different to that of English to investigate the acquisition of number (singular and plural) with nouns with the definite and indefinite article in English.

The study participants consisted of 50 L1 Persian learners split across elementary, intermediate, and advanced levels, with fifteen L1 English speakers as the control group. In contrast to English, which uses the definite article with singular and plural contexts, the indefinite article with singular contexts and the bare plural with plural contexts, Persian uses the null determiner with definite contexts with singular and plural contexts and the indefinite article with singular and plural contexts. The research questions were: 1) Would singular or plural noun types be more difficult with article use in English with L1 Persian learners? 2) Would the learners eventually be able to acquire the number feature and associate it with article use? (Momenzade and Youhanaee, 2014).

A grammatical judgement task with 120 items, 80 of which involved articles with the rest as fillers, was employed as the research instrument. The learners read each sentence to determine whether each was correct or not. The results showed that L1 Persian learners showed differences in accuracy between the levels, with elementary scoring the lowest and advanced the highest, but the same difficulties could be observed with singular and plural contexts (Momenzade and Youhanaee, 2014). The answer to the first research question would be that the learners showed the same level of difficulty with singular and plural contexts with the definite article in English, and the answer to the second would be that there was a difference in the learners' accuracy when compared with L1 English speakers at the elementary and intermediate levels, but not with the advanced group as they produced target-like performance (Momenzade and Youhanaee, 2014).

The Saudi-Arabic learners who form the participants of the current study may demonstrate a different performance, as their L1 (Arabic) possesses a definite article but uses the null determiner to express indefiniteness with singular and plural contexts. In light of the differences between English and Arabic discussed in Chapter 2 and the hypotheses gained from BH and FRH, predictions can be made surrounding how Saudi-Arabic learners might perform with definiteness, specificity, genericity and anaphoric references.

3.1.2 Predictions based on BH

BH suggests that a mismatch in features between L1 and L2 leads to greater difficulty for learners to acquire them. While FRH suggests that learners can map

and reassemble features between L1 and L2 (Lardiere, 2009), the significant differences between L1 (Arabic) and L2 (English) in this case might lead to difficulties in acquiring the new feature. This is due to the fact that definiteness, specificity and genericity are encoded with interpretable and uninterpretable features, and there are three morphemes (“a”, “the”, plural-s) in English. The predictions for definiteness and specificity are presented below, followed by genericity and anaphoric references.

- 1- For definiteness and specificity: the learners will be able to use the definite morpheme “the” in L2 by mapping the morpheme from L1 to L2, as such a definite morpheme exists in their L1 “al-”. For the indefinite morpheme, the learners need to acquire a new article as the L1 contains no analogous morpheme. Indefiniteness in English consists of a bundle of features: [-definite] as the interpretable feature and the uninterpretable feature [*u*number] related to nouns, which is [-plural]. English and Arabic both use definiteness to determine specific contexts. The predictions are:
 - For [+specific, +definite] and [-specific, +definite], the learners will be able to use the definite morpheme in L2 as they have a similar morpheme in L1. The learners will map “al-” to the definite morpheme “the” in L2 and reassemble it, as the morpheme is a prefix in L1 but a free clitic in L2.
 - The prediction for [+specific, -definite] and [-specific, -definite] is that the learners will be able to acquire the new morpheme “a/an” as the indefinite article which is an interpretable feature [-definite] and map it with the uninterpretable feature [-plural] to use it in the semantic feature of [+specific, -definite] and [-specific, -definite]. However, the learners may overuse the definite article with these contexts due the difference between L1 and L2.
 - According to BH, the learners will find acquisition of the indefinite article more difficult than the definite article as they must acquire the indefinite article as a new morpheme and map the interpretable feature [-definite] with the uninterpretable feature [-plural]. Thus, the prediction is that the learners will be more accurate with the definite article as this only requires mapping of the feature from L1 to L2, whereas the indefinite article must be acquired as a new feature, which is more difficult.

- 2- For genericity: Arabic only uses the definite article with singular and plural generic while English has two types (NP generic and sentence generic) with singular and plural contexts and three morphemes (“a”, “the”, plural-s). The predictions are:
- For the NP singular [+definite], [-plural], the learners will be able to use the definite morpheme “the” in L2 as the L1 contains a similar definite morpheme “al-”, which needs only to be reassembled as a free clitic in L2.
 - For the sentence singular [-definite, -plural], the learners need to acquire the new morpheme “a/an” and the associated the interpretable feature, which is [-definite] with the uninterpretable feature [μ number], which is [-plural] to use in this context. Learners are likely to face difficulties with this as the morpheme “a/an” is absent in their L1 and therefore more challenging to acquire. For the NP plural [+definite], [+plural] and sentence plural [-definite], [+plural], the learners must acquire the morpheme plural-s and map the interpretable feature [+definite] with NP plural and [-definite] with sentence plural with the uninterpretable feature [μ number], which is [+plural] bare plural to use with plural contexts with generic references. This feature is also absent in their L1 with generic references.
 - Therefore, the predictions are that the learners will be able to acquire the [-definite], [-plural] for sentence singular and [+definite], [+plural] with NP plural and [-definite], [+plural] with sentence plural. However, the learners might overuse the definite article with these contexts due L1 and L2 differences.
 - The learnability issue stems from L1 and L2 differences and the fact that in English the generic involves a bundle of complex features employing three morphemes (“a”, “the”, plural-s) within two different contexts (NP and sentence generic). English has the NP singular [+definite], [-plural] which uses the definite article and NP plural [+definite], [+plural] which accepts the bare plural, while sentence singular [-definite], [-plural] uses the indefinite article, and sentence plural [-definite], [+plural] accepts the bare plural. Arabic uses only the definite article with singular and plural without context differentiation. The bundle of features that learners are likely to face difficulties with are mapping the [-definite] with [-plural] with sentence

generic singular and mapping the [+definite] with [+plural] with NP generic plural. They also need to map the [-definite] with [+plural] with sentence generic plural. This mapping must take place between the interpretable [\pm definite] and uninterpretable [\pm plural] morphological features in order to accurately produce generic references in English.

- According to BH, the learners will experience more difficulty acquiring the new morphemes of the indefinite article and plural -s than the definite article as a result of L1 and L2 differences. The difficulty is predicted to come about through problems mapping the interpretable feature [\pm definite] with the uninterpretable feature [\pm plural].
- 3- For anaphoric references: The learners have a definite morpheme in their L1. Therefore, they are predicted to be able to use the definite article in L2 with anaphoric singular and plural contexts due to L1 similarity.

3.2 Fluctuation Hypothesis (FH)

FH (Ionin, 2003; Ionin et al., 2004) states that L2 learners switch between definiteness and specificity settings. This entails fluctuation between two different parameter settings, with languages that use definiteness to distinguish between articles such as English and Arabic, as in (1) below, and those that use specificity to distinguish articles (as in Samoan), seen in (2) below, until target parameters are set to the suitable value. The hypothesis states that learners fluctuate between article settings i.e. associating article use in English with [\pm specific] (setting (2)) until they set the target (setting (1)). The hypothesis relates to the setting of parameters according to Article Choice Parameters (ACP, detailed in Section 2.2) rather than the role of L1 transfer. ACP maintains that the article system of a language can be distributed according to definiteness or specificity and have two language settings used to determine these features. Examples (1) and (2) below are repeated from Section 2.2 (Ionin et al., 2004):

- 1- The definiteness setting uses definiteness to distinguish between articles; in English, the use of the article “the” indicates [+definite] and the use of the article “a/an” indicates [-definite].

2- The specificity setting differentiates between articles on the basis of specificity, as in the Samoan language: “Le as” [+specific] and “se” [-specific].

FH assumes that:

- L2 learners have full access to the principles of universal grammar (UG) and parameter settings.
- L2 learners fluctuate between different parameter settings until the input leads them to set the parameter to the appropriate value (p. 16).

Ionin et al. (2004) predicted that L2 learners’ errors would be overuse of “a/an” in [-specific, +definite] contexts and overuse of “the” in [+specific, -definite] contexts, due to a tendency to associate “the” with [+specific] and “a/an” with [-specific]. This will in fact prove accurate in the use of [+specific, +definite] and [-specific, -definite], shown in Table 3-2 (below) (Ionin et al., 2004). The green highlights the correct use of the article, with the fluctuation between the two-article setting, [+specific, -definite] and [-specific, +definite], shown in the red. The association with the use of specificity can explain this misuse in these contexts.

Table 3-2: The two possible articles grouping together Ionin et al. (2004, p.18).

	+definite	-definite
+specific		
-specific		

Ionin et al. (2004) conducted a study into the acquisition of definiteness and specificity by 30 L1 Russian and 40 L1 Korean (article-less languages) learners of English, with 14 L1 English speakers forming the control group. The participants completed a forced-choice elicitation task, a written production task and a proficiency test. The L2 learners performed differently in [+specific] and [-specific] settings with regard to both definite and indefinite articles. The Korean learners were more accurate than the Russian learners as their overall English proficiency was higher. Both groups associated the article “the” more often with [+specific] than [-

specific] settings and used the article “a/an” more often with [-specific] than with [+specific] settings, indicating that they use specificity to determine article distribution rather than definiteness. This supports the predications of FH, as the learners were shown to fluctuate setting and associate the use of the article to specificity, whereas in English it associates with definiteness.

These misuses were found to be systematic and can be associated with ACP due to similarities between the performance of the two groups, as the learners tended to fluctuate between settings (1) and (2) mentioned above that were classified by ACP. Studies testing FH are described in the following section.

3.2.1 Previous studies with FH

FH has been empirically tested in a number of studies with L2 English speakers from a variety of L1 backgrounds, including article-less languages such as Russian, Japanese and Chinese, and languages with article systems such as Spanish and Arabic. Ionin et al. (2008) investigated the misuse of L2 English by 23 L1 Russian (article-less) and 24 L1 Spanish (with an article system) learners and proposed two possibilities regarding how the learners would process articles in English. The first was that the L2 learners would fluctuate between definiteness and specificity, with both L2 groups using “the” and “a/an” interchangeably in non-specific definite and indefinite specificity settings, while the second was that transfer would override fluctuation. In other words, L1 speakers of languages lacking an article system are more likely to fluctuate than those of languages with an article system. Russian learners would therefore fluctuate in the use of articles as a result of associating them with specificity, while Spanish learners would use the articles “the” and “a/an” without fluctuating. Specificity would not be predicted to affect their acquisition process as their L1 uses definiteness to distinguish between articles. Six L1 English speakers made up the control group, and the instruments were an elicitation test and a cloze test for proficiency level which was completed only by the L2 groups.

The L1 Russian learners misused the definite article due to the effect of specificity, while the L1 Spanish learners were accurate in the use of both definite and indefinite articles. The L1 Spanish learners were able to map the semantics of their L1 onto the morphology of the L2. The results for the L1 Russian learners corresponded to Ionin et al.'s (2004) earlier findings, as learners with an article-less L1 fluctuated between

specificity and definiteness. However, Ionin et al.'s 2008 study showed that learners with an article system in the L1 did not fluctuate, and used articles accurately on the basis of definiteness.

Another study investigating the acquisition of definiteness and specificity in L2 English with ACP and FH was conducted by Snape (2005) with advanced-level groups of 13 L1 Japanese (article-less) and 13 L1 Spanish (definiteness-marking article), as well as 13 L1 English speakers as the control group. The hypothesis of the study was that the Japanese learners would overuse the definite article with indefinite specific contexts [+specific, -definite] singular and plural, due to their L1 having no article system. A forced-choice elicitation task consisting of 92 dialogues was used as the research instrument. The results showed that the L1 Japanese overused the definite article with [+specific, -definite] singular and plural more than the L1 Spanish learners, suggesting that the L1 Japanese learners fluctuated in their choice between the definite and indefinite L2 articles, while the L1 Spanish showed L1 transfer and did not fluctuate due to a similar article system in L1.

More recent research carried out by Qihao et al. (2016) examined the acquisition of definiteness and specificity with L1 Chinese (article-less) with 45 intermediate and 45 advanced learners. Their hypothesis stated that the L1 Chinese learners would fluctuate with their use of articles between the two parameters [\pm definite] and [\pm specific]. The study employed a forced-choice task with 92 dialogues similar to that of Ionin et al. (2004). Both the intermediate and advanced learners showed a high effect of specificity on their article choice as they associated the use of articles with [\pm specific]. The learners overused the definite article with [+specific, -definite] and overused the indefinite article with [-specific, +definite] with singular and plural contexts, similar to the predication of Ionin et al. (2004) (Table 3-2, above). These results also support FH as the learners fluctuated between [\pm definite] and [\pm specific] with ACP until the input led them to set the parameters correctly. These studies therefore showed that L1 speakers of article-less languages are more likely to fluctuate between articles in English, unlike L1 speakers of languages with an article system marked by definiteness, like Spanish tested in Ionin et al. (2008), due to L1 transfer.

Further studies have investigated FH with L1 Arabic L2 English learners (Jaensch and Sarko, 2009; Al-Zahrani, 2011; Alzamil, 2015; Abudaljuh, 2016). Jaensch and Sarko (2009), Alzamil (2015) and Abudaljuh (2016) found that L1 Arabic learners of low and intermediate proficiency fluctuated between ACP settings while Al-Zahrani (2011) concluded that the misuse of articles with definiteness and specificity at these proficiency levels was due to L1 transfer.

The earlier of these studies, by Jaensch and Sarko (2009), focused on the acquisition of definiteness and specificity with L1 Syrian-Arabic learners of English and L1 Japanese learners of German. As explained in Section 2.3, Arabic uses definiteness to determine specificity in four contexts involving [\pm specificity, \pm definite]. These are [+specific, +definite] and [-specific, +definite] using the definite article “al-”, and [+specific, -definite] and [-specific, -definite] using \emptyset . The English language also uses definiteness to determine specificity in four contexts, with the difference that English has the indefinite article with [-plural] for [-definite] contexts while Arabic uses \emptyset for [\pm plural] for [-definite]. Both English and German have article systems (Section 2.3.1). Arabic also has an article system, but the difference is that it uses “al-” as the definite article and \emptyset in indefinite contexts, while Japanese has no article system. The Syrian-Arabic learners outperformed the Japanese learners with regard to definiteness and specificity, demonstrating target-like performance with the definite article, indicating L1 transfer of the definite article. However, fluctuation was observed in the Syrian-Arabic learners with regard to the indefinite article as they overused the definite article in [+specific, -definite] contexts. The L1 Japanese learners showed similar results for definite and indefinite articles, suggesting that they did not fluctuate between definiteness and specificity (Jaensch and Sarko, 2009).

A similar study by Alzamil (2015) showed that lower- and upper-intermediate L1 Arabic learners performed poorly with [+specific, -definite] mass nouns as they fluctuated between the bare plural (target item) and the indefinite article (non-target item), which supports FH. This study was elaborated in Section 2.5.1, but discussed here in terms of its relevance to FH. A finding from this study which did not support FH in particular contexts was that L1 Mandarin Chinese and L1 Arabic did not fluctuate with [+specific, -definite] singular and plural, leading to the conclusion that support could be identified only with [+specific, -definite] mass nouns. Moreover,

the lower- and upper-intermediate L1 Mandarin Chinese and L1 Arabic overused the indefinite article (non-target item) rather than the bare plural (target item) with [-specific, -definite] mass nouns, against the prediction of FH that learners do not fluctuate with [-specific, -definite] contexts (Table 3-2, above).

A third study into FH with L1 Arabic speakers was conducted by Abudaljuh (2016), examining the acquisition of definiteness and specificity by 30 L1 Jordanian Arabic learners of English of three proficiency levels (low, intermediate and advanced). This study was elaborated in Section 2.3.1. The advanced learners were able to judge definiteness and specificity accurately and were close to the target article system in English, while the low- and intermediate-level learners showed differing levels of accuracy. The low-level learners fluctuated as predicted, overusing the indefinite article “a/an” in [-specific, +definite], which indicated that they were associating the indefinite article with [-specific] contexts rather than [-definite] contexts. In addition, the low-level learners overused the definite article in [+specific, -definite], suggesting they associated the definite article with [+specific] settings. On the other hand, the intermediate learners overused the indefinite article in [+specific, +definite] and [-specific, +definite] contexts, which suggests L1 transfer rather than fluctuation as the learners overused the indefinite article with [\pm specific] and [+definite], implying that the indefinite article was not associated with specificity settings (Abudaljuh, 2016). Definiteness and specificity were shown to be related to the learners’ proficiency levels because those with a low level of proficiency fluctuated as predicted in FH, while the intermediate learners showed L1 transfer and the advanced learners produced target-like performance (Abudaljuh, 2016).

In an earlier study whose findings lie somewhere in between those of the three described above, Al-Zahrani (2011) found that L1 Saudi-Arabic learners misused the article with definiteness and specificity due to L1 transfer. The research adopted Full Transfer/Full Access hypothesis and FH to investigate the acquisition of definiteness and specificity in English with 34 L1 Saudi-Arabic learners (upper-intermediate, lower-intermediate and beginners). The main research question was 1) Given that both English and Arabic use definiteness to determine specificity, would Saudi-Arabic learners transfer the ACP from L1 to L2? After analysis of the results of a forced-choice task, it could be seen that both intermediate groups showed more accuracy than the beginner group, overusing the definite article with non-specific

contexts. However, Al-Zahrani (2011) argued that the misuse found in the beginner group was due to L1 transfer rather than fluctuation, as both intermediate groups were able to achieve target-like performance, and the effect of L1 transfer on specificity would decrease with higher proficiency level.

Al-Zahrani (2011) therefore concluded that the learners overused the definite article due to L1 transfer and not because they fluctuated between the two article settings, as their L1 possesses an article system. In contrast, Jaensch and Sarko (2009) and Abudaljuh (2016) concluded that low-level learners fluctuated with [+specific, -definite] and overused the definite article due to not having yet acquired the ACP in English. Furthermore, Alzamil's (2015) research showed that L1 Arabic learners fluctuated between the bare plural and indefinite article with [+specific, -definite] mass nouns. From the results of these studies, the predictions according to FH are given in the following section.

3.2.2 Predictions based on FH

The hypothesis suggests that learners fluctuate between the two language settings used to determine definiteness and specificity via ACP until the parameter is set to the appropriate value.

For definiteness and specificity, English and Arabic use definiteness to determine specific contexts. English uses the definite article “the” and Arabic uses “al-” in [+specific, +definite] and [-specific, +definite] contexts with [\pm plural]; however, English has the indefinite article “a/an” for [+specific, -definite] and [-specific, -definite] contexts with [-plural] and bare plural with [+plural], Arabic uses the null determiner (\emptyset) in [+specific, -definite] and [-specific, -definite] contexts with [\pm plural]. So, unlike English, Arabic does not have an article related to [-definite] and [-plural]. Thus, the predictions according to the FH are as follows:

- The learners will accurately use [+specific, +definite] and the indefinite article with [-specific, -definite], as these contexts are not problematic for learners (Table 3-2, above).
- The learners will fluctuate between the indefinite article and the definite article as proposed by Ionin et al. (2004) with [+specific, -definite] and [-specific, +definite] contexts, as learners find these contexts problematic (Table 3-2, above).

- The learners might overuse the definite article in the [+specific, -definite] context as a result of associating it with [+specific]. The learners might also associate the indefinite article with [-specific] and overuse the indefinite article with [-specific, +definite] due to the two ACP settings, and use the definite article with [+specific] and the indefinite article with [-specific].
- The learnability issue is that the learners need to relate the definite and indefinite articles with definiteness [\pm definite] rather than specificity [\pm specific] to accurately use ACP in English with [+specific, -definite] and [-specific, +definite] contexts.

These predictions are consistent with the findings of Jaensch and Sarko (2009) and Abudaljuh (2016), although Abudaljuh found that low- and intermediate-level learners fluctuated with [+specific, -definite] and [-specific, +definite] while the learners in Jaensch and Sarko's study fluctuated between the definite and indefinite articles with [+specific, -definite] and overused the definite article in this context. These findings suggest a lack of acquisition of ACP in English as the learners continued to fluctuate and relate the use of articles with specificity rather than definiteness.

3.3 Representational Deficit Hypothesis (RDH)

RDH relates to the acquisition of uninterpretable syntactic features in L2, proposing that certain features are subject to the critical period (i.e. after a certain age, learners may not be able to fully acquire them). This implies therefore that once the uninterpretable feature is acquired in L1, learners are unable to change it in L2 after the critical period. This entails difficulty in acquiring new uninterpretable L2 features which have already been instantiated in L1. Hawkins and Chan (1997) named this the Failed Functional Features Hypothesis; Hawkins (2001) subsequently renamed it the Representational Deficit Hypothesis (RDH). Hawkins and Chan (1997) stated that 'since the UG lexicon is the locus of parametric option, it becomes impossible for language learners to set a new parameter or reset an option already fixed in the L1' (p. 189).

A follow-up study by Hawkins (2005) found that UG contrast between interpretable and uninterpretable features is crucial in RDH. Stating that 'the uninterpretable features [u F] trigger the operations of agree and move' (p.13), Hawkins (2005)

argued that uninterpretable features are related to agreement and movement in a sentence. For instance, learners have to agree the interpretable feature [-definite] with the indefinite article and the uninterpretable feature [-plural], related to nouns, in order to accurately use the indefinite article in English. RDH posits that uninterpretable features are related to syntactic features and subject to the critical period. If the uninterpretable feature to be acquired is absent in L1, learners cannot establish the new uninterpretable feature in L2. Interpretable features, by contrast, are related to semantic features, meaning learners can acquire new interpretable features in L2 which are not instantiated in L1 after the critical period. As discussed in Section 2.1.2, examination of the interpretable and uninterpretable features in English and Arabic suggests that learners would have difficulty with the indefinite article as it differs between L1 and L2 and the learners must acquire the interpretable feature [-definite] with the indefinite article and the uninterpretable feature [-plural].

Hawkins and Chan (1997) investigated RDH with L1 Chinese learners of English as a second language, who failed to acquire wh-movement with restrictive relative clauses (RRCs) as a parametric difference between the two languages. English RRCs require wh-operator movement in an overt syntactic structure absent in Chinese RRCs. Hawkins and Chan's (1997) study explored four research questions: 1) Do Chinese learners have the ability to gain the complement phrase (CP) morphological properties of English? 2) Do Chinese learners have the ability to gain the RRC in the [CP...gap] pattern, as this does not exist in their L1 patterns? 3) Do Chinese learners have the ability to gain the [CP...gap], and could this lead to an ability to activate the functional feature of [wh]? 4) Can the UG constrain the mental representation of L2 English? The study consisted of seven groups of participants: three groups of L1 Cantonese Chinese learners, divided into elementary, intermediate and advanced groups; three groups of L1 French speakers, at elementary, intermediate and advanced levels included as control groups in order to establish the reliability and validity of the study, as French shares the wh-movement feature with English; and a final control group of L1 English speakers.

The study employed a grammatical judgement task with 101 sentences, 59 of which focused on the RRCs of English, with the sentences divided as follows: the grammatical and ungrammatical use of complementisers and operators; ungrammatical resumptive pronouns; and subjacency and ungrammatical null

sentences. The sentences were written on pieces of paper and read by the participants, who also listened to a recording of a spoken version of the sentences. They were given nine seconds to mark each sentence as either: (1) definitely correct, (2) probably correct, (3) probably incorrect or (4) definitely incorrect.

The findings of the study concerning the first aim of acquiring the CP revealed that, in relation to the accuracy of the judgement test on the wh-operator and the null operator, the Chinese learners were the least accurate of the groups, with even the advanced Chinese group scoring lower than the French elementary group. The Chinese elementary group scored the lowest, while the French advanced and English control groups scored the highest. The Chinese intermediate group scored considerably lower than the French intermediate group. For the acquisition of the [CP...gap], the Chinese groups were again the lowest scorers, and the French and English groups demonstrated the highest accuracy in RRCs. The results here demonstrate that, although the Chinese groups were less accurate, they had gained awareness of the pattern, while the results of the correction score demonstrate that the Chinese groups were able to gain the surface of the [CP...gap], despite the absence of the feature in RRCs in their L1. In relation to the third question (i.e. whether Chinese learners are able to use the wh-operator), the results showed that the Chinese groups transferred their L1 feature of [topic...pronoun], using this instead of the English pattern.

The results of the ungrammatical sentences in the judgement test showed that less than half of those in the Chinese groups were able to identify the ungrammatical sentences, with only 14% able to produce corrections. Hawkins and Chan (1997) argued that due to the Chinese mental representational for the English [CP...gap], the Chinese participants were unable to fully gain the wh-operator in particular, as they transferred the non-movement [topic...pronoun] to their English syntax, thus developing the use of the [wh-phrase ...pronominal] instead of the English pattern. In relation to the final question, whether UG can constrain the mental representation of L2 English, for the [CP...gap] in English, the learners were not able to acquire the [wh-phrase...variable] and therefore established the [wh-phrase...pronominal] instead. L2 grammar was constrained, in that learners were unable to use the [wh-phrase...gap] strategy; the expectation was that when they came across a wh-phrase they would predicate a gap and that would produce a surface of operator variable and

pronominal-binding representation in several situations. However, this is not the type of principle-based operation licensed by UG and thus the Chinese participants were unable to adopt an unconstrained [wh...gap] strategy.

In the light of these findings, RDH suggests that learners cannot acquire new uninterpretable features in L2 after the critical period but can acquire a new interpretable feature in L2 interlanguage grammar even it is not established in L1, as interpretable features are not subject to the critical period. Further research into this hypothesis is described in Section 3.3.1 (below).

3.3.1 Previous studies with RDH

RDH has been empirically tested by Tsimpli and Mastropavlou (2008) and Momenzade and Youhanaee (2014) with definiteness. The findings of the former support RDH, in an investigation into the acquisition of Greek pronominal clitics and determiners with two groups: adults bilingual in Turkish and Russian and ten Turkish children. The study focused on the differences within the clitics and determiners in terms of interpretability, to distinguish between three areas: first-, second- and third-person accusative-object clitics, indefinite and definite articles and third-person genitive clitics in the nominal domain, and third-person accusative-object clitics in the verbal domain. There are differences between clitics and articles, although both are considered elements of determiners: articles occur in the nominal domain, while clitics occur in the verbal domain. The study contends that, with regard to the domain of the clitics, the first- and second-person accusative clitics and possessives contain the interpretable (person) feature, while the third-person accusative clitics are the only uninterpretable features. Articles were also investigated: the definite article is similar to the third-person clitic in case, agreement and category, with no implicit specification of definiteness. The pattern of the indefinite article with first- and second-person accusative clitics also shows interpretable features.

The findings demonstrate that difficulty in accessing new uninterpretable features (other than the normal features of L1) elicited different levels of performance among the groups with interpretable/uninterpretable features. All groups displayed differences in performance between clitics and articles (Tsimpli and Mastropavlou, 2008). The children achieved positive results with the acquisition of third-person clitics and definite articles, although the adult group demonstrated less accuracy than

the children, with their results revealing problems with features of both definite articles and clitics. The adults' lower degree of accuracy resulted from the inaccessibility of uninterpretable features in the post-critical period, while the children's group still retained the facility to access uninterpretable features. This led the adult group to misanalyse the features and thus fail in the acquisition of new uninterpretable features in L2 (Tsimpli and Mastropavlou, 2008), as predicted by RDH.

In contrast to this, Momenzade and Youhanaee (2014) argued that such difficulties faced by learners with definite and indefinite articles are due to mapping problems rather than the absence of uninterpretable features. Their study into the acquisition of number (singular and plural) with nouns using definite and indefinite articles in English with 50 L1 Persian learners of elementary, intermediate, and advanced levels can be found in Section 3.1.1. The results showed that the learners displayed varying accuracy between levels, with elementary scoring the lowest and advanced the highest, and this difference was stark with singular and plural contexts. The advanced learners could perform at a target-like level, although the elementary and intermediate learners scored only slightly above chance level. This suggests that the elementary and intermediate learners suffered mapping difficulties with numbering using definite and indefinite articles whereas the advanced learners demonstrated target-like performance. Thus, Momenzade and Youhanaee argued that their outcomes support the element of BH known as feature reassembly, here with regard to assembly of the number feature, rather than the absence of the feature as RDH would predict.

In this thesis, the second experiment investigates the singular and plural contexts with generic references. For genericity, therefore, the predictions of RDH are presented below.

3.3.2 Predictions based on RDH for Saudi-Arabic learners

The assumptions of RDH are that learners can acquire L2 interpretable features but not new uninterpretable features not already instantiated in L1. If the uninterpretable feature is absent from L1 post-critical period, it is not possible for L2 learners to acquire a new uninterpretable feature in L2. Definiteness consists of [*unumber*], which is the uninterpretable feature. The [*±definite*] and [*+generic*] (interpretable

feature) must agree with the noun (uninterpretable feature) with [*u*number] feature.

The predictions of genericity and anaphoric references according to RDH are:

- 1- For genericity: Arabic only uses the definite article with generic references whereas English uses the definite article with NP generic singular and the bare plural with NP plural contexts, as well as the indefinite article with sentence generic singular and the bare plural with sentence plural contexts.
- The Saudi-Arabic learners will be able to use the definite article “the” with NP singular [+definite], [-plural] as it already exists in L1 “al-”.
- The learners will face difficulties with sentence singular [-definite], [-plural] which use the indefinite article “a/an” and the uninterpretable feature associated with the nouns [*u*number], which is [-plural]. Additionally, as L1 only employs the definite article with [\pm plural] with generic references, the use of the bare plural might be problematic with NP plural [+definite], [+plural] and sentence plural [-definite], [+plural]. This is because the learners have to acquire plural-s with sentence plural [-definite] and [+definite] with NP plural (interpretable features) as well as [*u*number], which is [+plural] (uninterpretable feature) to use in these contexts.
- The learners are predicted to be able to acquire the interpretable features [\pm definite], which are the indefinite article and plural-s, but not the new uninterpretable features [\pm plural]. This means they will not be able to distinguish between singular and plural contexts with generic references nor will they be able to associate the [-definite] with [-plural] with sentence singular and [\pm definite] with [+plural] with NP plural and sentence plural. The learners might use [-definite] the indefinite article with sentence plural [+plural] and plural-s with sentence singular [-plural] contexts, and they may also use the definite article with NP plural instead of plural-s as they will not be able to associate the use of plural-s with [+plural] contexts. This stems from the predicted inability of the learners to acquire the new uninterpretable features [\pm plural].
- The learnability issue is that the learners need to acquire the interpretable features [\pm definite] and associate them with the uninterpretable feature [\pm plural] in order to accurately use generic references in English. RDH predicts that the learners will not be able to acquire new uninterpretable feature [\pm

plural] in L2 after the critical-period and will not be able to achieve target-like performance.

- 2- For anaphoric references: Learners will be able to use the definite article with L2 anaphoric singular and plural contexts, as their L1 possesses a definite article used with anaphoric references.

3.4 Summary with GenSLA hypotheses

This chapter has outlined hypotheses in the field of GenSLA, which relate to L1 transfer and how mapping may occur in the acquisition of English. These are Bottleneck Hypothesis (Slabakova, 2008) and Representational Deficit Hypothesis (Hawkins and Chan, 1997), the predictions of which are summarised in Table 3-3 (below). Fluctuation Hypothesis (Ionin et al., 2004) relates to the setting of definiteness and specificity rather than L1 transfer, so it is not included.

Table 3-3: Summary of predictions from the tested hypotheses

	BH	RDH
Support L1 transfer	√	√
Learners will have partial access	χ	√
Learners will have Full Transfer/Full Access	√	χ
Acquiring a new interpretable feature	√	√
Acquiring a new uninterpretable feature	√	χ
Learners will not acquire the new uninterpretable feature [± plural] after the critical period but will be able to acquire [± definite] as an interpretable feature	χ	√
Learners will acquire the uninterpretable feature [± plural] and the interpretable feature [± definite] but will have difficulty with functional morphology and the difference between L1 and L2	√	χ

This chapter has also explored previous studies into these theories in terms of definiteness, along with related predictions concerning the acquisition of the English article system by L1 Saudi-Arabic learners. Therefore, combining the predictions from the tested hypotheses in this chapter and the learnability issues elaborated in Chapter 2, the first experiment could be developed, originally intended as a pilot study. Chapter 4 details this experiment, which tested the predictions of BH (Slabakova, 2008) and FH (Ionin et al., 2004) with definiteness and specificity to determine if these learnability issues would be found with Saudi-Arabic learners. The instrument is an acceptability judgement task that can demonstrate differences between learners' levels of accuracy with the use of definite and indefinite articles, along with a proficiency test and two vocabulary tests.

The outcomes of the first experiment helped shape the design of the second experiment, found in Chapter 5. This focuses on the acquisition of generic references with singular and plural contexts to investigate uninterpretable features with article use in English with Saudi-Arabic learners according to the predictions of BH (Slabakova, 2008) and RDH (Hawkins and Chan, 1997). The experiment also explores the effect of proficiency level and vocabulary knowledge on uninterpretable features with generic references.

Chapter 4 First Experiment

The effect of definiteness and specificity and the role of proficiency and vocabulary knowledge

4.1 Introduction

The first experiment of this thesis focuses on the accuracy of Saudi-Arabic learners of English regarding definiteness and specificity. It was conducted with 32 Saudi-Arabic-speaking English learners living in the UK and intends to measure how accurately definiteness and specificity in English are judged along with the impact of proficiency level and receptive and productive vocabulary knowledge. The experiment examines if vocabulary level, proficiency level and L1 affect learners' accuracy, and was designed as a pilot study from which to design the second experiment based on the outcomes.

Chomsky's (1997) theory of Universal Grammar (UG) proposes that languages share a common universal principle, and that what distinguishes them are their parameters. These differences in language parameters have attracted much research attention examining the extent to which UG is available for second-language learners. This experiment investigated L1 transfer through the Bottleneck Hypothesis (BH) (Slabakova, 2008), which predicts that L1 Arabic learners are able to acquire the definite and indefinite article with definiteness and specificity but that the indefinite article may pose problems due to L1 and L2 differences, therefore requiring its acquisition as a new feature. The experiment also tests the predictions of Fluctuation Hypothesis (FH) by Ionin et al. (2004), which postulates that when determining the use of articles, learners fluctuate between two language settings (definiteness and specificity) until the Article Choice Parameters (ACP) in English are set: using definiteness to distinguish the use of articles. Thus, the prediction of FH is that the learners will fluctuate between the definite and the indefinite article in two contexts: [+specific, -definite,] and [-specific, +definite] until they set the ACP in English.

The instruments employed in the experiment consist of four tasks. The first is a grammatical judgement task focused on definiteness and specificity in English, designed using OpenSesame in grammatical and ungrammatical contexts. The next two tasks both deal with vocabulary – Yes/No (Meara and Miralpeix, 2015) for

receptive vocabulary knowledge and Lex30 (Meara and Fitzpatrick, 2000) for productive vocabulary knowledge – to test for any relationship between definiteness and specificity with receptive and productive vocabulary knowledge. Finally, proficiency level is measured using the Standardized Oxford Proficiency Test, also designed using OpenSesame.

This chapter includes first the research questions and predictions for the Saudi-Arabic speakers' accuracy in English definiteness and specificity, followed by details about the participants and the methodology, including the research instruments, experimental procedure and data analysis. The chapter then describes and discusses the results of the first experiment of this thesis.

4.2 Research questions

1. Can Saudi Arabic learners of English distinguish between grammatical and ungrammatical uses of definiteness and specificity in L2 English?
2. What roles do receptive and productive vocabulary size and general proficiency level play in how Saudi-Arabic learners of English judge definiteness and specificity in English?

4.3 Predictions according to L2 hypotheses

The predictions have been formulated according to the hypotheses discussed in Chapter 3. This section describes the predictions made about the level of accuracy of Saudi-Arabic learners in judging the article system in English through BH and FH.

Table 4-1 (below) shows the differences between English and Arabic in the relevant area, focusing on [-plural] contexts only as this is what is addressed in the first experiment.

Table 4-1: Difference between English and Arabic with definiteness and specificity

Definiteness and specificity	English	Arabic
[+specific, +definite], [-plural]	the	al-
[-specific, +definite], [-plural]	the	al-
[+specific, -definite,], [-plural]	a/an	Ø Bare singular
[-specific, -definite], [-plural]	a/an	Ø Bare singular

All predictions according to the hypotheses (below) are collated from Chapter 3.

4.3.1 Predictions from Bottleneck Hypothesis (BH)

BH proposes the concept of feature reassembly, which states that learners can map and reassemble features between L1 and L2. However, a mismatch in features between the languages leads to difficulty when learners try to acquire these features. For definiteness and specificity, L1 Saudi-Arabic learners would be predicted to be able to use the definite morpheme “the” in L2 by mapping it from L1 to L2 as they have such a definite morpheme in their L1 “al-”. The indefinite morpheme, conversely, would entail acquiring a new article as the morpheme is absent in their L1. Indefiniteness in English comprises multiple features: [-definite] as the interpretable feature and the uninterpretable feature [μ number] related to nouns, which is [-plural]. English and Arabic both use definiteness to determine specific contexts. The predictions from BH are:

- For [+specific, +definite] and [-specific, +definite] the learners will be able to use the definite morpheme in L2 as they have a similar morpheme in their L1. The learners will map “al-” to the definite morpheme “the” in L2, reassembling it as the morpheme is a prefix in L1 but a free clitic in L2.
- The prediction for [+specific, -definite] and [-specific, -definite] is that the learners will be able to acquire a new morpheme: “a/an”, the indefinite article, which is an interpretable feature [-definite], and map it with the uninterpretable feature [-plural] to use in the semantic feature of [+specific, -

definite] and [-specific, -definite]. However, the learners might overuse the definite article with these contexts due to L1 – L2 differences.

- The learners will find acquisition of the indefinite article more difficult than the definite article due to the need to acquire the indefinite article as a new morpheme and map the interpretable feature [-definite] with the uninterpretable feature [-plural]. The prediction is that the learners' will be more accurate with the definite article as they would only map the feature from L1 to L2, unlike the indefinite article which must be acquired as new feature, and this is more difficult.

4.3.2 Predictions from Fluctuation Hypothesis (FH)

FH proposes that learners fluctuate between two language settings used to determine definiteness and specificity via ACP until they set the parameter to the appropriate value. For definiteness and specificity, English and Arabic use definiteness to determine specific contexts. English uses the definite article “the” and Arabic uses “al-” in [+specific, +definite] and [-specific, +definite] contexts with [\pm plural], whereas English has the indefinite article “a/an” for [+specific, -definite] and [-specific, -definite] contexts with [-plural] and the bare plural with [+plural]. Arabic uses null determiners (\emptyset) in [+specific, -definite] and [-specific, -definite] contexts with [\pm plural]. Arabic has no article related to [-definite] and [-plural] as English does. Thus, the predictions according to FH are:

- The learners will be accurate using [+specific, +definite] and the indefinite article with [-specific, -definite] as [+specific, +definite] and [-specific, -definite] contexts will not present problems for the learners.
- The learners will fluctuate between the indefinite article and the definite article as proposed by Ionin et al. (2004) with the contexts of [+specific, -definite] and [-specific, +definite], as the learners find these problematic.
- The learners might overuse the definite article in [+specific, -definite] context as a result of associating it with [+specific]. The learners might also associate the indefinite article with [-specific] and overuse the indefinite article with [-specific, +definite]; thus, they might be affected by the two ACP settings and use the definite article with [+specific] and the indefinite article with [-specific].

- The learnability issue is that the learners are required to relate the use of the definite and indefinite articles with definiteness [\pm definite] rather than specificity [\pm specific] to accurately use the ACP in English with [+specific, -definite] and [-specific, +definite] contexts.

4.4 Methodology

This section introduces detailed information about the instruments used in this experiment, which comprise four items: a grammatical judgement task, a receptive vocabulary task (Yes/No) (Meara and Miralpeix, 2015), a productive vocabulary task (Lex30) (Meara and Fitzpatrick, 2000) and the Standardized Oxford Proficiency Test. Following this, the procedure is described to provide insight into the order of tasks and the time spent on them by the participants during the experiment. The final section contains discussion of the data analysis of each task.

4.4.1 Participants

The participants were 32 Saudi-Arabic learners of English residing in the United Kingdom in order to study at university. Eight participants were enrolled on pre-sessional courses for English language before beginning a Masters' degree, 10 were studying for their Masters' degree and 14 were completing PhDs. The participants were 22 females and 10 males between 25 and 37 years old and came from a variety of English backgrounds. Their acceptance into university was dependent upon their score in the International English Language Testing System (IELTS) examination, with the results shown in Figure 4-1 (below). IELTS is an English language proficiency test that learners must complete before commencing study in the United Kingdom.

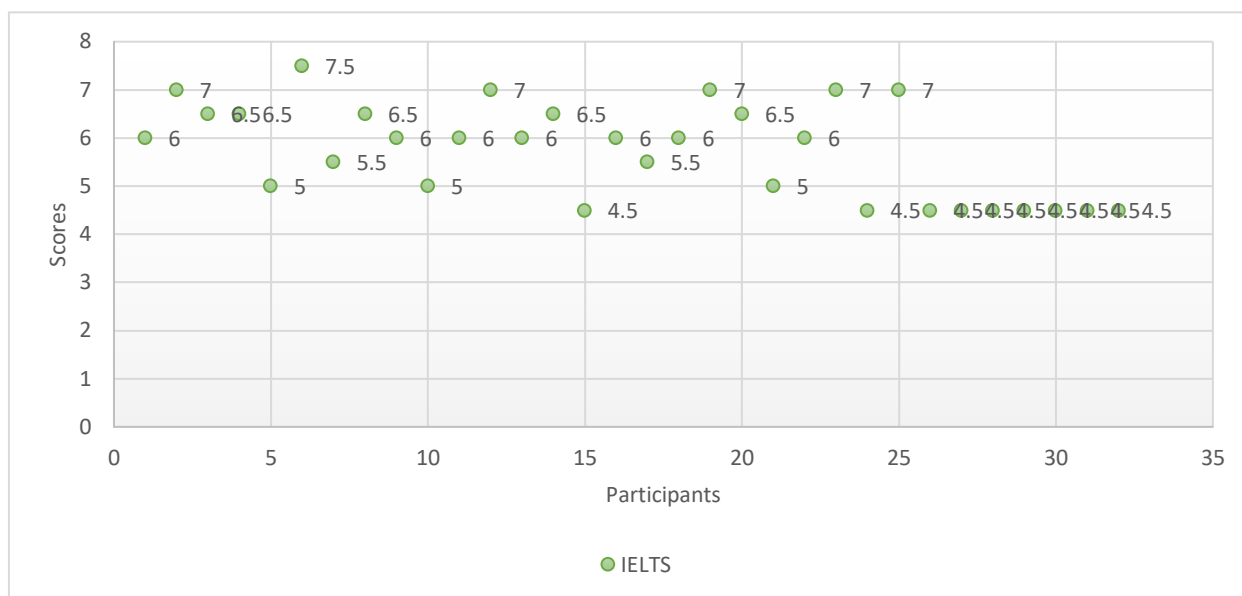


Figure 4-1: Participants' IELTS scores

Learners with scores of 6 and above are able to start their degree without pre-session courses for English language, but those with scores of 5.5 and below are required to take a pre-session course in order to start their studies. The duration of pre-session study varies according to IELTS score and field. With regard to the IELTS scores for the participants in this experiment (Figure 4-1, above), those for the 18 participants enrolled on a pre-session or Masters' course are recent, whereas those for the participants studying for a PhD are not as a result of the passage of time between completing an IELTS to commence study and the date of the experiment. In the case of the PhD participants in their final year, this could be a considerable period of time. The participants fields of study varied through biology, applied linguistics, English literature, translation, computer science, healthcare and nursing. In order to take part in the study, the participants were required to complete all informed consent requirements and complete the four tasks presented below. Four male and six female L1 English speakers (four postgraduate and six undergraduate) between 20 and 25 years old and resident in Swansea functioned as the control group.

4.4.2 Research Instruments

The research instruments used in this experiment were a grammatical judgement task, a receptive vocabulary task (Yes/No) (Meara and Miralpeix, 2015), a productive vocabulary task (Lex30) (Meara and Fitzpatrick, 2000) and the Standardized Oxford Proficiency Test.

4.4.2.1 Grammatical judgement task

The grammatical judgement task focused on definiteness and specificity. It consisted of 36 conversations: 24 focusing on definiteness and specificity for test conversations and 12 fillers as in Appendix (C). The 24 test conversations for definiteness and specificity (Table 4-2, below) were adapted from Atay (2010), presented in Appendix (A). The 12 fillers (Table 4-3, below) were adapted from Lee (2013), shown in Appendix (B). These previously used tests were selected to increase the reliability and validity of the data, and additionally, the tests had not been used before with L1 Arabic learners. For definiteness and specificity, the test conversations were adapted from Atay (2010) as that study focused on the acquisition of definiteness and specificity in L1 Turkish speakers. The Atay's test was originally a 40-item forced-choice task, as in (55). The complete forced-choice task by Atay (2010) can be found in Appendix (A).

(55) Two friends are chatting.

Mike: Angela, listen, my dad must have a heart operation and we are looking for a good surgeon.

Angela: I know ____ (Ø/a/an/the) very successful heart surgeon. I can find his phone number for you if you like, Mike.

In this study, the forced-choice tasks adapted from Atay (2010) have been converted to grammatical judgement tasks with grammatical and ungrammatical contexts to serve the purpose of the study. 12 test conversations were selected to be part of the study according to their closeness with Saudi-Arabic culture, as in (56) below.

(56) At a bookstore.

Chris: Well, I've bought everything that I wanted. Are you ready to go?

Mike: Almost. Can you please wait a few minutes? I want to talk to **the** owner of this bookstore. She is my old friend.

Table 4-2 (below) shows the 12 test conversations focusing on definiteness and specificity that were part of the experiment. The test conversations were repeated grammatically and ungrammatically, for a total of 24. Table 4-2 shows only the target sentences that the learners were required to focus on: [+definite, +specific] with three grammatical and three ungrammatical conversations, three grammatical and three ungrammatical with [+definite, -specific], three grammatical and three ungrammatical with [-definite, +specific] and three grammatical and three ungrammatical with [-definite, -specific]. The complete task is given in Appendix (C).

Table 4-2: Grammatical and ungrammatical conversations with definiteness and specificity

	Grammatical		Ungrammatical	
	+Definite	-Definite	+Definite	-Definite
+Specific	<p>(1) Mrs Shepherd: Sorry Susan, but Alice is out. She went to the school library to work on her project.</p> <p>(2) George: I am sorry, Mr Widmore. I haven't seen him since the meeting yesterday.</p> <p>(3) Mike: Almost. Can you please wait a few minutes? I want to talk to the owner of this bookstore. She is my old friend.</p>	<p>(4) William: I've just visited a friend from college, Jack. He called me yesterday and told that he moved to this area.</p> <p>(5) Customer: Yes please. I am looking for a book. It's a classic by D.H. Lawrence. It's called 'Sons and Lovers'.</p> <p>(6) Angela: I know a very successful heart surgeon. I can find his phone number for you if you like, Mike.</p>	<p>(1) Mrs Shepherd: Sorry Susan, but Alice is out. She went to school library to work on her project.</p> <p>(2) George: I am sorry, Mr Widmore. I haven't seen him since a meeting yesterday.</p> <p>(3) Mike: Almost. Can you please wait a few minutes? I want to talk to owner of this bookstore. She is my old friend.</p>	<p>(4) William: I've just visited the friend from college, Jack. He called me yesterday and told that he moved to this area.</p> <p>(5) Customer: Yes please. I am looking for the book. It's a classic by D.H. Lawrence. It's called 'Sons and Lovers'.</p> <p>(6) Angela: I know very successful heart surgeon. I can find his phone number for you if you like, Mike.</p>

	Grammatical		Ungrammatical	
	+Definite	-Definite	+Definite	-Definite
-Specific	<p>(7) Sarah: I would like to meet the painter. I have no idea who it is, since the painting is not signed.</p> <p>(8) Ralph: Yes, it's a miracle. I don't know who he is, but the pilot must be a real expert. He landed the plane without any loss of life.</p> <p>(9) It is always not the players' fault. Sometimes it's about the referees.</p>	<p>(10) Anne: No. She is eating dinner with a colleague; she didn't tell me who it is.</p> <p>(11) Customer: Yes, please. I want to buy a present for my dad as it's his birthday tomorrow, but I don't know what to buy.</p> <p>(12) Tom: Sure, Anne. Look at my bookshelf and just take a book.</p>	<p>(7) Sarah: I would like to meet painter. I have no idea who it is, since the painting is not signed.</p> <p>(8) Ralph: Yes, it's a miracle. I don't know who he is, but a pilot must be a real expert. He landed the plane without any loss of life.</p> <p>(9) It was not the players' fault. Sometimes it's about referees.</p>	<p>(10) Anne: No. She is eating dinner with colleague; she didn't tell me who it is.</p> <p>(11) Customer: Yes, please. I want to buy the present for my dad as it's his birthday tomorrow, but I don't know what to buy.</p> <p>(12) Tom: Sure, Anne. Look at my bookshelf and just take book.</p>

The grammatical judgement task utilised the program OpenSesame (Mathôt et al., 2012), software which helps researchers design studies in psychology and neuroscience. This program was selected as it is user-friendly, free to access, and allowed the experiment could be conducted online using a laptop. Although OpenSesame is capable of measuring reaction times, these were not ultimately used in this experiment as the conversations were not applied in the correct order to obtain accurate reaction times with definite and indefinite articles. It was considered appropriate therefore to abandon the reaction time results. The appearance of the task in OpenSesame is presented in Appendix (D). The sentences appeared to the participants as in (57) and (58) below, although they were added to OpenSesame without the bold/underlined formatting, which is shown here for the purposes of clarity. All of the items involve conversations between two people. The participants read the test conversations carefully to decide whether or not the second part was appropriate, selecting from three options: “correct”, “incorrect” and “I don’t know” (Appendix (D)).

(57) A phone conversation (definite article).

a. Grammatical conversation:

Susan: Hi, Mrs Shepherd. Can I talk to Alice?

Mrs Shepherd: Sorry Susan, but Alice is out. She went to **the** school library to work on her project.

b. Ungrammatical conversation:

Susan: Hi, Mrs Shepherd. Can I talk to Alice?

Mrs Shepherd: Sorry Susan, but Alice is out. She went to school library to work on her project.

(58) In a bookstore (indefinite article).

a. Grammatical conversation:

Shop assistant: May I help you, sir?

Customer: Yes please. I am looking for **a** book. It’s a classic by D.H. Lawrence. It’s called ‘Sons and Lovers’.

b. Ungrammatical conversation:

Shop assistant: May I help you, sir?

Customer: Yes please. I am looking for **the** book. It's a classic by D.H. Lawrence. It's called 'Sons and Lovers'.

Example (57) shows grammatical and ungrammatical conversations using the definite article. The grammatically correct form is (57)a; for this, participants had to press "1", which represented "correct". In (57)b, the definite article was dropped, making the sentence ungrammatical; for this, participants had to press "2", representing "incorrect". Example (58) relates to the indefinite article. In (58)b, the definite article is incorrectly written in place of the indefinite article, so participants would have had to press "2" for "incorrect". For each correct answer, the participants scored 1, and for each incorrect answer they scored 0. As the task contained 24 conversations, the results were scored out of 24 and the data classified as relating to definiteness and specificity. For definiteness and specificity, the conversations included six [+specific, +definite], six [-specific, +definite], six [+specific, -definite] and six [-specific, -definite]. These were also classified as grammatical or ungrammatical conversations. The grammatical conversations consisted of three [+specific, +definite], three [-specific, +definite], three [+specific, -definite] and three [-specific, -definite], while the ungrammatical conversations comprised three [+specific, +definite], three [-specific, +definite], three [+specific, -definite] and three [-specific, -definite]. This gives a total of 24.

The second sentence types used were fillers: distractions built into the test to reduce the chance that the participants would guess that the study was about definiteness and specificity. The data may be less accurate if a participant did correctly make this guess, as they would likely focus only on those aspects when judging the test conversations. The fillers in this test were adapted from the grammatical judgement task in Lee (2013), but certain grammatical features, such as the verb tense of auxiliaries, were changed. The original test from Lee (2013) comprises 16 conversations (Appendix (B)), of which 12 were selected as filler sentences to provide a grammatical judgement task that focused on measuring English articles but included sentences focusing on other grammatical aspects, such as verb tenses, in

order to distract the participants from the main feature of article usage. In example (59), the underlined verb is the focus of the filler.

(59) Two friends chatting.

Jacob: How is your new job, Amanda?

Amanda: It's great, Jacob. You know I love travelling and this job gives me the opportunity. I travelled all over the Middle East at the company's expense.

The 12 fillers included 6 grammatically correct and 6 grammatically incorrect sentences, shown in Table 4-3.

Table 4-3: Grammatical and ungrammatical fillers

Grammatical fillers	Ungrammatical fillers
<p>(1) Amanda: It's great, Jacob. You know I love travelling and this job gives me the opportunity. I <u>travelled</u> all over the Middle East at the company's expense.</p> <p>(2) Karen: Sorry Amanda. Jenny <u>went</u> to Washington, where she is going to have a meeting with a politician.</p> <p>(3) Betsy: Awful! It was rainy and I was at home. I <u>started</u> a new book and spent all weekend reading it.</p> <p>(4) Officer: First, you need to <u>bring</u> me a formal letter from the head of your department.</p> <p>(5) Judy: Well, I <u>am planning</u> to wear a dress, but I don't know what kind of a dress it's going to be.</p> <p>(6) Roger: Yes! It <u>was</u> great. He got lots of gifts: books and toys. And best of all, he got a puppy!</p>	<p>(7) Mother: She <u>tell</u> me that she is going to wait for a client.</p> <p>(8) Judy: First, I <u>cleaned</u> my apartment. Then I ate lunch and then I read a book.</p> <p>(9) Daughter: No, dad. She <u>eat</u> with a colleague; she didn't say who.</p> <p>(10) Ethan: I <u>waits</u> for Prof. Austen. There is a student in her office, and I am waiting for him to leave.</p> <p>(11) Amy: Well, <u>I've choose</u> a red skirt or a purple dress, but I think, I 'll buy the dress.</p> <p>(12) Sam: Well, I <u>needs</u> some advice. I am trying to find a lawyer with lots of experience. I think that's the right thing to do.</p>

Table 4-2 and Table 4-3 show the target sentences, which were the only parts that participants were asked to focus on. Examples of the complete conversations are in

(60), below. All 12 filler conversations are presented in Appendix (C), and they were scored out of 12 (6 grammatical and 6 ungrammatical).

(60) Fillers

a. (grammatical filler):

Amanda goes to Karen's house to ask about her housemate

Amanda: Hi Karen. Is your housemate at home? I need to talk to her.

Karen: Sorry Amanda. Jenny **went** to Washington, where she is going to have a meeting with a politician.

b. (ungrammatical filler):

Mother and father are talking in the kitchen just before dinner

Mother: Jane will not be with us tonight, honey.

Father: Why not?

Mother: She **tell** me that she is going to wait for a client.

Example (60)a is a grammatically correct conversation, so the participants should have pressed "1" for (correct), whereas in (60)b the tense of the verb is ungrammatical, so the learners should have pressed "2" for (incorrect). This section has illustrated the conversations used in the grammatical judgement task and how they were divided and scored.

4.4.2.2 Receptive vocabulary test (Yes/No)

The Yes/No test (Meara and Miralpeix, 2015) is a vocabulary test consisting of 200 words, used to measure receptive vocabulary knowledge, although it can also be used for vocabulary assessment (Mochida and Harrington, 2006). It was designed using a methodology established by Meara (1990) and known as the Eurocentres vocabulary size test, which covers vocabulary up to the 10,000 most frequent words in English. The test was selected for its several advantages: it is easy to use and score and can measure a large number of items in a short period of time (Beeckmans et al., 2001), taking only around 10 minutes. This helps when testing a large sample within a restricted timeframe (Nation, 1990). Another advantage is that the task is straightforward and there is no need to perform a follow-up task (Harrington and

Carey, 2009). The validity of the test comes from studies that show high correlation between the test and multiple-choice measures of L2 vocabulary knowledge, with $r \geq 0.50$ (Meara and Buxton, 1987; Mochida and Harrington, 2006; Harrington and Carey, 2009; Lemhöfer and Broersma, 2012; Culligan, 2015).

Some disadvantages of the test include the fact that there is no correlation with the productive vocabulary test (Cameron, 2002), and that there is a risk the learners might answer “Yes” even when they do not know a word (Meara, 2010). To overcome the latter disadvantage, the test includes “false alarm” words, which are fabricated “English-seeming” words that, if ticked as real, indicate that the learner is not carefully considering which words they really know. Ideally, the learners should respond “Yes” only to real words and reject the non-real ones by selecting “Next” (Meara and Buxton, 1987). As this system can be easily enacted, the Yes/No test (Meara and Miralpeix, 2015) was selected as appropriate for the first experiment, as it can provide fast, reliable insight into the participants’ receptive vocabulary knowledge.

The words in the test are divided into two categories: real English words, known as “hits”, and invented words, called “false alarms”. To score, the participants must indicate familiarity with each word by pressing “Yes” to show familiarity and “Next” to show unfamiliarity, shown in Appendix (E). The bottom of the page displays a count of the completed number of words out of the maximum 200. In this experiment, the test was conducted on a computer via the website:

http://www.lognostics.co.uk/tools/V_YesNo/V_YesNo.htm

The maximum test score is 10,000, based on the 10,000 most frequent English words; the inference is that more frequent words are learned earlier and more easily (Milton, 2007). A score of between 6,000 and 10,000 is considered very good for L2 speakers of English, a score of 3,500 to 6,000 indicates an intermediate level and a score of 2,000 to 3,500 indicates a beginner level (Meara and Miralpeix, 2015). The results appear automatically upon completion of the test. After each participant completed the test, a computer screenshot was taken to record the scores. The screenshots showed the participants’ real names, so to comply with privacy and confidentiality, these were subsequently converted to numbers.

4.4.2.3 Productive vocabulary task (Lex30)

The Lex30 productive vocabulary task (Meara and Fitzpatrick, 2000) is a word association task carried out for this experiment via the website: <http://www.lognostics.co.uk/tools/Lex30/index.htm>. The task is designed to measure productive vocabulary knowledge using a word-association format across 30 words. Participants were required to provide four associated words for each stimulus, giving a total of 120 (30 times four). It was recommended that participants provide the first four words they think of when reading each stimulus. As a free productive task in which participants were able to write any words they thought were related to the stimulus, there are constraints surrounding the specific criteria used when choosing test cues (Meara and Fitzpatrick, 2000). First, the words were selected from the 1,000 most frequent English words so as to minimise the chance of participants encountering unknown words and to ensure the test could be used with learners from a wide range of proficiency levels. Second, words which had previously elicited the same responses among test takers were excluded in order to gain more variation in responses. Third, cues that produced high-frequency words were excluded, to give learners the opportunity to produce infrequent words as often as possible; finally, the selected words usually generate a wide range of words and none of the stimuli produce just one word. A completed example of the Lex30 is available in Appendix (F), obtained from Meara and Fitzpatrick (2000). The table that the learners fill in is given in Appendix (G).

The validity of this task and its adequacy for measuring productive vocabulary knowledge have been confirmed by a range of studies (Fitzpatrick and Meara, 2004; Catalán and Espinosa, 2005; Fitzpatrick, 2007; Fitzpatrick and Clenton, 2010; Walters, 2012; González and Píriz, 2016). Fitzpatrick and Clenton (2010) investigated the reliability and validity of the Lex30 with university students, involving 103 learners of English who were asked to complete the task twice, with a one-week gap between tests, in order to minimise two influencing factors: practice effect and learning effect. The study found that the two scores correlated significantly ($r = 0.842$), and that the test yielded close scores in the two sittings (21.3 the first time and 23.9 the second time). These comparable results between the two tasks sittings indicate that the task demonstrates a high degree of reliability (Fitzpatrick and Clenton, 2010). Lex30 has been significantly correlated with other

productive vocabulary tasks (Fitzpatrick and Clenton, 2010). Three tasks – Lex 30, the Productive Levels Test (Laufer and Nation, 1999) and the L1 to L2 translation test – were taken by 55 Chinese learners of English, and the results were compared. The findings revealed a significant correlation between the three tasks, providing confidence that the tasks assessed similar items (Fitzpatrick and Clenton, 2010), although the Lex30 correlated weakly with the other two tests as it targets a different aspect of productive knowledge. If Lex30 had shown no correlation, the task would have been considered invalid; however, there was a significant correlation between the three tasks (Fitzpatrick and Clenton, 2010).

An important study which supports the validity of Lex30 was carried out by Catalán and Espinosa (2005). The purpose was to test primary school students to explore whether the task was suitable to measure the productive knowledge of young participants, as most studies employing Lex30 had focused on adult learners. The participants comprised 282 L1 Spanish students studying English as a foreign language. The study consisted of two vocabulary tasks (a vocabulary level test for receptive knowledge and Lex30 for productive knowledge). Despite the fact that Lex30 needed much development at the time the study was carried out, the results showed a significant correlation between the receptive test and the productive task, indicating that Lex30 worked appropriately with young learners (Catalán and Espinosa, 2005). Lex30 and the vocabulary level test were highly significantly correlated, with 1,000 words at $r = 0.396$ and $p = < 0.01$ and 2,000 words at $r = 0.293$ and $p = < 0.01$ (Catalán and Espinosa, 2005).

Walters (2012) also examined the validity and reliability of Lex30 among 87 L1 Turkish participants learning English as a second language, with the aim of answering three questions: 1) Would the task results differ from one participant to another? 2) How would the results of the study compare with those of other tasks measuring productive knowledge 3) How would the participants use the words in the task to produce other vocabulary items? (Walters, 2012). The study employed four tests, divided into two sessions. The first session consisted of the Lex30, a productive vocabulary level test and a translation task, and the second involved a sentence-elicitation task. The findings indicated that Lex30 is capable of showing differentiation between proficiency groups (Walters, 2012), and demonstrate concurrent validity between the three vocabulary tests, providing further support for

the validity of Lex30 as a measure of productive knowledge (Walters, 2012). In relation to the question of how participants use the words in the task, the results showed a sufficiently wide breadth of productive vocabulary, and variation was observed according to proficiency level. At the low-proficiency level, the task served as a recall productive vocabulary test, while at the high-proficiency level, it served to test productive vocabulary use. These two uses were valid, but related to different aspects of validation (Walters, 2012).

More recently, González and Píriz (2016) investigated the suitability of Lex30 to measure 48 secondary school students' productive vocabulary knowledge within specific education contexts (Content and Language Integrated Learning [CLIL]). The findings revealed the suitability of Lex30 to measure the productive vocabulary knowledge of these students, but such results from groups within specific education contexts (such as CLIL) must be interpreted with caution.

Overall, the Lex30 task is easy to administer and requires only a short amount of time (Fitzpatrick and Meara, 2004). It can be done either by computer (via the website) or by pen and paper. These advantages are the reasons that Lex30 was selected as an appropriate task to measure the productive vocabulary knowledge of Saudi-Arabic learners of English in this experiment.

4.4.2.4 Standardized Oxford Proficiency Test

The proficiency level test was adapted from the Standardized Oxford Proficiency Test, a multiple-choice English placement test that measures participants' general language ability. The test is user-friendly, easy to administer and flexible. The Standardized Oxford Proficiency Test consists of 100 fill-the-gap sentences, as shown in Appendix (H), downloaded from https://www.eslflow.com/wp-content/uploads/2017/10/ENGLISH_PLACEMENT_TEST06.pdf.

Following Slabakova and García Mayo (2015) and Jensen (2016), a subset of 40 of the 100 fill-the-gap sentences was used (see Appendix (I)). Each sentence had a gap that learners were required to fill, choosing the correct answer from three options, as can be seen in Appendix (J), which is a screenshot from OpenSesame. Each question had only one correct answer and one point could be scored for each. The first 20 questions were multiple choice, as shown in example (61), and the other 20 formed a

continuous story with gaps to be filled, as illustrated in example (62). The test can be made available on a website, completed using pen and paper or through OpenSesame, with the latter used in this experiment due to the fact that the experiment took place online and so it proved convenient. The test was selected, first, because it contains two parts – sentences, where learners have to choose one correct answer, and a story, where every part depends on the previous one – and second, because it was available to use with the answers, making it easy to use and administer.

(61) Fill-the-gap task with individual sentences.

a. Water _____ at a temperature of 100° C.

- is to boil
- is boiling
- boils

b. In some countries _____ very hot all the time.

- there is
- is
- it is

(62) Fill the gap task with story sequence.

a. The history of _____ is

- airplane
- the airplane
- an airplane

b. _____ short one. For many centuries men

- quite a
- a quite
- quite

4.4.3 Procedure

The experiment was conducted individually. Each participant was first asked to provide their personal details and background, shown in Appendix (K). This included their name, email address, age and educational qualifications. All participants took part in the experiment voluntarily and were given the opportunity to stop for a break at any time. The names of the participants were removed and replaced with codes, in line with General Data Protection Regulation (GDPR). Additionally, each participant completed an informed ethics consent form (see Appendix (L)), which informed them about privacy policy and about how the data would be collected and held (anonymously), in accordance with Swansea University's guidelines. The project was confirmed by Project Ethics Assessment and approved with Approval No: SU-Ethics-Student-171219/2284. The process of the study and the nature of the tasks were then explained to the participants, who were required to complete all four tasks in order to be a part of the experiment. The participants took between 60 and 90 minutes to complete all tasks in a fixed order: the grammatical judgement task, the Yes/No test, the Lex30 task and the Standardized Oxford Proficiency Test.

The first task, grammatical judgement, was the main task of the experiment, so it was selected as the first. This task took between 35 and 45 minutes. To allow participants to become familiar with the format of the test and to ensure they clearly understood how to correctly complete it, they were first shown two trial sentences. After this, a screen appeared asking if they were ready and telling them to press any key to continue. The participants then read the 36 conversations and judged them "1" (correct), "2" (incorrect) or "3" (I don't know) (Appendix (D)). The participants were asked to read the whole of each conversation but to focus on its second part when making judgements. After one sentence was judged, the next appeared immediately. The participants were given as much time as they needed to read each conversation and select their response. At the end of the test, a 'thank you' message appeared to indicate that the test was over.

The participants then moved to the Yes/No test (Meara and Miralpeix, 2015), conducted via the website:

http://www.lognostics.co.uk/tools/V_YesNo/V_YesNo.htm. The test was explained

to the participants, and they were informed that it contained both real and invented words and that if they selected “Yes” on a non-real word their final results would be affected (any participant clicking “Yes” on all of the words would score zero). The participants were required to provide their names in order to start the test. When each word appeared, the participants pressed “Yes” if they were familiar with the meaning of the word and “Next” if not, shown in Appendix (E). The words then continued to appear until all 200 were completed, at which point the results appeared automatically on the screen. Screenshots were taken to keep a record of each participants’ score. As previously mentioned, although these displayed the participants’ real names, these were later converted to codes for the purposes of confidentiality. Each participant took around 10 minutes to finish the task.

The third task was the Lex30 (Meara and Fitzpatrick, 2000), administered via the website: <http://www.lognostics.co.uk/tools/Lex30/index.htm>. The first page on the website contained an example to explain the process of the task and how to respond to each stimulus. The test commenced once the participants had entered their names. For each participant, 30 words appeared sequentially and for each word the participant was asked to write the first four words they thought of (Appendix (G)). Only 30 seconds were allowed for each word, and the score appeared as soon as the participant clicked to submit the final word. Participants took around 15 minutes to finish this task, and as before, screenshots were taken as a record and names converted.

The final task was the Standardized Oxford Proficiency Test, obtained from https://www.eslflow.com/wp-content/uploads/2017/10/ENGLISH_PLACEMENT_TEST06.pdf.

The participants were each presented with two practice sentences and 40 test sentences, each containing a blank space, and were asked to choose a word (or words) to fill the space from three options provided (Appendix (J)). Each correct answer scored one point, to a maximum of 40 points. Some of the participants found the second part (the continuous story) difficult, because they would miss the end of a sentence and move on to the next sentence without retaining the information and were unable to go back to check previous sentences. This test took 10 minutes.

The control group of L1 English speakers were first required to complete a personal questionnaire (Appendix (K)) before the grammatical judgement task and how to complete it was explained.

After all results were collected, data analysis commenced, detailed in the next section.

4.4.4 Data analysis

For data analysis of the grammatical judgement task with definiteness and specificity with test conversations, the participants' correct responses were calculated in relation to four types of conversation – [+specific, +definite], [+specific, -definite], [-specific, +definite] and [-specific, -definite] – with six conversations of each type.

Conversations within these four categories were classified as either grammatical or ungrammatical, with three conversations for each. This entailed three grammatical and three ungrammatical [+specific, +definite] conversations, three grammatical and three ungrammatical [+specific, -definite] conversations, three grammatical and three ungrammatical [-specific, +definite] conversations and three grammatical and three ungrammatical [-specific, -definite] conversations. First, the correct responses were aggregated using SPSS and classified according to the four types of definiteness and specificity. Then, the mean and standard deviation are presented in figures, before the results of the repeated measure ANOVA with the four types of definiteness and specificity are given to reveal any significant differences, and again with grammatical and ungrammatical classification to determine any effect of the conversation on the learners' accuracy.

The total score available for the Yes/No test was 10,000; calculated automatically by the website and presented upon completion of the test.

The total available score for the Lex30 was 120, with the words scored using a web service called Compleat Lexical Tutor (<https://www.lextutor.ca/>), using a tool called VocabProfilers via VP-Compleat. This classified the words from the first one thousand (1k) to 25,000 (25k) most frequent words, with the 1K words excluded from the word count so only those in the two thousand (2k) and above counted as correct responses.

The total available score for the Standardized Oxford Proficiency Test was 40: participants scored one for each correct response. Correct responses were counted, and each participant given a final score. Correlation analysis was then conducted to discover any correlation between the three tasks. Multivariate linear regression with definiteness and specificity was carried out to show if vocabulary and proficiency level had any effect on definiteness and specificity and with grammatical and ungrammatical contexts. The following section details the results of the first experiment of this thesis.

4.5 Results

This section reports the results of the tasks that the participants completed for the first experiment, described in the previous section (Section 4.4). A full discussion of the results in light of the predictions made according to the hypotheses (Section 4.3) can be found in the next section (Section 4.6). All results are shown in accordance with the research questions in Section 4.2.

The first research question was 1) Can Saudi-Arabic learners of English distinguish between grammatical and ungrammatical uses of definiteness and specificity in L2 English? This involves the descriptive results of the grammatical judgement task for definiteness and specificity with the four types [+specific, +definite], [+specific, -definite], [-specific, +definite] and [-specific, -definite] completed by the 32 Saudi-Arabic learners of English and ten L1 English speakers as a control group. Following this, a repeated measure ANOVA was completed with definiteness and specificity and with grammatical and ungrammatical conversations to determine if the results show any significant differences between definiteness and specificity with the four types.

The second research question for this experiment was 2) What roles do receptive and productive vocabulary size and general proficiency level play in how Saudi-Arabic learners of English judge definiteness and specificity in English? For this, the descriptive results for receptive vocabulary knowledge, productive vocabulary knowledge, standardized Oxford proficiency level and IELTS scores will be presented. Then the results of Spearman's correlation will be shown, as the learners were (n=32) between receptive vocabulary knowledge, productive vocabulary knowledge, standardized Oxford proficiency level and IELTS. As for the previous

question, multivariate linear regression was carried out to analyse the relationship between definiteness and specificity with the four types and receptive vocabulary knowledge, productive vocabulary knowledge, and standardized Oxford proficiency level. Multivariate linear regression was also used to analyse the relationship between grammatical and ungrammatical definiteness and specificity and receptive vocabulary knowledge, productive vocabulary knowledge, and standardized Oxford proficiency level.

1- Can Saudi-Arabic learners of English distinguish between grammatical and ungrammatical uses of definiteness and specificity in L2 English?

(63) At a bookstore (grammatical judgement task)

Chris: Well, I've bought everything that I wanted. Are you ready to go?

Mike: Almost. Can you please wait a few minutes? I want to talk to the owner of this bookstore. She is my old friend.

The participants rated the 36 sentences as in (63), choosing “1” (correct), “2” (incorrect) or “3” (I don’t know). 24 conversations were about definiteness and specificity as test conversations. The mean for definiteness and specificity are given first for the Saudi-Arabic learners and the L1 English speakers (Figure 4-2).

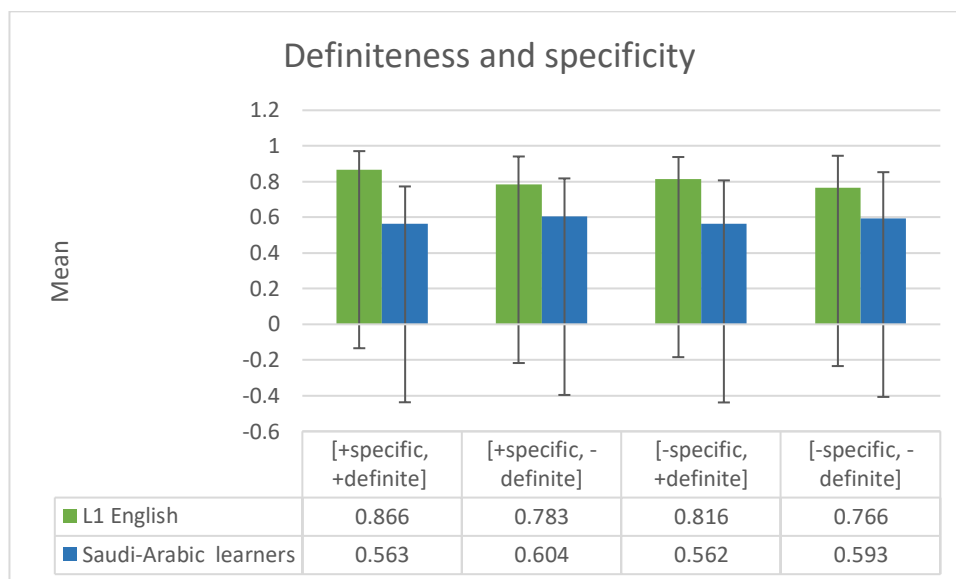


Figure 4-2: Mean for definiteness and specificity with Saudi-Arabic learners and L1 English speakers

The results from the grammatical judgement task for definiteness and specificity (Figure 4-2) is out of six for each type, which gives a total of 24. The chance level is 50% as the learners either pressed “1” for (correct) or “2” for (incorrect), explained in Section 4.4.2.1. The Saudi-Arabic learners are shown in blue and the L1 English speakers in green. The Saudi-Arabic learners’ mean scores were as follows: 0.563 for [+specific, +definite], 0.604 for [+specific, -definite], 0.562 for [-specific, +definite] and 0.593 for [-specific, -definite]. The mean scores for the L1 English speakers were 0.866 for [+specific, +definite], 0.783 for [+specific, -definite], 0.816 for [-specific, +definite] and 0.766 for [-specific, -definite]. The descriptive results and the repeated measure ANOVA with L1 English speakers and Saudi-Arabic learners are presented below.

Table 4-4: Descriptive results for definiteness and specificity with L1 English speakers

		Mean	SD
+Definite	+Specific	0.866	0.105
	-Specific	0.816	0.122
-Definite	+Specific	0.783	0.158
	-Specific	0.766	0.179

Table 4-4 displays the mean and standard deviation (SD) for the L1 English speakers with the four types of definiteness and specificity in English. The means were similar, with little difference between the four types. Table 4-5 (below) shows the normality test, with no significant difference found indicating that the repeated measure ANOVA would be suitable to analyse the L1 English speakers’ results.

Table 4-5: Test of normality (Shapiro-Wilk) definiteness and specificity for L1 English

	[+specific, +definite]	[+specific, -definite]	[-specific, +definite]	[-specific, -definite]
Shapiro-Wilk	0.953	0.825	0.917	0.874
P-value	0.700	0.059	0.332	0.113

A repeated measure ANOVA was conducted (Table 4-6) to reveal any significant difference.

Table 4-6: Repeated measure ANOVA for definiteness and specificity with L1 English speakers

	df	Mean square	F	Sig.
Definiteness	1.000	.044	2.250	.168
Specificity	1.000	.011	.783	.399
Definiteness x specificity	1.000	.003	.114	.743

No significant difference was found with definiteness, which is [+definite] and [-definite] with $p = .168$, nor with specificity [+specific], [-specific] with $p = .399$. As for the significant difference between definiteness and specificity with the four types [+specific, +definite], [+specific, -definite], [-specific, +definite] and [-specific, -definite], the results showed no significant difference, with $p = .743$. This indicates that the performance of the L1 English speakers was not affected by definiteness or specificity, and there was no difference in their performance with the four types, as expected from the control group. The descriptive results for Saudi-Arabic learners are presented in Table 4-7 (below).

Table 4-7: Descriptive results for definiteness and specificity with Saudi-Arabic learners

		Mean	SD
+Definite	+Specific	0.563	0.210
	-Specific	0.562	0.245
-Definite	+Specific	0.604	0.214
	-Specific	0.593	0.260

Table 4-7 shows the mean and SD with definiteness and specificity for the Saudi-Arabic learners. As observed with the means of the L1 English speakers in Table 4-4, the means for the four types were close, but the mean scores of the Saudi-Arabic learners were lower than those of the L1 English speakers. The normality test is presented in Table 4-8.

Table 4-8: Test of normality (Shapiro-Wilk) definiteness and specificity for Saudi-Arabic learners

	[+specific, +definite]	[+specific, -definite]	[-specific, +definite]	[-specific, -definite]
Shapiro-Wilk	0.937	0.935	0.955	0.951
P-value	0.061	0.054	0.197	0.151

Table 4-8 shows that there was no significant difference between the four types, indicating that the repeated measure ANOVA would be suitable to analyse the Saudi-Arabic learners' results. This is given in Table 4-9 (below).

Table 4-9: Repeated measure ANOVA for definiteness and specificity with Saudi-Arabic learners

	df	Mean square	F	Sig.
Definiteness	1.000	.043	2.319	.138
Specificity	1.000	.001	.035	.854
Definiteness x specificity	1.000	.001	.024	.877

Table 4-9 shows that there was no significant difference with definiteness, which is [+definite] and [-definite], with $p = .138$ and no significant difference with specificity, which was [+specific] and [-specific], with $p = .854$. In addition, no significant difference was found between the four types of definiteness and specificity, [+specific, +definite], [+specific, -definite], [-specific, +definite] and [-specific, -definite], with $p = .877$.

The results indicate that there was no effect of definiteness and specificity with the Saudi-Arabic learners, as no significant difference was found in the results of the learners with the four types of definiteness and specificity. The Saudi-Arabic learners therefore showed similar accuracy with indefinite and definite articles and did not show any effect of definiteness or specificity (discussed in detail in Section 4.6). Although no effect of definiteness and specificity was found with the Saudi-Arabic learners, their accuracy was lower than that of the L1 English speakers. This might be due to the design of the task, as the same conversations were repeated as grammatical and ungrammatical conversations, which could have had an effect on their accuracy (discussed in detail in Section 4.6).

There may also be an effect of grammatical and ungrammatical contexts with the definiteness and specificity results. Therefore, the results for the L1 English speakers and Saudi-Arabic learners are presented below, starting with Figure 4-3, which shows the learners' mean scores with definiteness and specificity with grammatical and ungrammatical contexts.

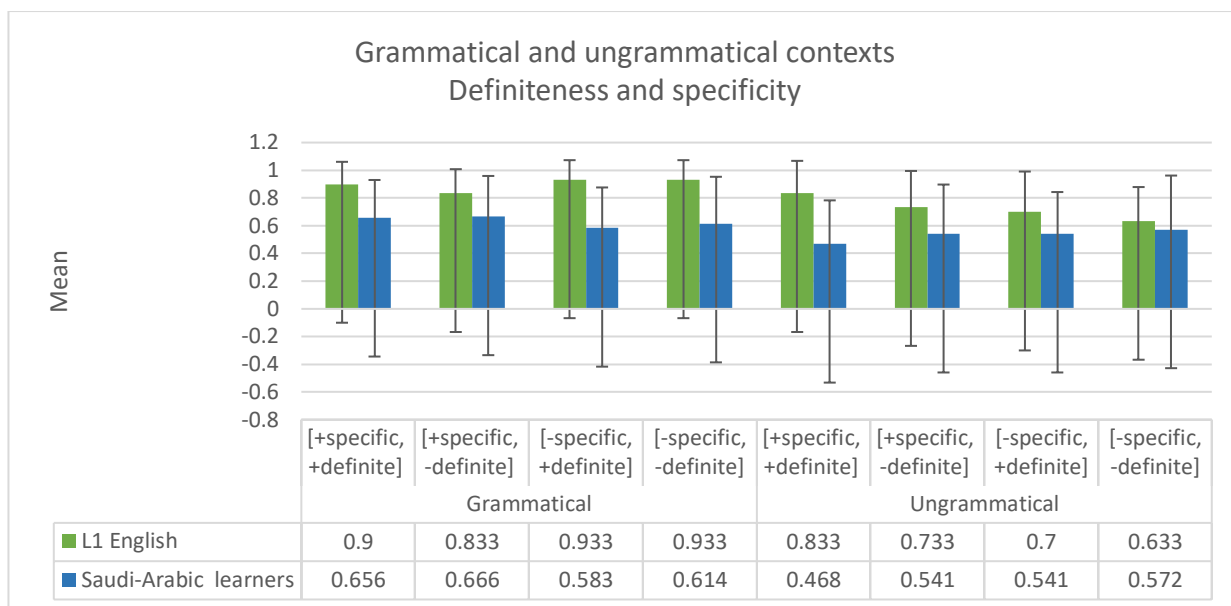


Figure 4-3: Mean for definiteness and specificity by grammatical/ungrammatical contexts

Figure 4-3 shows the L1 English speakers in green and the Saudi-Arabic learners in blue. The Saudi-Arabic learners were more accurate with the grammatical contexts than with the contexts. The grammatical contexts consisted of 3 items, for which the Saudi-Arabic learners' means were 0.656 for [+specific, +definite], 0.666 for [+specific, -definite], 0.583 for [-specific, +definite] and 0.614 for [-specific, -definite]. In the ungrammatical contexts, the Saudi-Arabic learners' means were 0.468 for [+specific, +definite], 0.468 for [+specific, -definite], 0.541 for [-specific, +definite] and 0.572 for [-specific, -definite]. The L1 English speakers' means were 0.900 for [+specific, +definite], 0.933 for [+specific, -definite], 0.833 for [-specific, +definite] and 0.700 for [-specific, -definite] in the grammatical contexts. Their means in the ungrammatical contexts were 0.833 for [+specific, +definite], 0.733 for [+specific, -definite], 0.700 for [-specific, +definite] and 0.633 for [-specific, -definite]. As displayed in Figure 4-3, the learners achieved similar means across the four types of combined definiteness and specificity; the difference here is that both the Saudi-Arabic learners and the L1 English speakers displayed greater accuracy in the grammatical contexts than the ungrammatical contexts. Also, the Saudi-Arabic learners displayed lower accuracy than the L1 English speakers with the grammatical contexts than the ungrammatical contexts.

To establish any significant difference between the grammatical and ungrammatical contexts with definiteness and specificity, the results of the repeated measure ANOVA are presented for both groups below. Table 4-10 shows the descriptive results for definiteness and specificity with grammatical and ungrammatical contexts for L1 English speakers.

Table 4-10: Descriptive results for definiteness and specificity by grammatical/ungrammatical context for L1 English speakers

			Mean	SD
Grammatical	+Definite	+Specific	0.900	0.161
		-Specific	0.933	0.140
	-Definite	+Specific	0.833	0.175
		-Specific	0.933	0.140
Ungrammatical	+Definite	+Specific	0.833	0.235
		-Specific	0.700	0.291
	-Definite	+Specific	0.733	0.262
		-Specific	0.633	0.246

Table 4-10 shows the mean and SD for definiteness and specificity with grammatical and ungrammatical contexts. In the grammatical context, the means for the four types were 0.900 for [+specific, +definite], 0.833 for [+specific, -definite], 0.933 for [-specific, +definite], and 0.933 for [-specific, -definite]. In the ungrammatical context, the means were 0.833 for [+specific, +definite], 0.733 for [+specific, -definite], 0.700 for [-specific, +definite], and 0.633 for [-specific, -definite]. These scores show that there was some difference between the grammatical and ungrammatical contexts, as the L1 English speakers showed higher means with the grammatical than the ungrammatical contexts in Figure 4-3. The results of the repeated measure ANOVA for the L1 English speakers are presented in Table 4-11.

Table 4-11: Repeated measure ANOVA for definiteness and specificity with grammatical/ ungrammatical contexts for L1 English speakers

	df	Mean square	F	Sig.
Grammatical and ungrammatical	1.000	.613	17.320	.002
Definiteness	1.000	.068	1.999	.191
Specificity	1.000	.013	.577	.467
Definiteness x specificity x grammatical and ungrammatical	1.000	.001	.017	.900

Table 4-11 showed a significant difference between the grammatical and ungrammatical contexts for the L1 English speakers, with $p = .002$. The L1 English speakers were more accurate with the grammatical conversations than the ungrammatical ones, as shown in Figure 4-3. As for definiteness and specificity with grammatical and ungrammatical contexts, there was no significant difference, with $p = .900$, indicating that there was no effect of grammatical and ungrammatical contexts on definiteness and specificity. To show if there is any significant difference between the grammatical contexts and ungrammatical contexts separately with definiteness and specificity, a repeated measure ANOVA was conducted separately for each context (Table 4-12, below).

Table 4-12: Repeated measure ANOVA for definiteness and specificity by grammatical and ungrammatical contexts for L1 English speakers.

	df	Mean square	F	Sig.
Grammatical				
Definiteness	1.000	.011	.310	.591
Specificity	1.000	.044	1.385	.269
Definiteness x specificity x grammatical	1.000	.011	.474	.509
Ungrammatical				
Definiteness	1.000	.070	1.557	.244
Specificity	1.000	.137	3.641	.089
Definiteness x specificity x ungrammatical	1.000	.003	.024	.881

Table 4-12 shows that there was no significant difference between definiteness and specificity between grammatical contexts, with $p = .509$, showing no effect of grammatical context on definiteness and specificity for L1 English speakers. No significant difference between definiteness and specificity with ungrammatical contexts was found, with $p = .881$. The results showed no effect of grammatical or ungrammatical contexts on definiteness and specificity with L1 English speakers, revealing that definiteness and specificity were not affected by grammatical and ungrammatical contexts either when both were combined into one repeated measure ANOVA (Table 4-11) or separately (Table 4-12), as they performed more accurately with grammatical than ungrammatical contexts. The descriptive results for the Saudi-Arabic learners are presented in Table 4-13 (below).

Table 4-13: Descriptive results for definiteness and specificity with grammatical and ungrammatical contexts for Saudi-Arabic learners

			Mean	SD
Grammatical	+Definite	+Specific	0.656	0.274
		-Specific	0.583	0.293
	-Definite	+Specific	0.666	0.293
		-Specific	0.614	0.339
Ungrammatical	+Definite	+Specific	0.468	0.315
		-Specific	0.541	0.302
	-Definite	+Specific	0.541	0.356
		-Specific	0.572	0.390

Table 4-13 shows the mean and SD with grammatical and ungrammatical contexts and the four types of definiteness and specificity for L1 Saudi-Arabic learners. The L2 learners were overall more accurate in grammatical than ungrammatical contexts and showed similar accuracy with definiteness and specificity across the four types. However, the Saudi-Arabic learners' mean scores were lower than the L1 English speakers' (Table 4-10). The results of the repeated measure ANOVA are given in Table 4-14 (below).

Table 4-14: Repeated measure ANOVA for definiteness and specificity by grammatical/ ungrammatical context for Saudi-Arabic learners

	df	Mean square	F	Sig.
Grammatical and ungrammatical	1.000	.391	4.194	.049
Definiteness	1.000	.085	2.319	.138
Specificity	1.000	.002	.035	.854
Definiteness x specificity x grammatical and ungrammatical	1.000	.002	.016	.899

Table 4-14 shows the repeated measure ANOVA with grammatical and ungrammatical contexts with definiteness and specificity for the Saudi-Arabic learners. The results show a significant difference between grammatical and ungrammatical contexts, with $p = .049$, with the mean higher for the grammatical than the ungrammatical contexts (Table 4-13), similar to that found with the L1 English speakers (Table 4-10). When the results were combined with definiteness and specificity, no significant difference was found between them, with $p = .899$. This shows that there was no effect on definiteness and specificity from the grammatical and ungrammatical contexts with Saudi-Arabic learners, as was found with the L1 English speakers (Table 4-11). The grammatical and ungrammatical contexts are shown separately with definiteness and specificity in Table 4-15 (below).

Overall, both the L1 English speakers (the control group) and the Saudi-Arabic learners showed significant differences between the grammatical and ungrammatical conversations, which might be a negative effect of the task as the same conversations were repeated twice (once as grammatical and the other as ungrammatical). The L1 English speakers should have not shown any effect of grammatical and ungrammatical conversations as they were the control group, yet they have been more accurate with the grammatical than the ungrammatical contexts which might be due to the negative effect of the task. However, there was no difference with definiteness and specificity with grammatical and ungrammatical conversations,

indicating that there was no effect of grammatical and ungrammatical conversations with definiteness and specificity with either L1 English speakers or Saudi-Arabic learners.

Table 4-15: Repeated measure ANOVA for definiteness and specificity by grammatical and ungrammatical contexts for Saudi-Arabic learners

	df	Mean square	F	Sig.
Grammatical				
Definiteness	1.000	.014	.270	.607
Specificity	1.000	.125	2.268	.142
Definiteness x specificity x grammatical	1.000	.003	.050	.825
Ungrammatical				
Definiteness	1.000	.087	1.493	.231
Specificity	1.000	.087	1.493	.231
Definiteness x specificity x ungrammatical	1.000	.014	.169	.683

Table 4-15 shows that there was no significant difference between definiteness and specificity with grammatical contexts, with $p = .825$. There was also no significant difference found between definiteness and specificity with ungrammatical contexts, with $p = .683$. No effect can be observed of grammatical or ungrammatical contexts on definiteness and specificity with Saudi-Arabic learners, echoing the results with L1 English speakers (Table 4-12).

To sum up, the results of the repeated measure ANOVA for definiteness and specificity revealed no significant difference between the four types of definiteness and specificity, indicating no effect of definiteness and specificity with the Saudi-Arabic learners. Although they were more accurate with grammatical than ungrammatical contexts, there was no significant difference in scores between the grammatical and ungrammatical uses of definiteness and specificity. The results of the repeated measure ANOVA with the Saudi-Arabic learners showed no significant difference with definiteness and specificity as with the L1 English speakers, although

the mean was lower, which may have been affected by the task design (discussed in Section 4.6).

The second research question for this experiment examines the role of receptive and productive vocabulary size as well as proficiency level, with the results given in the following section.

2- What roles do receptive and productive vocabulary size and general proficiency level play in how Saudi-Arabic learners of English judge definiteness and specificity in English?

The results relating to the second research question are first given for the three tasks showing: receptive vocabulary knowledge (measured by the Yes/No test [Meara and Miralpeix, 2015]), productive vocabulary knowledge (measured by the Lex30 [Meara and Fitzpatrick, 2000]) and proficiency level (according to participants' results in the Standardized Oxford Proficiency Test).

Table 4-16 (below) shows the mean scores and SD for the Saudi-Arabic learners, as well as their minimum and maximum scores for the tasks. In addition to the three tasks, the participants were asked to provide an IELTS score (a test that learners must take to study in the UK). This was also used to give insight into the participants' English levels.

Table 4-16: Descriptive analysis for the vocabulary tasks, proficiency test and IELTS (n = 32)

	Yes/No (receptive vocabulary)	Lex30 (productive vocabulary)	Standardized Oxford Proficiency Test	IELTS
Mean	4,270	35.125	23.031	5.734
SD	1,680	14.096	7.342	0.984
Minimum	1,433.000	9	10.000	4.500
Maximum	7,427.000	54	34.000	7.500

Table 4-16 shows that the mean score on the Yes/No test (Meara and Miralpeix, 2015) for receptive vocabulary knowledge was 4,270. The SD was 1,680, the minimum score (out of 10,000) was 1,433 and the maximum score was 7,427. In the Lex30 test (Meara and Fitzpatrick, 2000) for productive vocabulary knowledge, the mean score was 35.125, the SD was 14.096, the minimum score (out of 120) was 9 and the maximum was 54. In the Standardized Oxford Proficiency Test, the mean score was 23.031, the SD was 7.342, the minimum score (out of 40) was 10 and the maximum was 34. The mean of the IELTS scores was 5.734, the SD was 0.984, the minimum was 4.5 and the maximum was 7.5. The correlations between these four scores are presented in Table 4-17 (below) using Spearman's rho, which is suitable for a low number of participants as in this experiment (n=32).

Table 4-17: Correlation between scores in the vocabulary tasks, proficiency test and IELTS (n = 32)

		Yes/No (receptive vocabulary)	Lex30 (productive vocabulary)	Standardized Oxford Proficiency Test
Lex30 (productive vocabulary)	Spearman's rho	0.722***	-	-
	P-value	< 0.001	-	-
Standardized Oxford Proficiency Test	Spearman's rho	0.726***	0.728***	-
	P-value	< 0.001	< 0.001	-
IELTS	Spearman's rho	0.800***	0.663**	0.705***
	P-value	< 0.001	< 0.001	< 0.001

Table 4-17 shows that a significant correlation was found between the four measures, but with varied strength of coefficients. Receptive vocabulary showed a strong correlation with productive vocabulary, with $r = 0.722$ and $p = < 0.001$. Receptive vocabulary showed a strong correlation with the Standardized Oxford Proficiency Test, with $r = 0.726$ and $p = < 0.001$. Receptive vocabulary and IELTS demonstrated a very strong significant correlation, with $r = 0.800$ and $p = < 0.001$). A strong correlation also held between IELTS and productive vocabulary, with $r = 0.663$ and $p = < 0.001$. Productive vocabulary and the Standardized Oxford Proficiency Test showed a strong correlation, with $r = 0.728$ and $p = < 0.001$. The Standardized Oxford Proficiency Test and IELTS scores were also found to be strongly correlated, with $r = 0.705$ and $p = < 0.001$. These results show significant correlations between the four tests carried out. To determine the role of proficiency level and vocabulary knowledge, a multivariate linear regression was conducted for definiteness and specificity (Table 4-18, below).

Table 4-18: Factor estimates of multivariate linear regression with definiteness and specificity

Dependent variable	Adjusted R Squared	Factor	B	Std. Error	t	Sig
[+specific, +definite]	.247	Intercept	1.645	.571	2.881	.008
		Receptive vocabulary	6.626E-5	.000	.379	.708
		Productive vocabulary	-.023	.020	-1.153	.259
		Proficiency level	.101	.037	2.751	.010
[-specific, +definite]	.178	Intercept	.873	.695	1.256	.220
		Receptive vocabulary	.000	.000	.496	.623
		Productive vocabulary	.011	.024	.468	.644
		Proficiency level	.069	.045	1.546	.133
[+specific, -definite]	.257	Intercept	1.846	.612	3.015	.005
		Receptive vocabulary	.000	.000	1.609	.119
		Productive vocabulary	-.003	.021	-.163	.872
		Proficiency level	.018	.039	.471	.641
[-specific, -definite]	.335	Intercept	1.244	.739	1.682	.104
		Receptive vocabulary	.001	.000	2.729	.011
		Productive vocabulary	-.063	.026	-2.409	.023
		Proficiency level	.076	.047	1.604	.120

In Table 4-18, the grey rows denote significance. Table 4-18 showed that [+specific, +definite] had a significant relationship with proficiency level (Standardized Oxford Proficiency Test), with $p = 0.010$, which indicated that learners' proficiency level

affected their accuracy with [+specific, +definite]. In addition, [-specific, -definite] showed a significant relationship with receptive vocabulary (Yes/No test [Meara and Miralpeix, 2015]), with $p = 0.011$ and productive vocabulary knowledge (Lex30 [Meara and Fitzpatrick, 2000]) with $p = 0.023$. Therefore, receptive and productive vocabulary knowledge affected the Saudi-Arabic learners' accuracy with [-specific, -definite]. No significant relationship was found between proficiency level and [-specific, -definite]. The results of multivariate linear regression with definiteness and specificity with the grammatical contexts are shown in Table 4-19 (below) and with the ungrammatical contexts in Table 4-20 (below).

Table 4-19: Factor estimates of multivariate linear regression with grammatical contexts with combined definiteness and specificity

Dependent variable	Adjusted R Squared	Factor	B	Std. Error	t	Sig
Grammatical [+specific, +definite]	.127	Intercept	.807	.411	1.966	.059
		Receptive vocabulary	-1.013E-5	.000	-.081	.936
		Productive vocabulary	-.007	.014	-.484	.632
		Proficiency level	.056	.026	2.132	.042
Grammatical [-specific, +definite]	.054	Intercept	1.243	.504	2.466	.020
		Receptive vocabulary	6.390E-5	.000	.414	.682
		Productive vocabulary	.017	.018	.945	.353
		Proficiency level	-.015	.032	-.473	.640
Grammatical [+specific, -definite]	-.009	Intercept	2.009	.435	4.620	.000
		Receptive vocabulary	.000	.000	1.998	.050
		Productive vocabulary	-.009	.015	-.600	.553
		Proficiency level	-.045	.028	-1.622	.116
Grammatical [-specific, -definite]	.073	Intercept	1.614	.572	2.821	.009
		Receptive vocabulary	.000	.000	1.159	.256
		Productive vocabulary	-.046	.020	-2.268	.031
		Proficiency level	.040	.037	1.102	.280

As before, the grey rows in the tables represent significant relationships. Table 4-19 (above) shows the results of the specificity grammatical contexts and the three factors. There was a significant relationship between grammatical [+specific, +definite] and proficiency level, with $p = 0.042$, and no significant relationship with receptive and productive vocabulary knowledge. For grammatical [+specific, -definite], there was a significant relationship with receptive vocabulary (Yes/No test [Meara and Miralpeix, 2015]), with $p = 0.050$ and no significant relationship with the other two factors. Grammatical [-specific, +definite] showed no significant relationship with any of the three factors, whereas grammatical [-specific, -definite] showed a significant relationship with productive vocabulary knowledge (Lex30 [Meara and Fitzpatrick, 2000]), with $p = 0.031$, and no significant relationship with receptive vocabulary and proficiency level. The results of multivariate linear regression with definiteness and specificity with the ungrammatical contexts are shown in Table 4-20 (below).

Table 4-20: Factor estimates of multivariate linear regression with ungrammatical contexts with combined definiteness and specificity

Dependent variable	Adjusted R Squared	Factor	B	Std. Error	t	Sig
Ungrammatical [+specific, +definite]	.047	Intercept	.838	.461	1.817	.080
		Receptive vocabulary	7.639E-5	.000	.541	.593
		Productive vocabulary	-.016	.016	-.998	.327
		Proficiency level	.045	.030	1.509	.143
Ungrammatical [-specific, +definite]	.234	Intercept	-.370	.477	-.774	.445
		Receptive vocabulary	4.174E-5	.000	.286	.777
		Productive vocabulary	-.005	.017	-.316	.754
		Proficiency level	.084	.031	2.751	.010
Ungrammatical [+specific, -definite]	.333	Intercept	-.163	.540	-.302	.765
		Receptive vocabulary	3.559E-5	.000	.215	.831
		Productive vocabulary	.006	.019	.299	.767
		Proficiency level	.064	.035	1.842	.046
Ungrammatical [-specific, -definite]	.384	Intercept	-.371	.514	-.721	.477
		Receptive vocabulary	.000	.000	2.634	.014
		Productive vocabulary	-.017	.018	-.939	.356
		Proficiency level	.036	.033	1.081	.289

The grey rows in the tables illustrate significant relationships. Table 4-20 (above) shows the specificity ungrammatical contexts and the three factors. Ungrammatical

[+specific, +definite] showed no significant relationship with the three factors. Ungrammatical [+specific, -definite] showed a significant relationship with proficiency level, with $p = 0.046$, but no significant relationship with the other factors. A significant relationship could be observed between ungrammatical [-specific, +definite] and proficiency level with $p = 0.010$, but not with receptive and productive vocabulary. Ungrammatical [-specific, -definite] showed a significant relationship with receptive vocabulary knowledge (Yes/No test [Meara and Miralpeix 2015]) with $p = 0.014$. A summary for all significant relationships found with definiteness and specificity can be seen in Table 4-21.

Table 4-21: The significant relationships with the three factors with definiteness and specificity

Factor	Dependent variable	P
Proficiency level	[+specific, +definite]	.010
	Grammatical [+specific, +definite]	.042
	Ungrammatical [+specific, -definite]	.046
	Ungrammatical [-specific, +definite]	.010
Receptive vocabulary	[-specific, -definite]	.011
	Grammatical [+specific, -definite]	.050
	Ungrammatical [-specific, -definite]	.014
Productive vocabulary	[-specific, -definite]	.023
	Grammatical [-specific, -definite]	.031

In relation to the second research question, a significant relationship was found with some types of definiteness and specificity as with [+specific, +definite], grammatical [+specific, +definite], ungrammatical [+specific, -definite] and ungrammatical [-specific, +definite]. These results show the learners' proficiency level affected their ability to judge definite and indefinite articles with definiteness and specificity. The

indefinite article, which is the new article Saudi-Arabic learners need to acquire, was shown to have a significant relationship not only with proficiency level but with receptive and productive vocabulary knowledge.

Receptive vocabulary knowledge showed a significant relationship with [-specific, -definite], grammatical [+specific, -definite] and ungrammatical [-specific, -definite], indicating that the learners' ability to judge use of the indefinite article was affected by their receptive vocabulary. A significant relationship was also found between productive vocabulary and [-specific, -definite] and grammatical [-specific, -definite], revealing that learners' judgement with use of the indefinite article was affected by their productive vocabulary knowledge. A detailed discussion of the results for both research questions is given in the following section.

4.6 Discussion

The first experiment of this thesis investigated Saudi-Arabic learners' accuracy in judging definiteness and specificity. It was also designed to determine the effects of vocabulary knowledge and proficiency level on accuracy relating to definiteness and specificity. This section discusses the outcomes of each research question and how they link to previous studies.

The first question in this experiment sought to determine:

1- Can Saudi-Arabic learners of English distinguish between grammatical and ungrammatical uses of definiteness and specificity in L2 English?

This research question aimed to investigate the acquisition of definiteness and specificity by Saudi-Arabic learners. The differences between English and Arabic are presented in Table 4-1 in Section 4.3, but the most relevant point is that while both English and Arabic possess a definite article, English also contains an indefinite article where Arabic would employ the null determiner to indicate indefiniteness with singular and plural contexts, which is problematic for Saudi-Arabic learners.

The predictions relating to this question were made according to the theories tested: the Bottleneck Hypothesis (BH) (Slabakova, 2008) and the Fluctuation Hypothesis (FH) (Ionin et al., 2004). BH posits that learners can acquire new features such as the indefinite article but may face difficulties due to definiteness and specificity

differences between L1 and L2. These predictions are explained in Section 4.3. FH (Ionin et al., 2004), on the other hand, postulates that learners fluctuate between two language settings according to Article Choice Parameters (ACP): the definiteness setting, which uses definiteness to distinguish between articles, or the specificity setting, which uses specificity to distinguish between articles. Learners fluctuate between these until they can set the ACP in English, which involves employing definiteness to distinguish the use of articles. The predictions from this hypothesis are also given in Section 4.3.

In the present experiment, the learners showed similar accuracy with definiteness and specificity. In ungrammatical sentences, the learners recognised the errors and rejected the appropriate sentences, which demonstrated their ability to identify a missing article, whether definite or indefinite. The learners were able to judge the four types of definiteness and specificity with the mean of 0.563 for [+specific, +definite], 0.604 for [+specific, -definite], 0.562 for [-specific, +definite], and 0.593 for [-specific, -definite], with the chance level lying at 50%. The Standard Deviations (SDs) for definiteness and specificity were 0.210 for [+specific, +definite], 0.214 for [+specific, -definite], 0.245 for [-specific, +definite], and 0.260 for [-specific, -definite]. These results differ from those of the L1 English speaker control group as the Saudi-Arabic learners showed lower mean scores than L1 English speakers. Moreover, the repeated measure ANOVA results revealed no significant difference between definiteness and specificity, suggesting that the Saudi-Arabic learners were able to use both articles in English despite the fact that the indefinite article is not obligatory in their L1. Nevertheless, the Saudi-Arabic learners scored only slightly above the chance level with definite and indefinite article.

The predictions of BH (Slabakova, 2008) stated that the learners would be able to map the definite article from their L1 to L2 and also be able to acquire the indefinite article in L2 as a new feature [-definite]. It was also predicted that the learners would have to acquire [-definite] and [-plural] to accurately use the semantic features of [-definite, +specific] and [-definite, -specific]. The difficulty the learners face with definiteness and specificity in L2 English is a result of the mismatch between the feature in L1 and L2. English and Arabic share the definite article, but it was predicted that it was differences surrounding the indefinite article that would cause difficulty for Saudi-Arabic learners. The results of the first experiment showed that

the learners demonstrated similar accuracy with the definite and the indefinite article with definiteness and specificity but lower accuracy than L1 English speakers.

The Saudi-Arabic learners were able to use the feature; however, their accuracy differed from that of the L1 English speakers. These results are consistent with BH (Slabakova, 2008), which predicted that the Saudi-Arabic learners would find acquiring the new feature problematic. With regard to the mismatch between L1 and L2, the Saudi-Arabic learners showed that they were able to use both definite and indefinite articles (as presented above) with definiteness and specificity and with no difference in performance between the two articles. However, the learners displayed lower accuracy than the L1 English speakers (Section 4.5), which may be due to mapping difficulties between L1 and L2, proficiency level, and the design of the grammatical judgement task.

One of the elements encoded with BH is the Feature Reassembly Hypothesis (FRH), (Lardiere, 2009), which suggests that learners are capable of restructuring L1 features for use in L2. The feature does not necessarily need to be transformed directly, as the learners are capable of reassembling an L1 feature for use in L2. If a feature is missing in the learners' L1, they can acquire it as a new feature. The Saudi-Arabic learners showed similar accuracy with definite and indefinite articles, but still performed less accurately than the L1 English speakers and only slightly above the chance level. These results corroborate the findings of Cho (2017), who investigated the acquisition of the definite with different contexts in L2 English and showed that the learners could map and reassemble features despite differences between L1 and L2, although they were unable to show target-like accuracy. Similarly in the findings of this experiment, the Saudi-Arabic learners were able to judge both the grammatical and ungrammatical contexts of definiteness and specificity but did not achieve the same level of accuracy as the L1 English speakers. The Saudi-Arabic learners were able to map and reassemble the indefinite article feature despite lacking this in L1, but nevertheless still faced problems with definiteness and specificity, as their results were lower than those of the L1 English speakers and their accuracy was not target-like. The reason for this, according to FRH (Lardiere, 2009), might be because of difficulties mapping the feature from L1 to L2, as the learners showed no effect with definiteness and specificity.

The fact that the Saudi-Arabic learners' results were only slightly above the chance level may be a negative effect of the task design. As outlined in Section 4.4.2.1, the task involved repetition of the same conversations, once as grammatical and once as ungrammatical. This design may have negatively affected the learners' accuracy, as they showed lower accuracy with the definite article in spite of the fact that their L1 possesses a definite article, requiring them to map this definite article feature only. Repeating the same conversations is likely to have impacted the learners' ability to judge definite and indefinite articles. Another negative effect of the task can be seen from the results of the L1 English speakers, who proved more accurate with the grammatical than the ungrammatical contexts. The L1 speakers' results should form the baseline, showing no effect of definiteness and specificity and presenting similar accuracy with grammatical and ungrammatical conversations. However, the L1 English speakers were also more accurate with the grammatical than the ungrammatical conversations, suggesting that this was a negative effect of the task design. Such an explanation has been previously offered by Gutiérrez (2013) and Shiu et al. (2018), who argued that learners would tend to be more accurate with grammatical than ungrammatical contexts in grammatical judgement tasks. In this experiment, the Saudi-Arabic learners may have experienced mapping difficulties which affected their judgement, making them unsure about the grammaticality of a sentence and leading them to accept the sentences more often than rejecting them.

FH (Ionin et al., 2004) states that learners fluctuate between the settings of definiteness and specificity to distinguish between articles. The predictions of this hypothesis for the Saudi-Arabic learners were that the learners would fluctuate between the definite and indefinite article with [+specific, -definite] and [-specific, +definite] as they lack an indefinite article in L1. This would lead them to associate the definite article with [+specific] and the indefinite article with [-specific]. These predictions were not proven by the results, as the Saudi-Arabic learners showed similar accuracy with all definiteness and specificity types, and no significant difference was found with the repeated measure ANOVA. Therefore, the Saudi-Arabic learners did not fluctuate between definiteness and specificity, which may be because their L1 already employs definiteness to distinguish between articles. These results reflect the outcomes of Al-Zahrani (2011), who showed that Saudi-Arabic learners did not fluctuate, attributing their misuse of articles with definiteness and

specificity to their proficiency level and L1 transfer rather than a failure to set the ACP in English. By contrast, the results contradict those of Jaensch and Sarko (2009) and Abudaljuh (2016), who found that learners fluctuated between the definite and the indefinite article with [+specific, -definite]. Moreover, Alzamil (2015) showed that L1 Arabic learners of L2 English in lower-intermediate and upper-intermediate proficiency levels fluctuated between the bare plural and the indefinite article with [+specific, -definite] mass nouns.

Although previous studies have demonstrated that low-level learners fluctuated between definite and indefinite with [+specific, -definite] contexts, this was not echoed in the results of the current experiment, as the Saudi-Arabic learners showed similar accuracy with definiteness and specificity with the definite and the indefinite article. This suggests ACP transference from the L1 setting to the L2, despite the lack of an indefinite article in the L1, indicating that the learners associated the use of the article with definiteness and not with specificity. That there was no effect of definiteness and specificity with Saudi-Arabic learners leads to a rejection of the predictions of FH (Ionin et al., 2004). The results of studies by Jaensch and Sarko (2009), Al-Zahrani (2011), Sabir (2015) and Abudaljuh (2016) are consistent with the findings of this experiment in that the learners were able to use indefinite article despite the fact it is not employed in their L1.

However, there are differences between the results of this study and these prior studies. One of these is target-like performance, as in this experiment the learners faced difficulties (described in Section 4.5), performing only slightly above the chance level. As mentioned, this could be due to difficulties in mapping, the learners' proficiency level, and the design of the grammatical judgement task.

The Saudi-Arabic learners failed to show target-like performance with both the definite and the indefinite article. Similarly, Cho (2017) found that intermediate and advanced learners did not demonstrate target-like accuracy, which may be due to the learners not having fully developed their understanding of the feature. The Saudi-Arabic learners' results showed that they are able to accept and reject grammatical and ungrammatical contexts with definiteness and specificity, but at a lower rate of accuracy than the L1 English speakers, suggesting they experienced difficulty mapping the feature between L1 and L2.

The proficiency level of the learners was also found to have an effect on their accuracy, in line with previous studies by Sarko (2009), Al-Zahrani (2011) and Abudalbuh (2016), who discovered that low- and intermediate-level learners did not achieve target-like performance with definiteness and specificity. In this experiment, the 32 participants were from a variety of proficiency levels. The effect of this is elaborated along with research question 2 (below). Furthermore, the repetition of the same conversations once grammatically and again as ungrammatically would have affected the accuracy of both the Saudi-Arabic learners and the L1 English speakers in judging definiteness and specificity.

In summary, the Saudi-Arabic learners showed similar performance with definite and indefinite articles with definiteness and specificity but with lower accuracy than the L1 English speakers, scoring only a little higher than the chance level. The predictions of BH (Slabakova, 2008) have been confirmed, while the predictions of FH (Ionin et al., 2004) have not as the learners showed no effect of definiteness and specificity.

The Saudi-Arabic learners' lower accuracy than the L1 English speakers could be explained by:

- 1- Learners facing difficulties mapping and reassembling between L1 and L2 (Lardiere, 2009).
- 2- The learners' proficiency level affecting their accuracy (expanded in the following section).
- 3- The negative effect of the fact that the grammatical judgement task repeats the same conversations twice, once as grammatical and again as ungrammatical, which may have affected the learners' accuracy with both the definite and the indefinite article.

Research question 2 of this experiment deals with the effect of proficiency level and vocabulary knowledge on Saudi-Arabic learners' performance with definiteness and specificity.

2- What roles do receptive and productive vocabulary size and general proficiency level play in how Saudi Arabic learners of English judge definiteness and specificity in English?

The learners completed three tasks, showing receptive vocabulary knowledge (measured by the Yes/No test [Meara and Miralpeix [2015]], productive vocabulary knowledge (measured by the Lex30 test [Meara and Fitzpatrick, 2000]) and proficiency level (according to participants' results in the Standardized Oxford Proficiency Test). The three tasks were correlated (presented in Section 4.5).

Proficiency level showed a significant relationship with [+specific, +definite], grammatical [+specific, +definite], ungrammatical [+specific, -definite] and ungrammatical [-specific, +definite]. The context [-specific, -definite] showed no significant relationship with proficiency level but significant relationships with receptive and productive vocabulary. These results reflect those of Jaensch and Sarko (2009) and Abudalbuh (2016), who also found that different proficiency levels produced variation in the learners' level of accuracy. Jaensch and Sarko (2009) showed that high-level learners performed more accurately than low-level ones with English articles due to mapping difficulties. In addition, Al-Zahrani (2011) found that accuracy with specificity and definiteness is linked to proficiency level, as in that study the intermediate and advanced learners showed no effect of specificity in their performance. Al-Zahrani's (2011) results corroborate the findings of this study as the learners showed no effect of definiteness and specificity and there was a significant relationship between definiteness and specificity and proficiency level. This indicates that proficiency level affects the learners' accuracy and that they require a high proficiency level in order to accurately use definiteness and specificity in English. The learners' ability to accurately identify the ungrammatical conversations with the indefinite article was found to be affected by their proficiency level, confirming the findings for research question 1 that Saudi-Arabic learners' proficiency affects their accuracy with regard to definiteness and specificity.

The results for vocabulary knowledge showed a significant relationship between receptive vocabulary knowledge and [-specific, -definite], grammatical [+specific, -definite] and ungrammatical [-specific, -definite]. Productive vocabulary knowledge was found to have a significant relationship with [-specific, -definite] and

grammatical [-specific, -definite]. This demonstrates that accuracy with the indefinite article is affected by receptive and productive vocabulary knowledge, indicating that the learners' accuracy in judging the [-definite] feature with the indefinite article in English was affected by their receptive and productive vocabulary.

Previous studies have investigated the relationship between vocabulary knowledge and syntactic features (David et al., 2009; Treffers-Daller & Rogers, 2014; Barbosa & Silva, 2020). The most recent of these by Barbosa and Silva (2020) investigated the correlation between receptive vocabulary knowledge and syntactic awareness and word writing with 42 third-grade elementary school students. The study consisted of four tasks: a grammatical judgement task focusing on morpheme errors and inverted order, a grammatical correction for which the participants judged the sentences with morpheme errors and inverted order, a grammatical correction of ungrammatical and non-semantic sentences for which the participants judged the ungrammatical conversations and provided correction, and word categorisation, for which the participants categorised words into nouns, verbs or adjectives. The results showed a positive correlation between syntactic judgement and receptive vocabulary.

On the other hand, in a study with L1 English speakers learning French as second language, David et al. (2009) showed that lexical diversity, such as the mean length of utterance, is more closely related to syntactic features. This found that uninterpretable features such as grammatical gender and verb-raising development are not related to receptive and diversity of lexical knowledge. In contrast to this, Treffers-Daller & Rogers (2014) discovered a strong positive correlation between receptive vocabulary knowledge and verb movement measures as uninterpretable features with L1 English learners of French.

The findings of the current experiment showed that definiteness and specificity were related to receptive and productive vocabulary knowledge, particularly in the case of the indefinite article. A possible explanation for this might be the learners' L1 does not use the indefinite article so in order to be able to accurately judge the grammatical and ungrammatical contexts with an indefinite article, the learners' accuracy was affected by receptive and productive vocabulary knowledge. However, these findings may be somewhat limited by the small number of participants tested. An additional task in which learners produce definiteness may have provided

interesting further results, as this experiment used only a grammatical judgement task.

In this first experiment, the English-learning Saudi-Arabic speaking participants demonstrated similar accuracy with definiteness and specificity despite the differences between English and Arabic in this domain. Although the learners were outperformed in all regards by L1 English speakers, they were able to identify the grammatical and reject the ungrammatical conversations with the definite and the indefinite article. Their accuracy was affected by proficiency level with regard to definiteness and specificity, and receptive and productive vocabulary knowledge with the indefinite article.

4.7 Limitations

There are number of limitations to this study. The time-consuming nature of using one computer attended individually and in person by each participant affected the sample size, restricting it to only 32 participants. Therefore, a follow-up study could offer a pen-and-paper alternative to allow for a greater number of participants.

Repetition of the same sentences twice in the grammatical judgement task represents a significant weakness for this experiment as this is likely to have affected the participants' accuracy regarding grammatical and ungrammatical contexts, altering the reliability of the results.

In the Standardized Oxford Proficiency Test (using OpenSesame), the participants found the second section (a continuous story in which the end of one question feeds into the beginning of the next) very challenging, as they were required to remember the previous sentence to complete the next one and were unable to go back once they had selected an answer. As with the grammatical judgement task, any further study should therefore employ a pen-and-paper test for this task.

4.8 Conclusions from the first experiment

This study investigated the acquisition of English definiteness and specificity by Saudi-Arabic learners. Although English and Arabic both have an article system, there are major differences in how articles are used (or not) in each language. The Arabic article system uses only the definite article as the indefinite article is dropped.

English, on the other hand, involves obligatory use of both the definite and the indefinite articles. The study focused on the accuracy of use of the article system in definiteness and specificity contexts and consisted of a grammatical judgement task, two vocabulary tests and a proficiency test undertaken by 32 participants learning English and resident in the UK at the time of the study.

The results showed that the participants demonstrated similar accuracy with the definite and the indefinite article and there was no effect of definiteness and specificity on their performance. The learners' accuracy was significantly lower than that of the L1 English speakers in the control group for both definiteness and specificity. There was also no effect found for grammatical and ungrammatical contexts with definiteness and specificity. The difficulties that the learners faced with English definiteness and specificity may have been affected by the design of the task and the learners' proficiency level. It was further found that proficiency level and receptive and productive vocabulary knowledge have a significant relationship with the English article system. Proficiency level had affected the learners' accuracy with use of the definite and the indefinite article, while receptive and productive vocabulary knowledge showed an impact on accuracy with the indefinite article.

The outcomes of the first experiment, which was designed as the pilot study, helped with the design of the second experiment (Chapter 5). As similar levels of accuracy were shown between the definite and the indefinite articles and no effect was found of definiteness and specificity with Saudi-Arabic learners, the second experiment investigated the effect of number on the use of articles by examining generic references with singular and plural contexts with two tasks (an acceptability judgement task and a forced-choice task) along with a proficiency test and receptive and productive vocabulary tasks. This can help determine whether or not vocabulary knowledge has an effect on the uninterpretable feature [*number*] with generic references.

Chapter 5 Second Experiment

The effect of genericity and the role of proficiency and vocabulary knowledge

5.1 Introduction

The second experiment of this thesis focuses on the accuracy of Saudi-Arabic learners with generic and anaphoric references in English, assessing their sensitivity to the morphological distinction between the NP generic and sentence generic. In the first experiment, the focus was on Saudi-Arabic learners' accuracy with definiteness and specificity, which showed that proficiency level and vocabulary knowledge had an impact on accuracy, but that there was no effect of definiteness and specificity. Furthermore, the learners were able to overcome the differences between English and Arabic in definiteness and specificity (Sections 2.1 and Section 2.3, respectively). This second experiment investigates another aspect of definiteness, which is more complex than specificity due to the difference between L1 and L2: generic references. The learnability difficulties with this are discussed in detail in Section 2.5.

This experiment measures the effect of vocabulary knowledge, proficiency level and L1 on learners' accuracy. The theoretical framework is based on Universal Grammar, and the theories tested are the Bottleneck Hypothesis (BH) (Slabakova, 2008) and the Representational Deficit Hypothesis (RDH) (Hawkins & Chan, 1997). The predictions for this experiment according to these hypotheses are presented in Section 5.3 (below).

The participants were 160 female L1 Saudi-Arabic undergraduates learning English as a foreign language. They completed two tasks focusing on genericity: an acceptability judgement task (Section 5.4.2.1) and a forced-choice elicitation task (Section 5.4.2.2). Receptive vocabulary knowledge was assessed using the Yes/No test (Meara, 2010) (Section 5.4.2.3) and productive knowledge using the Lex30 (Meara & Fitzpatrick, 2000) (Section 5.4.2.4). To determine participants' proficiency levels, the learners completed the Standardized Oxford Proficiency Test (Section 5.4.2.5). Completion of all five of these tasks was required for inclusion in the study.

This chapter first outlines the research questions and predictions of the experiment according to the obtained hypotheses. Next, the methodology section includes information about the learners' backgrounds, followed by the research instruments, explaining each task in detail. The procedure and data analysis are then described before the results are given along with a discussion.

5.2 Research questions

- 1- Can Saudi-Arabic learners distinguish between generic and anaphoric references in L2 English in a judgement task?
- 2- Can Saudi-Arabic learners distinguish between generic and anaphoric references in L2 English in a forced-choice task?
- 3- What roles do receptive and productive vocabulary knowledge and general proficiency level play in how Saudi-Arabic learners of English judge and select anaphoric and generic references in English?

5.3 Predictions according to L2 hypotheses

The predictions for the second experiment are made in light of the tested hypotheses: BH (Slabakova, 2008) and RDH (Hawkins & Chan, 1997).

Table 5-1 (below) is a reminder of the differences between English and Arabic, which were presented in Section 2.5.

Table 5-1: Generic and anaphoric references in English and Arabic

Generic and anaphoric references	English	Arabic
NP generic singular [+definite], [-plural]	the	al-
NP generic plural [+definite], [+plural]	Plural-s	al-
Sentence generic singular [-definite], [-plural]	a/an	al-
Sentence generic plural [-definite], [+plural]	Plural-s	al-
Anaphoric singular [+definite], [-plural]	the	al-
Anaphoric plural [+definite], [+plural]	the	al-

English is an [+arg, +pred] language, using definite and indefinite articles as well as the bare plural, while Arabic is [-arg, +pred], so it employs only the definite article with the generic and does not allow null determiners with generic references. In addition, unlike English, Arabic does not possess NP generic and sentence generic references. Thus, learners are faced with different generic reference types not present in L1 and are required to use articles not used in generic references in L1, i.e. the indefinite article and the bare plural. However, the two languages share the same anaphoric system. The predictions from Chapter 3 are presented below.

5.3.1 Predictions from BH

BH proposes that any mismatch between L1 and L2 features can lead to difficulties when learners attempt to acquire them. Feature Reassembly, an element of BH, further suggests that learners are able to map and reassemble features between L1 and L2, but that differences between the languages may cause problems for learners acquiring the feature. The predictions for genericity and anaphoric references are:

- 1- For genericity: Arabic only uses the definite article with singular and plural generic while English has two types (NP generic and sentence generic) with singular and plural contexts and three morphemes (“a”, “the”, plural-s). The following points elaborate the predictions.
 - For the NP singular [+definite], [-plural] the learners will be able to use the definite morpheme “the” in L2 as they possess a similar definite morpheme in their L1 “al-”, which can be reassembled from a prefix as it is in L1 to a free clitic as it is in L2.
 - For the sentence singular [-definite], [-plural], the learners have to acquire the new morpheme “a/an” and associate the interpretable feature [-definite] with the uninterpretable feature [*unumber*], which is [-plural] to use in this context. Learners might face difficulties acquiring the morpheme “a/an” as it is absent in L1. For the NP plural [+definite], [+plural] and sentence plural [-definite], [+plural], the learners need to acquire the morpheme plural-s and map the interpretable feature [+definite] with NP plural and [-definite] with sentence plural with the uninterpretable feature [*unumber*], which is [+plural] bare plural to use with plural contexts with generic references, also absent in L1 with generic references.

- The predictions are that the learners will be able to acquire the [-definite], [-plural] for sentence singular and [+definite], [+plural] with NP plural and [-definite], [+plural] with sentence plural. However, they might overuse the definite article with these contexts due to the difference between L1 and L2.
 - The learnability issue comes from the difference between L1 and L2 and the fact that the generic comprises a number of complex features that use three morphemes (“a”, “the”, plural-s) in two different contexts (NP and sentence generic). English has the NP singular [+definite], [-plural] which uses the definite article and NP plural [+definite], [+plural] which accepts the bare plural, while sentence singular [-definite], [-plural] uses the indefinite article and sentence plural [-definite], [+plural] accepts the bare plural. Arabic, by contrast, only uses the definite article with singular and plural and without context differentiation. The features that the learners could face difficulties with include mapping the [-definite] with [-plural] with sentence generic singular, mapping the [+definite] with [+plural] with NP generic plural, and mapping the [-definite] with [+plural] with sentence generic plural. The learners are required to map between morphological features: the interpretable [\pm definite] and the uninterpretable [\pm plural] in order to accurately use generic references in English.
 - According to BH, the learners will find acquiring the indefinite article and plural -s more difficult than acquiring the definite article due to differences between L1 and L2. The indefinite article and plural-s must be acquired as new morphemes and the interpretable [\pm definite] mapped with the uninterpretable feature [\pm plural].
- 2- For anaphoric references: the learners' L1 possesses a definite morpheme. They will therefore be able to use the definite article in L2 with anaphoric singular and plural contexts due to L1 similarity.

5.3.2 Predictions from RDH

The assumptions of RDH are that learners can acquire a new interpretable feature but are unable to acquire new uninterpretable features not previously instantiated in L1. If the uninterpretable feature is absent from L1, then post-critical period, it is not possible for L2 learners to acquire it in L2. Definiteness consists of the [u number]

feature, which is uninterpretable, and the [\pm definite] and [+generic] (interpretable features) must agree with the noun (uninterpretable feature) with [μ number] feature.

The predictions for genericity and anaphoric references according to RDH are:

- 1- For genericity: Arabic only uses the definite article with generic references, unlike English, which uses the definite article with NP generic singular and the bare plural with NP plural contexts as well as the indefinite article with sentence generic singular and the bare plural with sentence plural contexts.
- The Saudi-Arabic learners will be able to use the definite article “the” with NP singular [+definite], [-plural] as it already exists in L1 “al-”.
- The learners will face difficulties with sentence singular [-definite], [-plural] that use the indefinite article “a/an” and the uninterpretable feature associated with the nouns [μ number] which is [-plural]. Additionally, the use of the bare plural might be problematic with the NP plural [+definite], [+plural] and sentence plural [-definite], [+plural] as the learners need to acquire plural-s with sentence plural [-definite] and [+definite] with NP plural, which are the interpretable features, and the uninterpretable feature [μ number] which is [+plural], to use in these contexts. The difficulty will arise from the fact that the learners’ L1 only uses the definite article with [\pm plural] with generic references.
- The predictions are that the learners will be able to acquire the interpretable features [\pm definite], which are the indefinite article and plural-s, but will not be able to acquire the new uninterpretable feature [\pm plural]. They will therefore be unable to distinguish between singular and plural contexts with generic references, nor will they be able to associate the [-definite] with [-plural] with sentence singular and [\pm definite] with [+plural] with NP plural and sentence plural. The learners might use [-definite] the indefinite article with sentence plural [+plural] and use plural -s with sentence singular [-plural] contexts. They may also employ the definite article with NP plural instead of plural-s, due to an inability to associate the use of plural-s with [+plural] contexts. This will result from the supposition that the learners will not be able to acquire the new uninterpretable feature [\pm plural].
- The learnability issue is that the learners must acquire the interpretable features [\pm definite] and associate it with the uninterpretable feature [\pm plural]

in order to accurately use generic references in English. RDH states that the learners will not be able to acquire new uninterpretable feature [\pm plural] in L2 after the critical period and will not achieve target-like performance.

- 2- For anaphoric references: The learners will be able to use the definite article with L2 anaphoric singular and plural contexts, as L1 has a definite article and uses it with anaphoric references.

5.4 Methodology

This section provides information on the study participants, the research instruments used, and the procedure undertaken. The final section comprises the data analysis of the material.

5.4.1 Participants

The study participants were 160 female undergraduate students. According to Norouzian (2020), 130 participants are needed to achieve 99% accuracy in effect size estimation. The English bachelor's degree course at Al-Baha University is four years in duration, with eight levels: two semesters in each year, and one level per semester. The study cohort was divided into two groups according to academic achievement: the first group of 80 participants were drawn from level 4 (their second year of university), and the second group of 80 drawn from level 8 (the fourth and final year).

The first year of the English course comprises the foundation year in which students undertake general subjects. Three hours per day (up to 15 hours a week) of intensive English courses must be taken along with subjects such as Islamic culture, Islamic education, heath culture and computing. This year serves to prepare students for their studies in the Department of English. The English course at Al-Baha University focuses on teaching the skills required for the second year of university, including listening and speaking, grammar, language and computing, writing, reading, and phonetics. A general introduction to literature is also available at this level. In the third year, the students begin to incorporate greater depth into their studies, taking courses on syntax, essay writing, morphology and phonology. They also engage at a deeper level with the literature component and take a separate course for each part of the literature curriculum, at which point their studies become more specialised, with

an introduction to drama, poetry and modern novels. In the final year, the course becomes even more in-depth, including modules on pragmatics, semantics and sociolinguistics, while literature begins to incorporate modern drama and sixteenth- and nineteenth-century novels. This final stage of the course contains a significantly greater focus on presentation skills aiming to develop the students' speaking ability and performance with the English language, and research skills for which students learn how to search for data and correctly structure their written work. Each semester requires 18 hours of registered study per week for undergraduate students.

The 80 participants from level 4 were born in 1998 and 1999, making them 20 and 21 years old. All were L1 Arabic speakers, with the highest level of education attained being high school. Due to the national education curriculum, the participants had studied English for ten years prior to being accepted into university, including English lessons in pre-school for one year, and then from the fourth grade in primary school until graduation from high school. These English courses comprised 5 hours a week (20 hours per month).

The other 80 participants were from level 8, which means that they were graduate students in their final semester of university. They were born in 1996 and 1997, making them 22 and 23 years old. The reason for the age differences at the same level is that the participants would have entered university at the age of 19, and the university, particularly the Department of English, runs a four-year programme (one foundation year and three years of English studies). Therefore, those who followed the exact study plan would be able to finish in four years and graduate at the age of 23. The 80 participants from level 8 were also all L1 Arabic speakers who would have undertaken the same English courses in school as the participants from level 4 over a total of ten years: one in pre-school and the other nine starting in the fourth grade.

The participants took part in the experiment voluntarily and completed the five sections. Each signed an ethics consent form, which specified that all personal details and identity-related information would be protected and handled confidentially and would be used exclusively for academic purposes. The informed ethics consent form is presented in Appendix (L). Each participant also completed a personal questionnaire requesting their name, date of birth, and contact details (if they had a

preference for providing an email address). The questionnaire contained questions about their native language and highest level of education (Appendix (K)). Table 5-2 (below) presents an overview of the participants' level of English, gender, age and latest educational attainment.

Table 5-2: Participants' information

	English Level	Gender	Age	Last educational attainment
Group 1	Level 4 <i>(n = 80)</i>	Female	20–21	High school
Group 2	Level 8 <i>(n = 80)</i>	Female	22–23	High school

As a control group, ten Swansea-resident L1 English speakers aged 20-25 (four postgraduate and six undergraduate, four males and six females) took part in the study to form a baseline for the results.

5.4.2 Instruments

The experiment included five tests: an acceptability judgement task, a forced-choice task, a receptive vocabulary knowledge test (Yes/No [Meara, 2010]), a productive vocabulary knowledge task (Lex30 [Meara & Fitzpatrick, 2000]) and the Standardized Oxford Proficiency Test. These are explained in detail below.

5.4.2.1 Acceptability judgement task

The acceptability judgement task was obtained from Snape (2013). The task contained 40 judgement sentences, as depicted in Appendix (M). The benefit of this approach is that it has not previously been used with Arabic learners, but has been with Spanish and Japanese learners (Snape, 2013) and Korean and Russian learners (Ionin et al., 2011). It would therefore be of interest to determine the accuracy of Saudi-Arabic learners with genericity using this particular type of task.

The task has a number of features, including the fact that the sentences are divided into two categories: 20 test items and 20 control items. The test items focused on generic expressions in English, which, as previously mentioned, come from the generalisation of situations or events that represent knowledge shared by the world and general information that people share. The test categories were two types of generic NPs: the NP generic, which refers to specific kinds or species, as in example (64), while the second, the sentence generic, are generic sentences, which have to do with habits or situations that share rule-like knowledge, as in example (65) from the acceptability judgement task. 10 of the sentences focused on the NP-level (kind) structure (64) and the other 10 on sentence-level generic expressions (65). For the control categories, there were 20 anaphoric sentences that were non-generic singular (66) and plural (67) expressions. The sentences formed parts of short stories.

Another feature of the task is that each short story offers five options which the participants judged based on what they thought was the most suitable sequence to complete the short story. Each of the five sentences was rated with a number ranging from one to four, with 1 = completely unacceptable; 2 = less acceptable; 3 = nearly acceptable; and 4 = completely acceptable. The participants were also informed that the same number could be used to rate more than one sentence and that two options could be rated as completely acceptable. The grey shading in examples below show the correct responses.

(64) Test category: NP generic context

I have been studying biology today, and I found out that many species are no longer alive. For example, I found out that:

a.	The dinosaur is extinct.	1	2	3	4
b.	A dinosaur is extinct.	1	2	3	4
c.	Dinosaur is extinct.	1	2	3	4
d.	Dinosaurs are extinct.	1	2	3	4
e.	The dinosaurs are extinct.	1	2	3	4

(65) Test category: Sentence generic context

These days, people seem to work longer hours. According to a news article, more people suffer from tiredness and stress as a result. It states that:

a.	Short nap is highly recommended.	1	2	3	4
b.	The short naps are highly recommended.	1	2	3	4
c.	The short nap is highly recommended.	1	2	3	4
d.	A short nap is highly recommended.	1	2	3	4
e.	Short naps are highly recommended.	1	2	3	4

(66) Control category: Anaphoric singular

Jun collects plants. He has three plants: one is an orchid, and two are bonsai.

They are very different from the usual types of plants. For example:

a.	An orchid is blue, not green.	1	2	3	4
b.	Orchid is blue, not green.	1	2	3	4
c.	The orchid is blue, not green.	1	2	3	4
d.	The orchids are blue, not green.	1	2	3	4
e.	Orchids are blue, not green.	1	2	3	4

(67) Control category: Anaphoric plural

My good friend John owns three bicycles: one mountain bike and two racing bikes. His bicycles are a little different from regular bicycles. For instance:

a.	The racing bikes are fitted with mirrors.	1	2	3	4
b.	Racing bikes are fitted with mirrors.	1	2	3	4
c.	A racing bike is fitted with mirrors.	1	2	3	4
d.	The racing bike is fitted with mirrors.	1	2	3	4
e.	Racing bike is fitted with mirrors.	1	2	3	4

The distinction between generic and anaphoric expressions is that in the former, two options can be correct: one with a definite article in the singular position and a bare plural in the plural position in kind generic expressions, as in (64). In example (64), the context is about dinosaurs, which is an NP-level kind, as dinosaurs are creatures of a certain type. In this case, there are two options: “The dinosaur is extinct”, and “Dinosaurs are extinct”. In (65), for the sentence generic expression (contextual or habitual sentences), the correct choice is either the indefinite article with the singular auxiliary or the bare plural with the plural auxiliary. In the sentence generic expression, the discussion is about short naps – a habitual context. There are two options. “The first is a short nap is highly recommended”, which is the singular form, while the plural bare form is “short naps are highly recommended”.

For the anaphoric expressions in the previous context, the selection could be singular, as in (66), or plural, as in (67). The preceding context in (66) introduced two types of plants: the orchid and the bonsai. The orchid was presented in singular form and the bonsai in the plural. In the following sentence, the orchid is the main focus. Thus, there is only one acceptable option, which is “The orchid is blue, not green”. In (67), the context is about three bikes owned by a friend: one for mountains and two for racing. In the next sentence, the focus is on the racing bikes – the plural form. Therefore, a potential response would be “The racing bikes are fitted with mirrors”. The NP sentences in the test all referred to well-known kinds, for example, animal species such as dinosaurs.

The definite article and the bare plural are the only suitable options for well-defined kinds because they relate to commonly known specific species. A contextual expression is different from an anaphoric expression, not being previously mentioned in the sentence, as in example (65), where “a short nap” did not appear in the discourse in the preceding sentence; it was only mentioned in the following sentence, unlike with the anaphoric expressions, where the references had previously been mentioned, as in (66) “orchid” and (67) “racing bikes”. The indefinite article and the bare plural would be options only in the sentence-level structure for this sort of sentence expression. The definite article would be ungrammatical since it introduces something that has not been mentioned before and the reference has not been made in a previous context. The anaphoric reference must be a definite article, either singular or plural, based on the sentence as it has a preceding context; the indefinite

article and the bare plural would be ungrammatical due to the prior mention. This is what differentiates generic from anaphoric expressions.

Some of the contexts in the sentences were not relevant to Saudi culture, so they were modified appropriately, with a particular focus on Saudi society, as in (68) and (69).

(68) Context changed

Reem found a great sandwich shop, which sells lots of international sandwiches. She wants three sandwiches for lunch. One is chicken, and two are tuna and mayonnaise, but they are made a little differently. For instance:

a.	A chicken sandwich is made with chicken from Al-Baha.	1	2	3	4
b.	The chicken sandwiches are made with chicken from Al-Baha.	1	2	3	4
c.	Chicken sandwich is made with chicken from Al-Baha.	1	2	3	4
d.	The chicken sandwich is made with chicken from Al-Baha.	1	2	3	4
e.	Chicken sandwiches are made with chicken from Al-Baha.	1	2	3	4

(69) Eid Al-Fitr is coming soon. It is always difficult to decide what I should buy as a gift for my Mum. I think:

a.	Golden rings are perfect.	1	2	3	4
b.	The golden rings are perfect.	1	2	3	4
c.	The golden ring is perfect.	1	2	3	4
d.	A golden ring is perfect.	1	2	3	4
e.	Golden ring is perfect.	1	2	3	4

In the original context, a ham sandwich was mentioned, which was changed to a chicken sandwich in (68) for greater suitability to Saudi culture. In (69), the original context concerned Valentine’s Day, which was changed to Eid Al-Fitr, an annual celebration in Saudi Arabia in which gifts are exchanged. Changes were made only to the themes of the sentences, with the structure remaining the same. Each participant took between 45 minutes and 60 minutes to complete the task. The

instructions were given in Arabic, with one example in English. The rating was added as a header on all the test papers, so the participants had access to this if needed.

5.4.2.2 Forced-choice elicitation task

This task was obtained from Snape (2008), and it was selected for two main reasons. First, it is of interest to examine not only at how Saudi-Arabic learners judge generic references, but also at how they produce the feature. In addition, the task has been used before, which increases its reliability and validity, and although Snape has conducted much research on the use of English articles, none has involved Saudi-Arabic learners. It would therefore be of interest to investigate how Saudi-Arabic learners perform, as their L1 possesses an article system different from that of English, and to compare the results with Snape (2008).

The task is primarily a forced-choice task incorporating short dialogues, with a missing article (“a/an”, “the”, \emptyset) in the last sentence. The participants selected the appropriate article to fill the gap. The original task (Snape, 2008) consisted of 92 dialogues (Appendix (N)) focusing on specificity, genericity and anaphoric situations, but as a task of this length was considered too burdensome for the participants, and the present experiment focuses on the generic reference acquisition of Arabic learners of English, the study obtained only the dialogues about generic references as the test category and those about anaphoric references as the control category. The test was, in effect, the same, but modified to meet the aims of the study. The short dialogues were definite generic singular (70) and plural (71). There were indefinite generic singular expressions, as in (72), and plural, as in (73); the control category comprised definite anaphoric (singular and plural) expressions. The total number of short dialogues in the task was 24, with four dialogues in each category (Appendix (O)). Thus, there were four dialogues for each of the generic singular and generic plural, and also four singular and four plural anaphoric expressions. The sentences with the missing articles were structured so as not to have an article before or after the blank in order to reduce the risk of priming effects. In addition, the blanks were immediately followed by nouns so as to avoid confusion.

(70) NP generic singular

A: The conservationists are making news again.

B: What are they doing now?

A: They are trying to encourage _the_ oyster catcher to come back to urban rivers.

Ø an a the

(71) NP generic plural

A: My cousins, who are Irish, always support other football teams when England are playing.

B: Do they?

A: Last week, they supported __the__ Germans when they were playing England.

an Ø the a

(72) Sentence generic singular

A: Terry and Liz are arguing over what pet to buy.

B: What does Terry want?

A: He favours __a__ cat.

a the Ø an

(73) Sentence generic plural

A: Many scientists now say that global warming is happening.

B: What do you think is causing it?

A: Some people blame __Ø__ cars, but I'm not so sure.

the a an Ø

In this task, the participants had to decide on the most suitable article for the blank. The NP generic definite singular is related to kind (specific species or type), as in (70), which focused on the bird known as “an oyster catcher”. It is therefore identified that the definite article dialogue and all other dialogues in this category are of the definite singular NP-level kind. It is noteworthy that only one situation in English allows the definite article to be used with the definite plural generic: nationality. Example (71) exemplifies this situation, as “Germans” is preceded by the definite article “the”. The sentence generic references use the indefinite article as there is no preceding context to the reference.

Since the sentence generic reference has, as a rule, not been mentioned before and does not belong to a certain kind, the sentence is generic; as it is singular, the correct article in this position is the indefinite article “a/an”. In (72), the context concerns someone wanting to buy a pet, and the speaker indicates that the preference for “Terry is a cat”. Terry has no specific kind in mind; he simply wants a cat, which is why the indefinite article is the correct response. In (73), since the reference has not been mentioned before, does not belong to a kind, and is plural, the choice should be a bare plural. As previously indicated in the literature on the English generic, bare plurals relate to plural indefinite nouns. In example (73), as the noun “cars” is plural, it does not precede or relate to kind. Therefore, the noun should be bare, without any article, as the indefinite article does not appear with plural nouns.

(74) Anaphoric singular nouns

A: Come on! We’ve been in this shop for hours.

B: I can’t make up my mind. Which shirt do you like best?

C: I prefer __the__ shirt with stripes.

the a an Ø

(75) Anaphoric plural nouns

A: Hurry up, or we’ll miss our train. What are you doing?

B: I’m looking for my keys.

A: You’re so absent-minded. You just put __the__ keys in your bag.

the a an Ø

For the anaphoric references, the most suitable article is the definite article, as the reference has been mentioned before. In (74), the singular countable noun “shirt” is referred to in the preceding dialogue, so the definite article is correct in this position. In (75), the noun “keys” is plural and countable. Moreover, there is a preceding mention in “I’m looking for my keys”. With such nouns, the suitable article is the definite article “the”.

Thus, for the forced-choice task, generic and anaphoric references mainly depend on the type of noun and whether or not there is a preceding context to the noun. For the generic references, all three articles are acceptable, though with different types of nouns. NPs of the generic kind take the definite article, as in (70) with “the oyster catcher”, as do plural nationality nouns, as in (71) “the Germans”. The singular would be indefinite since there is no preceding mention of the reference, as with “a cat” in (72). The bare plural assumes the plural position, e.g. “cars” in (73), as indefinite articles do not occur with plural nouns. For anaphoric references, definite articles are required as there are preceding references, i.e. “the shirt” (74) and “the keys” (75).

5.4.2.3 Receptive vocabulary test (Yes/No)

The Yes/No test (Meara, 2010) measures participants’ receptive vocabulary knowledge. The Yes/No written version was designed and later modified by Meara (2010), who improved the format and altered the wording of the test. For example, the long non-real words were shortened, and some were changed completely. The reliability of the test, its advantages and disadvantages, and the reasons for selecting it are discussed in Chapter 4, Section 4.4.2.2.

The vocabulary used in the test was selected from vocabulary lists: words, affixes and stems (Nation, 1986). The test consisted of 10 levels, each of which comprised 1,000 words, with each level having 20 possible tests. Each test contained 60 words: 40 real and 20 fabricated. The fabricated, non-real words are included to reduce the effect of a participant pretending to understand all of the words in order to appear more knowledgeable: such a participant would score zero.

- (76) 1 □ obey 2 □ thirsty 3 □ nonagrate
 4 □ expect 5 □ large 6 □ accident
 7 □ common 8 □ shine 9 □ sadly
 10 □ balfour 11 □ door 12 □ grow

Example (76) is part of the first test in the Yes/No written test. The participants wrote the letter “Y” for “yes” in front of the words whose meaning they knew and the letter “N” for “no” beside the words whose meaning they did not (Appendix (P)). It can be seen in (76) that numbers 3 and 10 are non-real words, in front of which the participants should have written “N”. The participants were informed that such fabricated words existed among the test items and encouraged to place “Y” only in front of the words they really knew; in the case of any doubt, they should mark it with “N”. The participants marked all 60 words in each test. To score the test, the hit words and non-real words were counted, and these two numbers converted using the table provided by Meara (2010), shown in Appendix (Q). Each part of the test was scored out of 100, which represents 1,000 words. The non-real words were added after each test to distinguish them from the hit words (Appendix (P)).

The first two tests consist of 2,000 English words characterised as essential vocabulary (Meara, 2010) which every learner should know to be able to understand and communicate clearly in English. If the test participants knew fewer than 2,000 words, they were considered to be at the elementary level, and are likely to find it difficult to adjust to various situations which might arise when communicating in English. If the participants knew more than the 2,000 words in the list, they were considered capable of understanding around 80% of the vocabulary in a text as most of the words would be drawn from these 2,000. Test participants who scored 3,000 are at the level required by the Cambridge First Certificate in English, while a score of 5,000 placed the participant in the intermediate bracket. Participants scoring 7,000 to 10,000 were considered advanced learners, as 6,000 to 10,000 is considered high for a non-native speaker.

Meara (2010) suggested that an approximate idea of the level of the participants to be tested is useful to select the level at which you want them to be tested. For example, if testing low and intermediate students, taking the test from levels 1 to 5 would be sufficient because their level of vocabulary would be around 5,000 words. If testing

advanced learners, there would be no need to include the first two levels as the learners would already be familiar with the first 2,000 words. As each test takes about 3 minutes, participants completing five levels will take up to 15 minutes; in this study, some of the participants took up to 20 minutes to complete the task.

The participants in this study comprised undergraduate students in Saudi Arabia, who are expected to graduate with a knowledge of around 5,000 words. Therefore, the specific test (Meara, 2010) ran from levels 1 to 4. To increase reliability, Meara (2010) recommended that participants complete two tests of the same level.

Accordingly, the present study selected the first two tests in each level (as seen in Appendix (P)). The participants completed eight tests (two in level 1, two in level 2, two in level 3 and two in level 4), taking around 20 to 30 minutes to complete all of them.

Previous research has investigated receptive vocabulary knowledge with Saudi-Arabic learners (Alsaif, 2011; Al-Masrai and Milton, 2012). Alsaif (2011) tested the receptive vocabulary level of high school students and Al-Masrai and Milton (2012) focused on the receptive vocabulary of undergraduate students. Alsaif (2011) employed the X-Lex test (Meara & Milton, 2003), and found that students typically graduate from high school with low levels of vocabulary knowledge, knowing an average of only 890 of the 5,000 desired words, while acquiring only 340 of the 2,000 target words set by the Ministry of Education. In another study, Al-Masrai and Milton (2012) used two groups of participants: the first group at the beginning of university studies and the other at the graduation level. The two measurement tasks used were the well-established Eurocentres Vocabulary Size Test (EVST) and the XK_Lex (Al-Masrai, 2009). The findings revealed that the vocabulary size of the participants entering university was about 2,000 to 3,000, and for the participants approaching graduation, it was around 5,000. The present study therefore uses the Yes/No test from level 1 to level 4 with undergraduate students.

5.4.2.4 Productive vocabulary task (Lex30)

The Lex30 vocabulary task developed by Meara and Fitzpatrick (2000) has been explained in detail in Chapter 4, Section 4.4.2.3. In this experiment, the Lex30 was conducted using pen and paper (the form of the task is presented in Appendix (G)).

5.4.2.5 Standardized Oxford Proficiency Test

This study adopted the use of the Standardized Oxford Proficiency Test, an English placement test that measures participants' general language ability, with a focus on grammar. This test has been explained in detail in Section 4.4.2.4. In this experiment, the test was conducted using pen and paper and can be found in Appendix (I).

5.4.3 Procedure

The study took place in the students' classrooms, and all tasks were completed using pen and paper. This made the instruments easy to employ, and this formed a major reason for selecting them. First, each learner was asked to provide their personal details and background (Appendix (K)), including their name, email address, age and educational qualifications. All participants took part in the study voluntarily, and were allowed to stop or take breaks at any time. After completion of the tasks, the learners' names were removed and replaced with codes in line with GDPR. In addition, the participants signed an informed ethics consent form (Appendix (L)) which detailed data protection and confidentiality policy and gave information about how the data would be collected (anonymously) and stored in accordance with Swansea University's guidelines. The project was confirmed by Project Ethics Assessment and approved with Approval No: SU-Ethics-Student-171219/2284.

Next, the study was explained to the participants. They were informed that the experiment consisted of two sections and that if any of them was not willing to complete both parts, they could withdraw from the study. The rationale for splitting the experiment into two sections was twofold. First, the task was too long for the students to complete all at once, as three hours were required to complete all of the tests. Concentrating for three hours is challenging and is likely to lead to a decline in performance over time and with each test, so subdividing the tasks was regarded as an appropriate step. Second, the study took place in the students' classrooms, so

dividing the study into two sections was necessary to enable them to carry out the task without affecting their academic studies. The timeline of the study involved the participants completing the first section in the first week, followed by a week off before completion of the second section in the third week. All tasks were completed offline so as to collect as much information from participants as possible. To be part of the study, the participants had to complete all sections, shown in Table 5-3 (below).

Table 5-3: The schedule of the second experiment

Weeks	Sections	Academic Levels
Week 1	Group 1 Section 1 ($n = 40$)	Level 4
Week 2	Group 2 Section 1 ($n = 40$)	
Week 3	Group 1 Section 2 ($n = 40$)	
Week 4	Group 2 Section 2 ($n = 40$)	
Week 5	Group 3 Section 1 ($n = 40$)	Level 8
Week 6	Group 4 Section 1 ($n = 40$)	
Week 7	Group 3 Section 2 ($n = 40$)	
Week 8	Group 4 Section 2 ($n = 40$)	

Table 5-3 shows that the experiment consisted of five parts and was divided into two sections. The first section included the acceptability judgement task, the receptive vocabulary test and the productive vocabulary task, while the second consisted of the forced-choice task and the Standardized Oxford Proficiency Test. The reasons for selecting the tasks in this order in these sections relates to the length and complexity of each. The acceptability judgement task was long and focused on articles, so the participants began with this as they were more likely to be alert at the beginning of the experiment than at the end. Moreover, two tasks on articles in a row would negatively affect the participants' morale and therefore their performance; for this reason, the first section comprised one task on generic and anaphoric references and another on vocabulary. The vocabulary tests were shorter than the acceptability judgement task, minimising pressure on the participants' performance. The second

section contained the forced-choice elicitation task and the proficiency test, which were not overly long, so this section was composed of those two parts.

In the first section, the participants started with the acceptability judgement task. The method was explained to them before they commenced, and they took between 45 and 60 minutes to complete the task. The learners were then given the receptive vocabulary task (Yes/No [Meara, 2010]) along with an explanation, which they took 20 to 30 minutes to complete. The final task in the first section was the productive vocabulary knowledge test (Lex30 test [Meara and Fitzpatrick, 2000]). This time, the task was explained and 30 seconds counted out for each item. All of the learners completed the task in 15 minutes, as explained in Section 4.4.2.3. In total, the first section took between 1 hour 45 minutes and 2 hours.

The second section, which participants completed two weeks later, comprised the forced-choice elicitation task and the Standardized Oxford Proficiency Test. The forced-choice task was carried out first: it was explained to the learners before they began, and it took 20 to 30 minutes. The final test, the Standardized Oxford Proficiency Test, was explained and given to the learners. This test took 15 to 20 minutes to complete. The overall time for the second section stood at 50 minutes, so the total time for both sections of the experiment was 2 hours 50 minutes.

The L1 English speakers forming the control group also took part voluntarily. They were first asked to fill in a personal questionnaire (Appendix (K)) before completing the acceptability judgement task followed by the forced-choice task (as with the experimental groups, these tasks were explained before they commenced). The data analysis for the tasks is presented in the following section.

5.4.4 Data analysis

For the acceptability judgement task, the learners' scores were aggregated using SPSS to extract the mean score for each sentence type. The learners were divided according to their academic level (level 4 participants are low-level learners and level 8 are high-level). The descriptive results for the Saudi-Arabic learners (high- and low-level) and L1 English speakers will be presented first. In order to reveal any significant difference between the generic and anaphoric references, the most suitable analysis was a repeated measures ANOVA with the control category cross

context (two levels: anaphoric singular and anaphoric plural) and sentence types (five levels: definite singular, indefinite singular, bare singular, definite plural and bare plural). This was conducted across the test category as well, with the two-level context NP generic and sentence generic and the same five levels of sentence types (definite singular, indefinite singular, bare singular, definite plural and bare plural). The repeated measures ANOVA was carried out for the L1 English speakers, the low-level learners and the high-level learners. Where any significant difference was found, a paired-sample t-test was done to follow the results of the ANOVA test using cell-by-cell comparison. An additional comparison for each sentence type across the two categories was made to determine the interaction between the sentence types.

For the forced-choice task, for each correct response the learners earned a point (out of 24). First, the descriptive results follow the frequency of the article chosen, calculated using frequencies in SPSS for the generic references (NP singular and NP plural, and sentence singular and sentence plural) and for the anaphoric expressions (anaphoric singular and anaphoric plural). Additionally, Friedman's ANOVA with post hoc analysis was performed to show significant differences between the generic and anaphoric references with L1 English speakers and Saudi-Arabic learners.

The receptive vocabulary knowledge task (Yes/No [Meara, 2010]) contained real and non-real (fabricated) words taken from Meara (2010), as shown in Section 5.4.2.3. To obtain the results, the hit (real) words and fake (non-real) words were counted, and these respective numbers converted using Meara's (2010) table (see Appendix (Q)). Each part of the test was scored out of 100, which represent the first 1,000 words (explained in Section 5.4.2.3). The participants completed four levels of the test, which gave a total of 400 (representing 4,000 words).

For the productive vocabulary task (Lex30 [Meara and Fitzpatrick, 2000]), the total available score was 120, with the words scored using Compleat Lexical Tutor (<https://www.lextutor.ca/>) through VocabProfilers and last VP-Compleat. The participants responses were entered into VP-Compleat and this classified them from the first one thousand (1K) most frequent words up to the first 25,000 (25K). The first 1K words were then excluded from the word count so only those in the 2K and above counted as a correct response. In the Standardized Oxford Proficiency Test, every correct response earned a point, with the total score given out of 40.

To show whether there was any effect of vocabulary knowledge and proficiency level on the learners' accuracy in judging and producing generic and anaphoric references, multivariate linear regressions were used to demonstrate the significant relationships. The results of the second experiment of this thesis are presented in section below.

5.5 Results

This section presents the descriptive and inferential statistics for all five tasks completed by the 160 participants, as described in Section 5.4. The outcomes of the tasks are discussed in Section 5.6. All results are given in line with the experiment's research questions.

The first research question was 1) Can Saudi-Arabic learners distinguish between generic and anaphoric references in L2 English in a judgement task? First, the descriptive results for both the L1 English speakers and the Saudi-Arabic learners will be given, followed by the repeated measures ANOVA to show the differences between the generic and anaphoric along with pairwise comparisons along and between the generic and anaphoric. The L1 English speakers' results are intended to provide a baseline for how the results should look, and examining these results affords the opportunity for comparisons to be made with the results of the Saudi-Arabic learners.

The second research question was 2) Can Saudi-Arabic learners distinguish between generic and anaphoric references in L2 English in a forced-choice task?. Again, the descriptive results will be presented first, followed by frequency and Friedman's ANOVA and post hoc analysis.

The last research question was 3) What roles do receptive and productive vocabulary size and general proficiency level play in how Saudi-Arabic learners of English judge and select anaphoric and generic references in English? The descriptive data is given first, followed by the correlations between the three tasks and the multivariate linear regression for each type of generic and anaphoric reference, with proficiency level and receptive and productive vocabulary knowledge, in order to show significant relationships between generic and anaphoric references and proficiency level, receptive vocabulary knowledge and productive vocabulary knowledge.

1- Can Saudi-Arabic learners distinguish between generic and anaphoric references in L2 English in a judgement task?

The participants completed the acceptability judgement task taken from Snape (2013), which consisted of 40 sentences. The task was divided into generic and anaphoric references, with two categories for generic expressions. In English, the first test category is the NP generic, which refers to the kind of a certain group or item that uses the NP to refer to that kind (Krifka et al., 1995), using the definite article for the singular form and the bare plural for the plural form. The second generic expressions test category is the sentence generic, which is used for generalisation and to refer to knowledge, habits or beliefs (Krifka et al., 1995). The sentence generic uses the indefinite article for the singular form and the bare plural for the plural form. In Arabic, there is no distinction between NP and sentence generic; Arabic uses the definite article with all generic references, so this is a learnability issue elaborated on in Section 2.5.

An anaphoric reference is one in which an item is mentioned for the first time (as indefinite) and then mentioned again (using the definite article), having the relationship of antecedent and anaphora (Roberts, 2003). In English, there are singular and plural anaphoric expressions, both of which use the definite article – one with the definite singular context and the other with the definite plural context. As explained in Section 2.1.1, anaphoric references are similar in English and Arabic. The task included a short story for which the participants read sentences and rated the given options from one to four, where 1 = “definitely incorrect” and 4 = “definitely correct”. For the generic context, there were two correct answers for the NP generic – the definite article and the bare plural (plural -s), as in example (77) (repeated from Section 5.4.2.1). For the sentence generic, the correct responses were the indefinite article and the bare plural (plural -s). There are five options in the example (definite singular, indefinite singular, bare singular, definite plural and bare plural); the shaded numbers show the correct responses. The task is explained in more detail in Section 5.4.2.1.

(77) Test item: NP generic

I have been studying biology today, and I found out that many species are no longer alive. For example, I found out that:

a.	The dinosaur is extinct.	1	2	3	4
b.	A dinosaur is extinct.	1	2	3	4
c.	Dinosaur is extinct.	1	2	3	4
d.	Dinosaurs are extinct.	1	2	3	4
e.	The dinosaurs are extinct.	1	2	3	4

Based on the criteria adopted from Ionin et al. (2011) to show whether learners have a basic understanding of how to use the English article system:

- 1- For the control categories:
 - a) In control category 1 (anaphoric singular), learners had to provide the target item (the definite singular) a mean rating of 3.0 or above. The definite singular had to be rated at least 0.5 above the indefinite singular and bare singular to show sensitivity to definiteness and at least 0.5 above the definite plural and bare plural to show sensitivity to number.
 - b) In control category 2 (anaphoric plural), learners were required to give the definite plural (i.e. the target item) a mean rating of 3.0 or above. The definite plural had to be rated at least 0.5 above the bare singular and the bare plural to show sensitivity to definiteness, and 0.5 above the definite singular to show sensitivity to number.
- 2- For the test categories:
 - a) In test category 1 (NP generic singular and plural) the participants had to give the definite singular (i.e. the first target item) a mean rating of 2.5 or above and the indefinite singular and bare singular mean ratings lower than 3.0, and at least 0.5 points below the mean rating for the definite singular. For the second target item, learners had to give the bare plural a mean rating of 2.5 or above and rate the definite plural below 3.0 and less 0.5 point than the bare plural.

b) In test category 2 (sentence generic, singular and plural) the participants had to give the indefinite singular (i.e. the first target item) a mean rating of 2.5 or above and rate the indefinite singular and bare singular below 3.0 and at least 0.5 points below the indefinite singular. For the second target item, learners needed to give the bare plural a mean rating of 2.5 or above and rate the definite plural below 3.0 and less 0.5 point than the bare plural (Snape, 2013, p. 84).

The sentences in the task were divided into two categories: anaphoric references (control categories) and generic references (test categories). There were two types of anaphoric references: anaphoric singular and anaphoric plural, and two types of generic references: NP generic and sentence generic. The correct responses for each category are: anaphoric singular is definite singular, anaphoric plural is definite plural; NP singular is definite singular, NP plural is bare plural, sentence singular is indefinite singular and sentence plural is bare plural. The rating for “completely unacceptable” was 1, so it was impossible for participants to score less than 1.

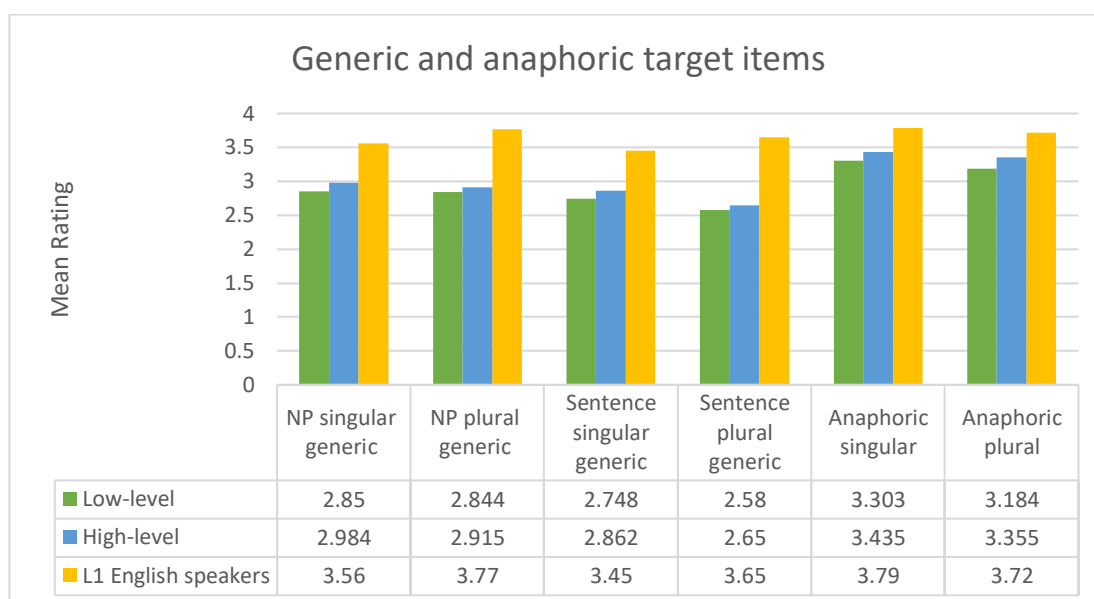


Figure 5-1: Target items results for generic and anaphoric references

Figure 5-1 shows the ratings for the target items for the NP generic (NP singular: definite article and NP plural: bare plural), with low-level learners in green, high-level learners in blue and L1 English speakers in yellow. For the L1 English

speakers, the mean rating was 3.56 for NP singular and 3.77 for NP plural. For the low-level learners, the mean rating was 2.85 for NP singular and 2.844 for NP plural, and for the high-level learners, the mean rating was 2.984 for NP singular and 2.915 for NP plural. For sentence generic, the target items are sentence singular (with the indefinite article) and sentence plural (with bare plural). For L1 English speakers, the mean rating was 3.54 for sentence singular and 3.65 for sentence plural. For low-level learners, the sentence singular mean rating was 2.748 and the sentence plural mean rating was 2.58. For high-level learners, the mean rating was 2.862 for sentence singular and 2.65 for sentence plural. For the anaphoric singular with the definite article, the mean rating was 3.79 for L1 English speakers, 3.303 for low-level learners and 3.435 for high-level learners, while for the anaphoric plural with the definite article, the mean rating was 3.72 for L1 English speakers, 3.184 for low-level learners and 3.355 for high-level learners.

The Saudi-Arabic learners performed similarly to the L1 English speakers with anaphoric references, as the mean ratings for the three groups are similar. With NP generic and sentence generic expressions, high-level learners performed more accurately than low-level learners, but still scored below L1 English speakers, as there was no mean rating above 3.000 for the Saudi-Arabic learners with the generic references. The L1 English speakers' descriptive results are presented below in Table 5-4 (generic references) and Table 5-5 (anaphoric references).

Table 5-4: Descriptive results for generic references for L1 English speakers

	NP generic					Sentence generic				
	definite singular	indefinite singular	bare singular	definite plural	bare plural	definite singular	indefinite singular	bare singular	definite plural	bare plural
Mean	3.560	1.740	1.560	1.980	3.770	1.630	3.450	1.620	1.760	3.650
SD	0.344	0.703	0.550	0.587	0.333	0.488	0.409	0.588	0.688	0.268
Range	1.100	1.800	1.500	1.900	1.000	1.300	1.100	1.800	1.900	0.800
Minimum	2.900	1.000	1.000	1.000	3.000	1.000	2.800	1.000	1.000	3.200
Maximum	4.000	2.800	2.500	2.900	4.000	2.300	3.900	2.800	2.900	4.000

For the NP generic in Table 5-4, the mean ratings for the definite singular and the bare plural were the highest, at 3.560 and 3.770, respectively; these are the target items with the NP generic. The mean rating was 1.740 for the indefinite singular, 1.560 for the bare singular and 1.980 for the definite plural. The minimum ratings with the NP generic were 2.900 for the definite singular and 3.000 for the bare plural, which were the highest minimums, compared to 1.000 for the indefinite singular, bare singular and definite plural. The definite singular and bare plural again had the highest maximum ratings, with 4.000 each, compared with 2.500 for the bare singular, 2.800 for the indefinite singular and 2.900 for the definite plural. The descriptive results for the NP generic show that the L1 English speakers accurately selected the target items and rejected the other items.

For the sentence generic, the indefinite singular and the bare plural had the highest mean ratings, with 3.450 and 3.650 respectively; again, they are the target items. For the definite singular the mean rating was 1.630, with 1.620 for the bare singular and 1.760 for the definite plural. The target items (indefinite singular and bare plural) had the highest minimum ratings, with 2.800 for the indefinite singular and 3.200 for the bare plural, compared with 1.000 for the definite singular, bare singular and definite plural. The target items (indefinite singular and bare plural) had the highest maximum ratings, with 4.000 for both, compared to 2.300 for the definite singular, 2.800 for the bare singular and 2.900 for the definite plural. The L1 English speakers showed the same level of accuracy with the sentence generic, selecting only the target items and rejecting the other items. For anaphoric references, the results are presented in Table 5-5 (below).

Table 5-5: Descriptive results for anaphoric references for L1 English speakers

	Anaphoric singular					Anaphoric plural				
	definite singular	indefinite singular	bare singular	definite plural	bare plural	definite singular	indefinite singular	bare singular	definite plural	bare plural
Mean	3.790	1.780	1.560	1.650	1.560	1.710	1.740	1.730	3.720	1.790
SD	0.179	0.361	0.515	0.669	0.347	0.486	0.674	0.564	0.239	0.543
Range	0.500	1.100	1.400	1.700	1.200	1.300	2.100	1.600	0.700	1.600
Minimum	3.500	1.200	1.000	1.000	1.000	1.000	1.000	1.000	3.300	1.100
Maximum	4.000	2.300	2.400	2.700	2.200	2.300	3.100	2.600	4.000	2.700

Table 5-5 shows that for the anaphoric singular, the highest mean rating (3.790) was for the target item, the definite singular, and the means for all the other options were lower: 1.780 for the indefinite singular, 1.560 for the bare singular, 1.650 for the definite plural and 1.560 for the bare plural. The minimum rating for the definite singular was 3.500, which was the highest, compared to 1.200 for the indefinite singular and 1.000 for the bare singular, definite plural and bare plural. The target item (definite singular) had a maximum rating of 4.000, which is again the highest, compared to 2.300 for the indefinite singular, 2.400 for the bare singular, 2.700 for the definite plural and 2.200 for the bare plural. The L1 English speakers gave the highest mean rating to the target item (definite singular) with the anaphoric singular compared to the other options.

For the anaphoric plural, the definite plural is the target item. The mean rating for this item was 3.720, which is high compared to 1.710 for the definite singular, 1.740 for the indefinite singular, 1.730 for the bare singular and 1.790 for the bare plural. The minimum rating was 3.300 for the definite plural and 1.000 for the other four items. The maximum rating was 4.000 for the definite plural, again high compared to 3.100 (indefinite singular), 2.700 (bare plural), 2.600 (bare singular) and 2.300 (definite singular). The L1 English speakers also displayed greater accuracy with the

anaphoric plural: Figure 5-2 (below) shows the mean ratings for the L1 English speakers.

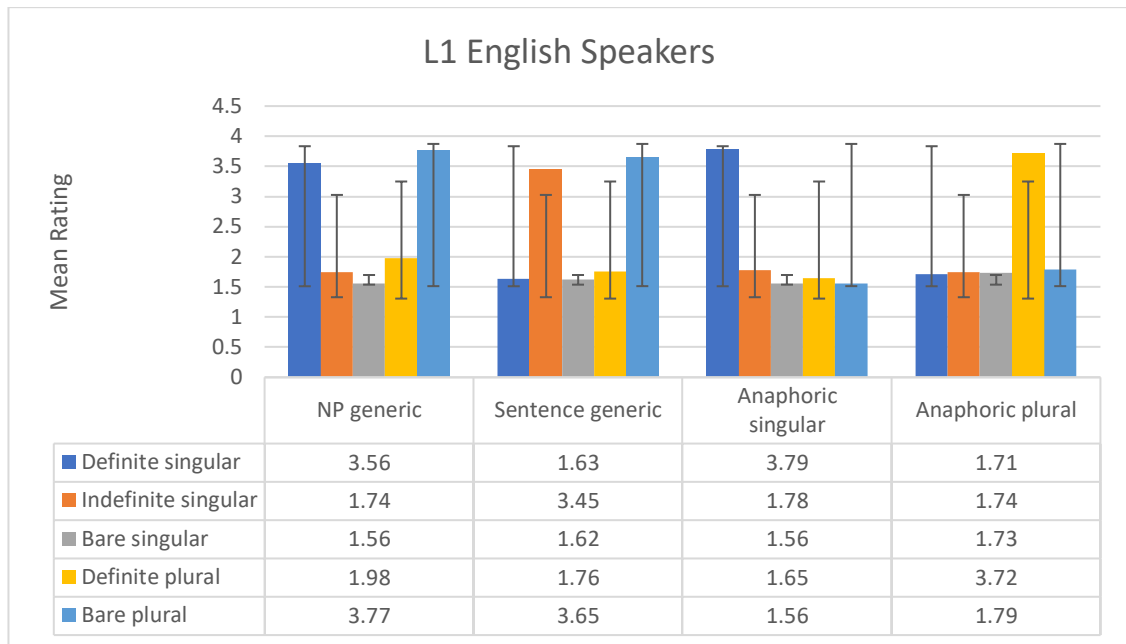


Figure 5-2: Descriptive statistics for generic and anaphoric references for L1 English speakers

The target items for the NP generic are definite singular and the bare plural; for the sentence singular they are the indefinite singular and the bare plural; for the anaphoric singular it is the definite singular; and for anaphoric plural it is the definite plural. For the test category NP generic, the mean rating for the definite singular was 3.56, which is more than 2.5 and more than 0.5 points above the mean for the indefinite singular (1.74) and bare singular (1.56). For the plural NP generic, the mean rating for the bare plural was 3.77, again more than 2.5 and higher than the mean for the definite plural (1.98) by more than 0.5 points. For test category 2, the sentence generic, the mean rating for the indefinite singular was 3.45, more than 2.5 and higher than the means for the definite singular (1.63) and the bare singular (1.62) by more than 0.5. For the sentence generic plural, the mean rating for the bare plural was 3.77, greater than 2.5 and more than 0.5 higher than the mean for the definite plural (1.98). For control category 1, the anaphoric singular, the mean rating for the definite singular was 3.79, which is above 3.0 and more than the mean ratings for the other four options by more than 0.5 points. The L1 English speakers' results function

as a baseline for comparison with the performance of the Saudi-Arabic learners with generic and anaphoric references. The results of the normal distribution are shown in Table 5-6 (below).

Table 5-6: Test of normality for acceptability judgement task for L1 English speakers

Test	Statistics	P
Shapiro–Wilk	0.935	0.496
Kolmogorov–Smirnov	0.182	0.839

Note: Significant results suggest a deviation from normality.

Table 5-6 shows that no significant results were found, which indicates that the results are normally distributed. A repeated measures ANOVA was therefore used to assess the differences between the test categories (generic references) and the control categories (anaphoric references), as illustrated in Table 5-7 (below).

Table 5-7: Repeated measures ANOVA results for L1 English speakers

	df	Mean square	F	Sig.
Test categories				
Context	1.000	0.250	1.176	0.306
Sentence types	2.475	21.847	41.210	< 0.001
Context x Sentence types	2.615	12.742	38.908	< 0.001
Control categories				
Context	1.000	0.123	0.691	0.427
Sentence types	2.475	10.247	26.739	< 0.001
Context x Sentence types	2.635	16.454	41.742	< 0.001

Note: Greenhouse-Geisser.

The results of the repeated measures ANOVA for the L1 English speakers (within-subject effects) are shown in Table 5-7. The test categories are NP generic and sentence generic. There were no significant differences between the two generic contexts, NP generic and sentence generic, with test categories, with $p = 0.306$ and $F = 1.176$. For the sentence types (definite singular, indefinite singular, bare singular, definite plural, and bare plural) there was a significant difference, with $p = < 0.001$ and $F = 41.210$. The results show a significant interaction between the contexts (NP generic and sentence generic) and the sentence types (definite singular, indefinite singular, bare singular, definite plural, and bare plural), with $p = < 0.001$ and $F = 38.908$.

For the control categories, no significant difference was found between the two contexts (anaphoric singular and plural), with $p = 0.427$ and $F = 0.691$. For the sentence types (definite singular, indefinite singular, bare singular, definite plural, and bare plural) there was a significant difference among the five options, with $p = < 0.001$ and $F = 26.739$. For the contexts (anaphoric singular and plural) and the sentence types (definite singular, indefinite singular, bare singular, definite plural, and bare plural), there was a significant interaction, with $p = < 0.001$ and $F = 41.742$. The repeated measures ANOVA showed the existence of an interaction between the contexts and the sentence types. In order to locate these differences, pairwise cell-by-cell comparisons were performed using paired-sample t-tests to analyse the relationships within categories (displayed in Table 5-8 [below] with test categories and Table 5-10 [below] with control categories) and across categories (shown in Table 5-9 [below] with test categories and Table 5-11 [below] with control categories).

Table 5-8: Pairwise cell-by-cell comparisons of test categories for L1 English speakers

		t	df	Sig.
Pair 1	NP definite singular– NP indefinite singular	6.613	9	< 0.001
Pair 2	NP definite singular– NP bare singular	11.339	9	< 0.001
Pair 3	NP definite singular– NP definite plural	7.053	9	< 0.001
Pair 4	NP definite singular– NP bare plural	-1.983	9	0.079
Pair 5	NP definite plural– NP bare plural	-7.513	9	< 0.001
Pair 6	Sentence indefinite singular– Sentence definite singular	7.756	9	< 0.001
Pair 7	Sentence indefinite singular– Sentence bare singular	6.033	9	< 0.001
Pair 8	Sentence indefinite singular– Sentence definite plural	5.955	9	< 0.001
Pair 9	Sentence indefinite singular– Sentence bare plural	-1.627	9	0.138
Pair 10	Sentence definite plural– Sentence bare plural	-6.715	9	< 0.001

Table 5-8 shows that for the NP generic, with two target items, the definite singular was significantly different from the indefinite singular and bare singular, with $p = < 0.001$, and the bare plural differed significantly from the definite plural, with $p =$

< 0.001. No significant difference was found between the definite singular and the bare plural, with $p = 0.079$; both of these are target items and were selected by the participants. For the sentence generic, with two target items, the indefinite singular was significantly different from the definite singular and the bare singular, with $p = < 0.001$, and the bare plural (the second target item) significantly different from the definite plural, with $p = < 0.001$. The indefinite singular and the bare plural were rated highly (as seen in Figure 5-2), and as a result there was no significant difference between them ($p = 0.138$). The pairwise comparison across the categories is given in Table 5-9.

Table 5-9: Pairwise cell-by-cell comparisons across test categories for L1 English speakers

		t	df	Sig.
Pair 1	NP definite singular– Sentence definite singular	10.500	9	< 0.001
Pair 2	NP indefinite singular– Sentence indefinite singular	-6.553	9	< 0.001
Pair 3	NP bare singular– Sentence bare singular	-0.444	9	0.668
Pair 4	NP definite plural– Sentence definite plural	0.760	9	0.467
Pair 5	NP bare plural– Sentence bare plural	1.203	9	0.260

Table 5-9 shows the cell-by-cell comparison of the five options across the NP generic and the sentence generic. For the definite singular there was a significant difference between NP generic and sentence generic ($p = < 0.001$), as it was rated highly with the NP generic (Figure 5-2), being one of the target items. The indefinite singular was highly rated with the sentence generic, being one of the target items, and a significant difference was found between the indefinite singular with the NP

generic and the sentence generic, with $p = < 0.001$. For the bare singular, there was no significant difference between the NP generic and the sentence generic, with $p = 0.668$ (Figure 5-2), as it was rated low in both generic contexts. The definite plural was rated low with both NP generic and sentence generic, and there was no significant difference between the two, with $p = 0.467$ (Figure 5-2), while the bare plural was rated highly with both, so again there was no significant difference found, with $p = 0.260$ (Figure 5-2)

In the test categories (NP generic and sentence generic), the NP generic, the definite singular and bare plural were more highly rated than the other three options and were significantly different. For the sentence generic, the indefinite singular and the bare plural were highly rated and differed significantly from the other three options. The pairwise comparison results for the control categories for the L1 English speakers are shown in Table 5-10 and Table 5-11 (below).

Table 5-10: Pairwise cell-by-cell comparisons of control categories for L1 English speakers

		t	df	Sig.
Pair 1	Anaphoric S definite singular– Anaphoric S indefinite singular	12.604	9	< 0.001
Pair 2	Anaphoric S definite singular– Anaphoric S bare singular	11.505	9	< 0.001
Pair 3	Anaphoric S definite singular– Anaphoric S definite plural	9.094	9	< 0.001
Pair 4	Anaphoric S definite singular– Anaphoric S bare plural	26.846	9	< 0.001
Pair 5	Anaphoric S indefinite singular– Anaphoric S bare singular	1.290	9	0.229
Pair 6	Anaphoric P definite plural– Anaphoric P indefinite singular	11.029	9	< 0.001
Pair 7	Anaphoric P definite plural– Anaphoric P bare singular	9.373	9	< 0.001
Pair 8	Anaphoric P definite plural– Anaphoric P definite singular	9.856	9	< 0.001
Pair 9	Anaphoric P definite plural– Anaphoric P bare plural	9.223	9	< 0.001
Pair 10	Anaphoric P bare singular– Anaphoric P bare plural	0.302	9	0.769

Table 5-10 shows the pairwise comparison between the sentence types in the control category. For the anaphoric singular (Anaphoric S), the target item is the definite singular. The results show that the definite singular was significantly different from

the other four options, with $p = < 0.001$. For the anaphoric plural (Anaphoric P), the target item (the definite plural) was significantly different from the other four options, with $p = < 0.001$. Table 5-11 shows the comparison across the control categories with L1 English speakers.

Table 5-11: Pairwise cell-by-cell comparisons across control categories for L1 English speakers

		t	df	Sig.
Pair 1	Anaphoric S definite singular– Anaphoric P definite singular	11.392	9	< 0.001
Pair 2	Anaphoric S indefinite singular– Anaphoric P indefinite singular	0.174	9	0.866
Pair 3	Anaphoric S bare singular– Anaphoric P bare singular	-0.668	9	0.521
Pair 4	Anaphoric S definite plural– Anaphoric P definite plural	-8.594	9	< 0.001
Pair 5	Anaphoric S bare plural– Anaphoric P bare plural	-1.243	9	0.245

The comparison across the anaphoric singular and plural with the sentence types, shown in Table 5-11, demonstrates that the definite singular was significantly different ($p = < 0.001$) between the anaphoric singular and the anaphoric plural, as it was highly rated with the anaphoric singular (Figure 5-2). For the definite plural, the target item is the definite plural; it was highly rated (Figure 5-2) and significantly different ($p = < 0.001$) between the anaphoric singular and the anaphoric plural. For the indefinite singular, the bare singular and the bare plural, there no significant difference was discovered – they were all rated low (Figure 5-2).

For the Saudi-Arabic learners, it is necessary to examine the two academic levels of the learners to detect the differences in accuracy between them. As explained in Section 5.4.4, level 4 is referred to in this study as “low-level” and level 8 is referred

to as “high-level”. The results for the low-level learners are presented first, beginning with the descriptive results for generic references in Table 5-12 and those for anaphoric references in Table 5-13.

Table 5-12: Descriptive results for generic references with low-level learners

	NP generic					Sentence generic				
	definite singular	indefinite singular	bare singular	definite plural	bare plural	definite singular	indefinite singular	bare singular	definite plural	bare plural
Mean	2.850	2.059	2.034	2.614	2.844	2.886	2.748	2.127	2.380	2.580
SD	0.608	0.723	0.616	0.756	0.456	0.533	0.636	0.663	0.618	0.565
Range	2.400	3.000	2.300	2.800	2.100	2.400	3.000	2.700	2.900	2.800
Minimum	1.600	1.000	1.000	1.000	1.700	1.600	1.000	1.000	1.000	1.200
Maximum	4.000	4.000	3.300	3.800	3.800	4.000	4.000	3.700	3.900	4.000

Table 5-12 shows the mean, SD, range, minimum and maximum values of the ratings for the generic references for low-level learners. For NP generic, the mean rating for the definite singular, the target item for singular contexts, was 2.850, and the bare plural, the target item for plural contexts, was 2.844. For the non-target items with the NP generic, the mean ratings were 2.059 (for the indefinite singular), 2.034 (for the bare singular) and 2.614 (for the definite plural). The minimum ratings were 1.6 out of 4 for the definite singular and 1 out of 4 for the indefinite singular, bare singular, definite plural and bare plural. The maximum ratings were 4 out of 4 for the definite singular and indefinite singular, 3.3 out of 4 for the bare singular and 3.8 out of 4 for the definite plural and bare plural.

For the sentence generic, the mean rating was 2.748 for the indefinite singular (the target item for singular contexts), and 2.580 for the bare plural (the target items for plural contexts). For the definite singular the mean rating was 2.886, for the bare singular 2.127, and for the definite plural 2.380. The minimum rating for the definite singular was 1.6 out of 4, and 1 out of 4 for the other four items. The maximum

rating was 4 out of 4 for the definite singular, indefinite singular and bare plural; for the bare singular it was 3.7 out of 4 and for the definite plural 3.9 out of 4.

Table 5-13: Descriptive results for anaphoric references for low-level learners

	Anaphoric singular					Anaphoric plural				
	definite singular	indefinite singular	bare singular	definite plural	bare plural	definite singular	indefinite singular	bare singular	definite plural	bare plural
Mean	3.303	2.174	2.196	2.070	2.195	2.064	1.959	2.022	3.184	2.284
SD	0.501	0.734	0.578	0.612	0.676	0.677	0.620	0.623	0.683	0.695
Range	2.000	2.900	2.400	2.400	2.900	2.500	2.500	2.200	2.600	2.600
Minimum	2.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.400	1.000
Maximum	4.000	3.900	3.400	3.400	3.900	3.500	3.500	3.200	4.000	3.600

Table 5-13 shows the mean ratings, SD, range, and minimum and maximum ratings for anaphoric references for low-level learners. For the anaphoric singular, the mean rating for the definite singular (the target item) was 3.303, for the indefinite singular 2.174, for the bare singular 2.196, 2.070 for the definite plural, and 2.195 for the bare plural. The minimum rating for the definite singular was 2 out of 4 and 1 out of 4 for the other four items. The maximum rating was 4 out of 4 for the definite singular, 3.9 out of 4 for the indefinite singular and the bare plural and 3.4 out of 4 for the bare singular and definite plural.

For the anaphoric plural, the mean rating for the definite plural (the target item) was 3.184. The mean rating was 2.064 for the definite singular, 1.959 for the indefinite singular, 2.022 for the bare singular and 2.284 for the bare plural. The minimum rating for the definite plural was 1.4 out of 4, and 1 out of 4 for the definite singular, indefinite singular, bare singular and bare plural. The maximum rating was 4 out of 4 for the definite plural, 3.2 out of 4 for the bare singular, 3.5 out of 4 for the definite singular and 3.6 for bare plural.

Figure 5-3 shows the mean ratings for the generic and anaphoric references to illustrate how the mean ratings differ with the five items rated by the learners (definite singular, indefinite singular, bare singular, definite plural and bare plural).

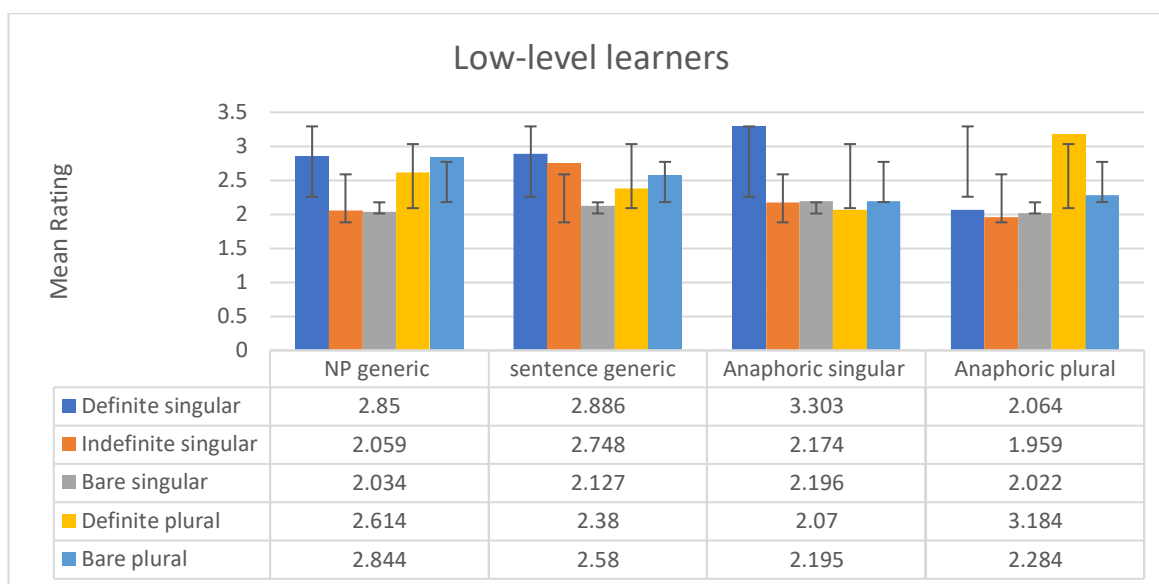


Figure 5-3: Descriptive statistics for the generic and anaphoric references for low-level learners

The target items for the NP generic are definite singular and bare plural, and for the sentence singular they are indefinite singular and bare plural. For the anaphoric singular the target item is definite singular, and for anaphoric plural it is definite plural. The low-level learners with NP generic rated the definite singular with a mean of 2.85 (which is above 2.5, as explained in the criteria above), and the mean ratings for the indefinite singular and the bare singular were 2.059 and 2.034 respectively (both lower than the definite singular mean rating by more than 0.5 points). For the NP plural context, the definite plural mean rating was 2.614 and the bare plural mean was 2.844; both high, particularly when considering the fact that the definite plural is not the correct response, and there was no 0.5-point difference between the means for the two options. Low-level learners showed less accuracy for the plural context than for the singular with the NP generic.

For the sentence generic for the low-level learners, there were two high mean ratings with the singular context: for the definite singular (2.886) and indefinite singular (2.748). Both are more than 2.5, and the mean of the definite singular was not lower

than that of the indefinite singular by at least 0.5 points. The bare singular mean rating was 2.127 (i.e. lower than 2.5), with a 0.5-point difference from the other two singular options (definite singular and indefinite article). For the plural context, the definite plural mean rating was 2.38 and the bare plural mean was 2.58. The target item for the sentence plural is the bare plural, but the low-level learners also rated the definite plural high; both mean ratings were above 2.5 and there was no 0.5-point difference between them. The low-level learners displayed less accuracy with both singular and plural contexts with the sentence generic than the L1 English speakers (Figure 5-2).

For the control categories, the low-level learners rated the definite singular with a mean of 3.303, more than 3.0 points and above the other options by more than 0.5 points. For the anaphoric plural, the definite plural mean rating was 3.184, which is above 3.0 and above the other options by more than 0.5 points. The low-level learners displayed difficulties with both the NP generic plural and the sentence generic singular and plural but were accurate with the NP generic singular and anaphoric singular and plural.

Table 5-14 (below) presents the test of normality. The results are normally distributed, as there are no significant results, with $p = 0.949$ for Shapiro–Wilk and $p = 0.990$ for Kolmogorov–Smirnov.

Table 5-14: Test of normality for acceptability judgement task for low-level learners

Test	Statistics	P
Shapiro–Wilk	0.993	0.949
Kolmogorov–Smirnov	0.049	0.990

Note: Significant results suggest a deviation from normality.

To identify any differences between the ratings of generic references and anaphoric references, repeated measures ANOVAs (one for the test categories and another for the control categories) are presented in Table 5-15 (below).

Table 5-15: Repeated measures ANOVA results for low-level learners

	df	Mean square	F	Sig.
Test categories				
Context	1.000	0.826	5.394	0.023
Sentence types	3.350	17.429	25.639	< 0.001
Context x Sentence types	3.227	7.289	22.773	< 0.001
Control categories				
Context	1.000	1.445	6.581	0.012
Sentence types	3.209	16.861	34.672	< 0.001
Context x Sentence types	2.579	43.788	69.432	< 0.001

Note: Greenhouse-Geisser

Table 5-15 shows the results for the test categories, which indicate a significant difference between the two contexts (NP generic and sentence generic), with $F = 5.394$ and $p = 0.023$. For the sentence types (definite singular, indefinite singular, bare singular, definite plural, and bare plural), there was a significant difference between the five options in the test category, with $F = 25.639$ and $p = < 0.01$. Between the context and the sentence types there was a significant interaction, with $F = 22.773$ and $p = < 0.01$.

For the control category (anaphoric singular and plural), Table 5-15 shows a significant difference between the two contexts, with $F = 6.581$ and $p = 0.012$. For the sentence types there was a significant difference between the five options (definite singular, indefinite singular, bare singular, definite plural, and bare plural), with $F = 34.672$ and $p = < 0.01$. These significant differences between the contexts and sentence types persist for anaphoric references, with $F = 69.432$ and $p = < 0.01$. The results of the repeated measures ANOVA show that there were significant differences with both test categories and control categories. To show where these are, pairwise cell-by-cell comparisons are presented below, one for the generic references

and one for the anaphoric references. The pairwise comparison between the sentence types and across the contexts with the sentence types are shown in Table 5-16 and Table 5-17 for the test categories (NP generic and the sentence generic).

Table 5-16: Pairwise cell-by-cell comparisons of test categories for low-level learners

		T	df	Sig.
Pair 1	NP definite singular– NP indefinite singular	7.080	79	< 0.001
Pair 2	NP definite singular– NP bare singular	9.125	79	< 0.001
Pair 3	NP definite singular– NP definite plural	2.016	79	0.047
Pair 4	NP definite singular– NP bare plural	0.074	79	0.941
Pair 5	NP definite plural– NP bare plural	-2.262	79	0.026
Pair 6	Sentence indefinite singular– Sentence definite singular	-1.311	79	0.194
Pair 7	Sentence indefinite singular– Sentence bare singular	6.311	79	< 0.001
Pair 8	Sentence indefinite singular– Sentence definite plural	3.825	79	< 0.001
Pair 9	Sentence indefinite singular– Sentence bare plural	1.539	79	0.128
Pair 10	Sentence definite plural– Sentence bare plural	-2.000	79	0.049

Table 5-16 shows that for the NP generic there was a significant difference between the definite singular, indefinite singular and bare singular, with $p = < 0.01$. There was also a significant difference between the definite singular and the definite plural, with $p = 0.047$. As expected, no significant difference was observed for the definite singular and bare plural, as both are target items, with $p = 0.941$. There was a significant difference between the definite plural and bare plural, with $p = 0.026$. The low-level learners' results showed a significant difference between the target items and the other three options. Although the mean ratings of the definite plural and bare plural were both high (Figure 5-3) the pairwise comparison shows the presence of significant difference. The results indicate that the low-level learners accurately rated the NP singular and the NP plural, despite the fact that the NP plural uses the bare plural, in contrast to the learners' L1 in which only the definite article is used with generic references.

For the sentence generic, the indefinite singular was significantly different from the bare singular and definite plural only, with $p = < 0.01$. There was no significant difference between the definite singular and indefinite singular, with $p = 0.194$, which suggests that the low-level learners tended to overuse the definite article with the sentence generic singular. As mentioned above, this group used the definite article only with the generic references, and dropped the indefinite article, which may represent the reason for overuse of the definite article. There was no significant difference between the indefinite singular and the bare plural, with $p = 0.128$; this is as expected, as these are the target items for the sentence generic. For the definite plural and bare plural there was a significant difference, with $p = 0.049$; however, despite that, the means do not have a 0.5-point difference (Figure 5-3). The low-level learners demonstrated no significant difference in difficulty with the sentence generic singular, which is the only item where the learners tended to overuse the definite article. Figure 5-3 shows that the mean rating for the definite singular was higher than that for the target item, the indefinite article. The pairwise comparison across the test categories is provided in Table 5-17 (below).

Table 5-17: Pairwise cell-by-cell comparisons across test categories for low-level learners

		t	df	Sig.
Pair 1	NP definite singular – Sentence definite singular	-0.575	79	0.567
Pair 2	NP indefinite singular – Sentence indefinite singular	-8.171	79	< 0.001
Pair 3	NP bare singular – Sentence bare singular	-0.996	79	0.322
Pair 4	NP definite plural – Sentence definite plural	3.177	79	0.002
Pair 5	NP bare plural – Sentence bare plural	4.024	79	< 0.001

Table 5-17 shows the comparison between the NP generic and the sentence generic with the five sentence types. For the definite singular there was no significant difference ($p = 0.567$) between the NP generic and the sentence generic. In this context, the definite article is the target item. For sentence generic singular, the low-level learners overused the definite singular, which was not the target item. As shown in Figure 5-3, the definite singular with both NP generic and sentence generic was highly rated. For the indefinite singular there was a significant difference between the NP generic and the sentence generic ($p = < 0.01$), as it was highly rated with the sentence generic (as the target item) and rejected with the NP generic (as a non-target item). For the bare singular there was no significant difference ($p = 0.322$), as this was rated low with both NP generic and sentence generic. For the definite plural there was a significant difference ($p = 0.002$), as it was more highly rated with the NP generic than the sentence generic. For the bare plural there was a significant difference ($p = < 0.01$), as it was also rated more highly with the NP

generic than the sentence generic. The pairwise cell-by-cell comparisons of control categories for the low-level learners are provided in Table 5-18.

Table 5-18: Pairwise cell-by-cell comparisons of control categories for low-level learners

		t	df	Sig.
Pair 1	Anaphoric S definite singular– Anaphoric S indefinite singular	10.507	79	< 0.001
Pair 2	Anaphoric S definite singular– Anaphoric S bare singular	12.997	79	< 0.001
Pair 3	Anaphoric S definite singular– Anaphoric S definite plural	12.116	79	< 0.001
Pair 4	Anaphoric S definite singular– Anaphoric S bare plural	10.252	79	< 0.001
Pair 5	Anaphoric S indefinite singular– Anaphoric S bare singular	-0.254	79	0.800
Pair 6	Anaphoric P definite plural– Anaphoric P indefinite singular	8.759	79	< 0.001
Pair 7	Anaphoric P definite plural– Anaphoric P bare singular	10.760	79	< 0.001
Pair 8	Anaphoric P definite plural– Anaphoric P definite singular	9.050	79	< 0.001
Pair 9	Anaphoric P definite plural– Anaphoric P bare plural	7.289	79	< 0.001
Pair 10	Anaphoric P bare singular– Anaphoric P bare plural	-2.756	79	0.007

Table 5-18 shows the comparison between the five options with anaphoric singular and plural references. For the anaphoric singular, the definite singular (the target item) was significantly different from the four non-target items (indefinite singular, bare singular, definite plural, and bare plural), with $p = < 0.01$. For the anaphoric plural, the definite plural (target item) was significantly different from the non-target items (definite singular, indefinite singular, bare singular and bare plural), with $p = < 0.001$. These results show that the low-level learners were aware of the article system in English, as significant differences were found between target items and non-target items for anaphoric references, similar to the results of the L1 English speakers (Table 5-10). The comparison across the control categories is shown in Table 5-19.

Table 5-19: Pairwise cell-by-cell comparisons across control categories for low-level learners

		T	df	Sig.
Pair 1	Anaphoric S definite singular– Anaphoric P definite singular	11.513	79	< 0.001
Pair 2	Anaphoric S indefinite singular– Anaphoric P indefinite singular	2.601	79	0.011
Pair 3	Anaphoric S bare singular– Anaphoric P bare singular	2.047	79	0.044
Pair 4	Anaphoric S definite plural– Anaphoric P definite plural	-10.609	79	< 0.001
Pair 5	Anaphoric S bare plural– Anaphoric P bare plural	-0.910	79	0.366

Table 5-19 shows a significant difference between the anaphoric singular and the anaphoric plural ($p = < 0.01$) for the definite singular, which was rated highly (as the target item) with the anaphoric singular as displayed in (Figure 5-3). There was also a significant difference between the anaphoric singular and the anaphoric plural ($p = < 0.01$) for the definite plural, which was rated highly (as the target item) with the

anaphoric plural. There was a significant difference ($p = 0.011$) between the anaphoric singular and the anaphoric plural with the indefinite singular, which was rated higher with the anaphoric singular. For the bare singular there was a significant difference ($p = 0.044$) due to its lower rating with the anaphoric plural than the anaphoric singular. For the bare plural there was no significant difference ($p = 0.366$) as it was rated low with both the anaphoric singular and anaphoric plural.

The results for the low-level learners show that they demonstrated less accuracy with the sentence generic singular than the NP singular and plural and sentence plural. Although their L1 allows only the definite article for generic references, the low-level learners were able to use the bare plural, but showed difficulty in using the indefinite article with sentence generic references. They displayed a high level of accuracy with anaphoric references, using the definite article.

The descriptive results for the other Saudi-Arabic group, the high-level learners, are presented in detail below (Table 5-20 for generic references and Table 5-21 for anaphoric references).

Table 5-20: Descriptive results for generic references with high-level learners

	NP generic					Sentence generic				
	definite singular	indefinite singular	bare singular	definite plural	bare plural	definite singular	indefinite singular	bare singular	definite plural	bare plural
Mean	2.984	2.178	2.121	2.754	2.915	2.838	2.862	1.975	2.348	2.650
SD	0.532	0.585	0.543	0.589	0.512	0.516	0.566	0.661	0.677	0.655
Range	2.500	2.500	2.400	2.900	1.900	2.600	3.000	2.400	3.000	2.900
Minimum	1.500	1.100	1.000	1.000	1.900	1.400	1.000	1.000	1.000	1.100
Maximum	4.000	3.600	3.400	3.900	3.800	4.000	4.000	3.400	4.000	4.000

For NP generic (Table 5-20), the definite singular (NP singular target item) mean rating was 2.984 and the bare plural (NP plural target item) mean rating was 2.915. The bare singular mean rating was 2.121, and the mean rating was 2.754 for the

definite plural and 2.915 for the bare plural. The minimum rating for the definite singular was 1.5 out of 4; for bare plural 1.9 out of 4. For the indefinite article the minimum rating was 1.1 out of 4, and 1 out of 4 for the bare singular and definite plural. The maximum rating for the definite singular was 4 out of 4, with 3.9 out of 4 for the definite plural, 3.8 out of 4 for the bare plural and 3.4 out of 4 for the bare singular.

For the sentence generic (Table 5-20), the mean rating for the indefinite singular (sentence singular target item) was 2.862, and 2.650 for the bare plural (sentence plural target item). The mean rating for the definite singular was 2.838, with 1.975 for the bare singular and 2.348 for the definite plural. The minimum rating was 1.4 out of 4 for the definite singular, 1.1 out of 4 for the bare plural and 1 out of 4 for the indefinite singular, bare singular and definite plural. The maximum rating was 4 out of 4 for the definite singular, indefinite singular, definite plural and bare plural, and 3.4 out of 4 for the bare singular. The descriptive results for anaphoric references are shown in Table 5-21.

Table 5-21: Descriptive results for anaphoric references for high-level learners

	Anaphoric singular					Anaphoric plural				
	definite singular	indefinite singular	bare singular	definite plural	bare plural	definite singular	indefinite singular	bare singular	definite plural	bare plural
Mean	3.435	2.197	1.970	2.061	2.050	2.014	1.830	1.792	3.355	2.075
SD	0.435	0.504	0.476	0.609	0.592	0.577	0.499	0.561	0.601	0.570
Range	2.200	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.100	1.000
Minimum	2.200	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Maximum	4.000	3.200	3.200	3.800	3.400	3.900	3.000	3.100	4.000	4.000

For the anaphoric singular (Table 5-21), the mean rating for the definite singular (anaphoric singular target item) was 3.435; the mean was 2.197 for the indefinite singular, 1.970 for the bare singular, 2.061 for the definite plural and 2.050 for the

bare plural. The minimum rating for the definite singular was 2.2 out of 4, but 1 out of 4 for the other four items. The maximum rating for the definite singular was 4 out of 4, with 3.2 out of 4 for the indefinite singular and bare singular, 3.4 out of 4 for the bare plural and 3.8 out of 4 for the definite plural. For the anaphoric plural, the mean rating for the target item (definite plural) was 3.355, 2.014 for the definite singular, 1.830 for the indefinite singular, 1.792 for the bare singular and 2.075 for the bare plural. The minimum rating for all five items was 1 out of 4. The maximum rating for the definite plural and bare plural was 4 out of 4, with maximums of 3.9 for the definite singular, 3.1 for the bare singular and 3 for the indefinite singular.

Figure 5-4 shows the mean ratings of the generic and anaphoric references to illustrate the difference between the means of the five items (definite singular, indefinite singular, bare singular, definite plural and bare plural).

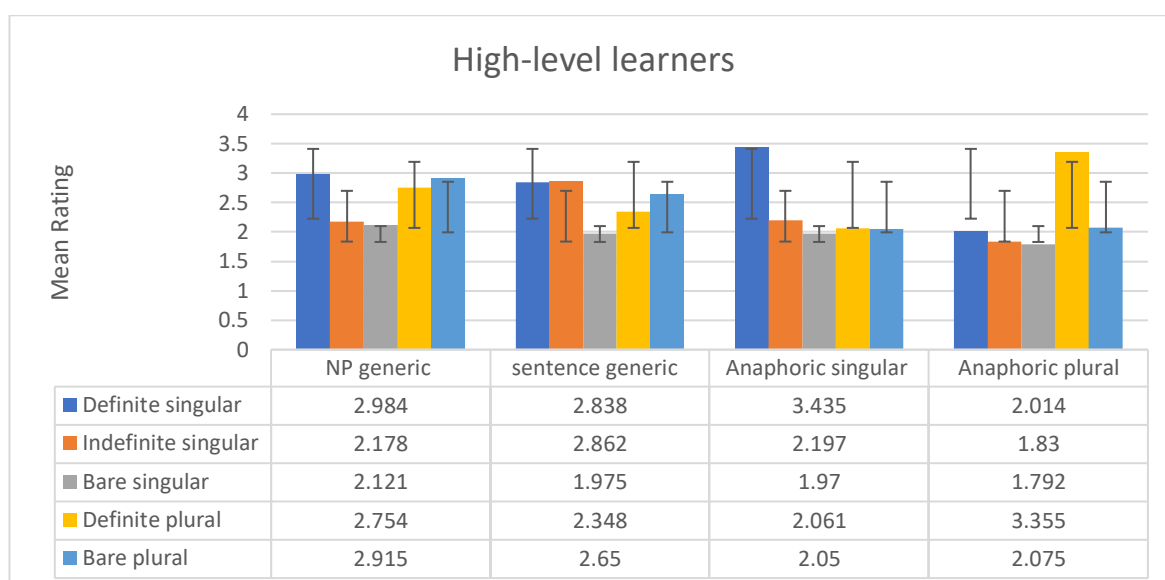


Figure 5-4: Descriptive statistics for the generic and anaphoric references for high-level learners

Figure 5-4 displays the target items for the NP generic (definite singular and bare plural), the sentence singular (indefinite singular and bare plural), the anaphoric singular (definite singular), and the anaphoric plural (definite plural). For the test categories, with the NP generic singular the high-level learners gave the definite singular a mean rating of 2.984, which is more than 2.5 and above the mean ratings for the indefinite singular (2.178) and bare singular (2.121) by more than 0.5 points.

For the NP generic plural, the mean rating for the bare plural was 2.915, which is more than 2.5, but the mean rating for definite plural at only 2.754, meant no 0.5-point difference between the two options. The high-level learners overused the definite article with the NP generic plural (where the target item is the bare plural), as predicted in the learnability issue stated above: their L1 uses only the definite article with NP generic, while L2 uses the definite article and bare plural (discussed in detail in Section 5.6).

For the sentence generic, the learners gave the indefinite singular a mean rating of 2.862 (which is more than 2.5), but the definite singular mean rating was 2.838, with no 0.5-point difference between the two options. The mean rating for the bare singular was 1.975, lower than the other two options. The learners tended to overuse the definite article with the sentence generic singular, which might be due to L1 influence, as L1 uses only the definite article with generic references. For the sentence generic plural, the mean rating for the bare plural was 2.65, which is more than 2.5, but the mean rating for the definite plural was 2.348, lower than 2.5 but with no 0.5-point difference between the two options. The high-level learners also overused the definite article with the sentence generic plural, despite the target item being the bare plural, and employed excessive use of the definite article with plural references in both the NP generic and sentence generic, which could be explained by L1 transfer (discussed in Section 5.6).

For control category 1, the anaphoric singular, the mean rating for the definite singular was 3.435, which is more than 3.0 and above the mean ratings of the all the non-target items by more than 0.5 points. For the anaphoric plural, the mean rating for the definite plural was 3.355, again more than 3.0 and above the mean ratings for the non-target items by more than 0.5 points. Like the low-level learners, the high-level learners tended to overuse the definite article with the NP plural and sentence singular and plural.

The test of normality is presented in Table 5-22 (below). To explore the results in more depth, a repeated measures ANOVA was carried out to determine significant differences between the generic and anaphoric references, as well as a pairwise comparison to show the significant difference between the five items that the learners rated (Table 5-23).

Table 5-22: Test of normality for acceptability judgement task for high-level learners

Test	Statistics	P
Shapiro–Wilk	0.915	0.318
Kolmogorov–Smirnov	0.288	0.376

Note: Significant results suggest a deviation from normality.

Table 5-22 shows that there are no significant results, with $p = 0.318$ with the Shapiro–Wilk test and $p = 0.376$ with the Kolmogorov–Smirnov test.

Table 5-23: Repeated measures ANOVA results for high-level learners

	df	Mean square	F	Sig.
Test categories				
Context	1.000	0.618	2.189	0.143
Sentence types	3.793	18.410	47.394	< 0.001
Context x Sentence types	3.810	7.681	29.004	< 0.001
Control categories				
Context	1.000	3.354	18.271	< 0.001
Sentence types	3.197	32.929	96.663	< 0.001
Context x Sentence types	2.897	52.154	131.390	< 0.001

Note: Greenhouse-Geisser

The reason for employing a repeated measures ANOVA is to show the significant difference between the generic references (NP generic and sentence generic) with the test categories, and anaphoric references (singular and plural) with the control categories. Table 5-23 for the test categories shows that there was no significant difference between the contexts (NP generic and sentence generic), with $F = 2.189$

and $p = 0.143$. However, the sentence types (definite singular, indefinite singular, bare singular, definite plural, and bare plural) did show significant difference, with $F = 47.394$ and $p = < 0.01$. For the contexts and the sentence types there was a significant difference, with $F = 29.004$ and $p = < 0.01$. As significant differences were found between the contexts and sentence types, pairwise comparisons are useful to locate them (Table 5-24 for between the generic references and Table 5-25 for among the generic references).

For the control categories (anaphoric references), there was a significant difference with context (anaphoric singular and anaphoric plural), with $F = 18.271$ and $p = < 0.01$, and a significant interaction with the sentence types (definite singular, indefinite singular, bare singular, definite plural, and bare plural), with $F = 96.663$ and $p = < 0.01$. A significant interaction was also found between the contexts and the sentence types, with $F = 131.390$ and $p = < 0.01$. A pairwise comparison with anaphoric references is given in Table 5-26 (with singular and plural references) and Table 5-27 (among the references). The comparison for the high-level learners is given in Table 5-24 and Table 5-25 for the test categories.

Table 5-24 (below) shows the comparisons between NP generic and sentence generic and the five items (definite singular, indefinite singular, bare singular, definite plural and bare plural).

Table 5-24: Pairwise cell-by-cell comparisons of test categories for high-level learners

		t	df	Sig.
Pair 1	NP definite singular– NP indefinite singular	9.415	79	< 0.001
Pair 2	NP definite singular– NP bare singular	10.388	79	< 0.001
Pair 3	NP definite singular– NP definite plural	2.725	79	0.008
Pair 4	NP definite singular– NP bare plural	0.773	79	0.442
Pair 5	NP definite plural– NP bare plural	-1.972	79	0.052
Pair 6	Sentence indefinite singular– Sentence definite singular	0.286	79	0.775
Pair 7	Sentence indefinite singular– Sentence bare singular	9.744	79	< 0.001
Pair 8	Sentence indefinite singular– Sentence definite plural	5.150	79	< 0.001
Pair 9	Sentence indefinite singular– Sentence bare plural	2.282	79	0.025
Pair 10	Sentence definite plural– Sentence bare plural	-2.931	79	0.004

For the NP generic, the definite singular was significantly different from the indefinite singular and the bare singular, with $p = < 0.01$. The definite singular was significantly different from the definite plural, with $p = 0.008$. The significant

difference with the definite singular and the definite plural with NP generic was higher for the high-level learners, with $p = 0.008$, than the low-level learners (Table 5-16), with $p = 0.047$. There was no significant difference ($p = 0.442$) between the definite singular and the bare plural; both are target items for the NP generic and were highly rated (Figure 5-4). A significant difference was found ($p = 0.052$) between the definite plural and the bare plural.

For the sentence generic, there was no significant difference between the indefinite singular and definite singular ($p = 0.755$), as the high-level learners rated both items highly (Figure 5-4). There was a significant difference between the indefinite singular and the bare singular and the definite plural, with $p = < 0.01$. There was also a significant difference between the indefinite singular and the bare plural ($p = 0.025$): both are target items, and both were highly rated, but the high-level learners rated the indefinite singular higher than the bare plural (Figure 5-4). There was a significant difference between the bare plural and the definite plural, as predicted, with $p = 0.004$, which is higher than for the low-level learners, with $p = 0.049$. The significant difference is greater with the high-level learners than the low-level ones, which indicates that the former performed more accurately than the latter with both NP generic and sentence generic references. However, both high- and low-level learners showed less accuracy with the sentence generic singular than with other generic references. The indefinite article in L2 English is demonstrated to be the most difficult article for Saudi-Arabic learners to acquire, possibly due to L1 influence (discussed in Section 5.6). The comparison across the test categories is presented in Table 5-25(below).

Table 5-25: Pairwise cell-by-cell comparisons across test categories for high-level learners

		t	df	Sig.
Pair 1	NP definite singular– Sentence definite singular	2.004	79	0.048
Pair 2	NP indefinite singular– Sentence indefinite singular	-9.101	79	< 0.001
Pair 3	NP bare singular– Sentence bare singular	1.837	79	0.070
Pair 4	NP definite plural– Sentence definite plural	4.790	79	< 0.001
Pair 5	NP bare plural– Sentence bare plural	2.997	79	0.004

There was a significant difference with the definite singular between the NP generic and the sentence generic, with $p = 0.048$. Both definite singular articles were rated highly with NP generic and sentence generic (all of the data in this paragraph can be seen in Figure 5-4) but more highly rated with NP generic singular, as the was the target item, than sentence singular. There was a significant difference ($p < 0.001$) between the NP generic and the sentence generic with the indefinite singular (the sentence generic singular target item), which was highly rated. There was no significant difference ($p = 0.070$) with the bare singular between the NP generic and the sentence generic, as it was rated low in both contexts. The definite plural was significantly different ($p < 0.01$) between the NP generic and the sentence generic, and rated more highly with the NP generic than with the sentence generic. The bare plural was significantly different between the NP generic and the sentence generic ($p = 0.004$). Although the bare plural is the target item for both plural contexts for NP generic and sentence generic, the high-level learners tended to rate it more highly with the NP generic than with the sentence generic. The high-level learners, like the

low-level ones, overused the definite article with the sentence generic singular. Both high- and low-level learners showed significant difference with the same items among the generic references, as seen in Table 5-17 with the low-level learners. The results for the control categories are given in Table 5-26 and Table 5-27 (below). Table 5-26 (below) shows the pairwise comparisons between anaphoric singular and plural and the five items (definite singular, indefinite singular, bare singular, definite plural and bare plural).

Table 5-26: Pairwise cell-by-cell comparisons of control categories for high-level learners

		t	df	Sig.
Pair 1	Anaphoric S definite singular– Anaphoric S indefinite singular	15.419	79	< 0.001
Pair 2	Anaphoric S definite singular– Anaphoric S bare singular	18.255	79	< 0.001
Pair 3	Anaphoric S definite singular– Anaphoric S definite plural	15.489	79	< 0.001
Pair 4	Anaphoric S definite singular– Anaphoric S bare plural	15.475	79	< 0.001
Pair 5	Anaphoric S indefinite singular– Anaphoric S bare singular	3.032	79	0.003
Pair 6	Anaphoric P definite plural– Anaphoric P indefinite singular	13.653	79	< 0.001
Pair 7	Anaphoric P definite plural– Anaphoric P bare singular	15.737	79	< 0.001
Pair 8	Anaphoric P definite plural– Anaphoric P definite singular	14.196	79	< 0.001
Pair 9	Anaphoric P definite plural– Anaphoric P bare plural	12.693	79	< 0.001
Pair 10	Anaphoric P bare singular– Anaphoric P bare plural	-3.368	79	<0.001

For the anaphoric singular, the definite singular (the target item) was significantly different from the non-target items (indefinite singular, bare singular, definite plural and bare plural), with $p = < 0.001$. Similarly, for the anaphoric plural, the definite

plural (the target item) was significantly different from the non-target items (definite singular, indefinite singular, bare singular and bare plural), with $p = < 0.001$. Both high-level and low-level learners displayed high accuracy with both anaphoric singular and anaphoric plural references, which is similar to the outcomes for the L1 English speakers shown in Table 5-10. The pairwise comparison among the categories is presented in Table 5-27.

Table 5-27: Pairwise cell-by-cell comparisons across control categories for high-level learners

		t	df	Sig.
Pair 1	Anaphoric S definite singular– Anaphoric P definite singular	16.182	79	< 0.001
Pair 2	Anaphoric S indefinite singular– Anaphoric P indefinite singular	5.060	79	< 0.001
Pair 3	Anaphoric S bare singular– Anaphoric P bare singular	2.536	79	0.013
Pair 4	Anaphoric S definite plural– Anaphoric P definite plural	-13.998	79	< 0.001
Pair 5	Anaphoric S bare plural– Anaphoric P bare plural	-0.301	79	0.764

Table 5-27 shows that the definite singular was significantly different between the anaphoric singular and the anaphoric plural ($p = < 0.01$), being rated highly with the anaphoric singular (the target item) (all information here shown in Figure 5-4). The definite plural was significantly different between the anaphoric singular and the anaphoric plural ($p = < 0.01$), being highly rated with the anaphoric plural (the target item). The indefinite singular showed a significant difference between the anaphoric singular and the anaphoric plural ($p = 0.013$), rated low with both, but more so with the anaphoric plural than the anaphoric singular. The bare plural demonstrated no

significant difference as it was rated low with both the anaphoric singular and anaphoric plural, with $p = 0.764$.

To summarise the results for the first question, both low- and high-level learners were able to accurately judge the anaphoric singular and plural contexts (i.e. the control categories). For the generic references (the test categories), both low- and high-level learners displayed accuracy with the NP singular and plural. For the sentence generic, singular context, for which the learners needed to use the indefinite article, both low- and high-level learners overused the definite article, but demonstrated accuracy with the sentence plural. Although the sentence singular context proved difficult for the learners to judge, they were able to judge the sentence generic plural. These findings will be elaborated on in Section 5.6. The following section presents the results for the second research question.

2- Can Saudi-Arabic learners distinguish between generic and anaphoric references in L2 English in a forced-choice task?

The participants' second task related to articles in English was a forced-choice task (Snape, 2008). The original task consisted of 92 sentences, but 24 were selected for use in this study, as explained in Section 5.4.2.2. Each sentence had a missing article, and the participants selected the article they thought most suitable to fill the gap, as demonstrated in example (78). The sentences were divided into two contexts: generic and anaphoric. The generic context had two types: NP generic (singular and plural) and sentence generic (singular and plural), while the anaphoric context comprised singular and plural.

(78) Sentence generic singular

A: Terry and Liz are arguing over what pet to buy.

B: What does Terry want?

A: He favours ___a___ cat.

a the Ø an

In this task, the learners were not judging the acceptability of a sentence as they were in the first. Here, they selected the option they considered most appropriate to fill in each blank. The aim was to allow them to demonstrate their ability to use articles in English with regard to the contexts of generic references and anaphoric references. In this task the generic references included the NP generic, which focuses on the kind of the given item, and uses the definite singular or the bare plural to refer to it; and the sentence generic, which is used to refer to generalisations regarding known habits and beliefs. The sentence generic has two forms (as mentioned above), the singular and the plural. The final part of this task focused on the anaphoric reference, which is used to refer to an item which has been previously mentioned. The anaphoric also has singular and plural forms.

This section presents the descriptive results of this task, along with the responses of the learners of all three groups (L1 English speakers and low- and high-level Saudi-Arabic learners), to indicate which type of reference (anaphoric or generic) learners use most accurately. The frequency for each item in the task is then presented to show how the articles are distributed, and a Friedman's ANOVA conducted to determine the difference between generic and anaphoric references along with post hoc, as the low-level learners are not normally distributed (discussed below). Figure 5-5 (below) shows the forced-choice task data, presented according to the mean ratings of the correct responses, for the L1 English speakers and Saudi-Arabic learners.

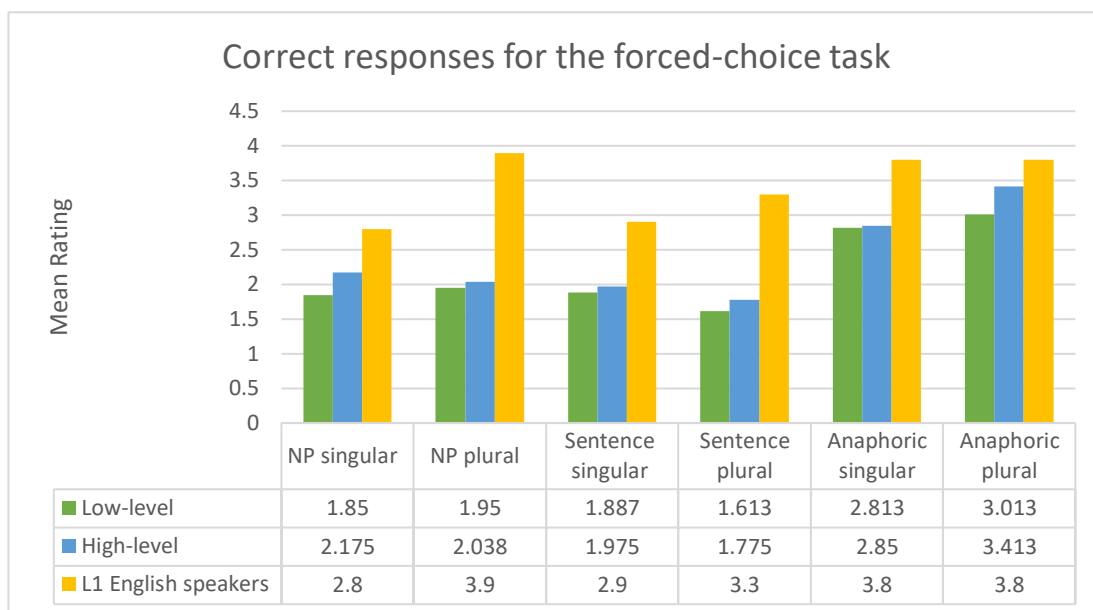


Figure 5-5: Mean ratings of the correct responses for the forced-choice task

Figure 5-5 shows the mean ratings of the correct responses for the low-level learners in green, the high-level learners in blue and the L1 English speakers in yellow. For the first test category, the NP generic, the means for the low-level learners were 1.85 for the NP singular and 1.95 for the NP plural. The means for the high-level learners were 2.175 for the NP singular and 2.038 for the NP plural. For the L1 English speakers, the NP singular mean was 2.8 and the NP plural mean 3.9. For the second test category, the sentence generic, the L1 English speakers' means were 2.9 for the sentence singular and 3.3 for the sentence plural. For the low-level learners, the mean for the sentence singular was 1.887, with a mean of 1.613 for the sentence plural. For the high-level learners, the sentence singular mean was 1.975 and 1.775 for the sentence plural.

In the control category, the anaphoric, for the anaphoric singular the participants achieved means of 3.8 (L1 English speakers), 2.813 (low-level learners) and 2.85 (high-level learners). For the anaphoric plural, the L1 English speakers' mean was 3.8, with means of 3.013 for low-level learners and 3.413 for high-level learners. The L1 English speakers' mean results were higher than those of the Saudi-Arabic learners. In the two test categories, both groups of learners achieved higher means with the NP generic than with the sentence generic. In the control category (singular

and plural anaphoric references), the learners achieved high means, performing similarly to the L1 English speakers, particularly with the plural. The descriptive results for L1 English speakers are presented in Table 5-28.

Table 5-28: Descriptive results for NP generic for L1 English speakers

	NP singular			NP plural		
	Definite	Indefinite	Bare	Definite	Indefinite	Bare
Mean	2.800	1.000	0.200	3.900	0.000	0.100
SD	0.789	0.667	0.422	0.316	0.000	0.316
Range	2.000	2.000	1.000	1.000	0.000	1.000
Minimum	2.000	0.000	0.000	3.000	0.000	0.000
Maximum	4.000	2.000	1.000	4.000	0.000	1.000

Table 5-28 shows the descriptive results for NP singular and NP plural. For NP singular, the learners had three options with which fill the gaps: the definite article “the”, the indefinite article “a/an” and the bare plural (\emptyset). The correct response for both NP singular and NP plural was the definite article; this is highlighted in green in Table 5-28. The forced-choice task included four conversations for each type (four NP singular conversations and four NP plural conversations). The L1 English speakers selected the definite article a mean of 2.800 times, the highest, compared to means of 1.00 for the indefinite article and 0.200 for bare plural. The highest minimum was also for the definite article, with 2 out of 4, while there was a minimum of 0 for both the indefinite article and bare plural. Maximums are 4 out of 4 for the definite article, 2 out of 4 for the indefinite article and 1 out of 4 for bare plural.

For the NP plural, the definite article had the highest mean, at 3.900, while the means were 0.100 for bare plural and 0 for the indefinite article. The minimums for the L1 English speakers were 3 out 3 for the definite article, and 0 out 4 for the indefinite and bare plural. The maximums were 4 out of 4 for the definite article, 1 out of 4 for

bare plural and zero out of 4 for the indefinite article. The L1 English speakers selected the correct responses for the NP singular and plural and rejected the other options. To examine how the L1 English speakers responded to each conversation involving the NP generic, Table 5-29 presents a frequency test, showing which article the learners selected the most often for each item.

Table 5-29: Frequency for NP generic for L1 English speakers

Items	Definite (the)	Indefinite (a/an)	Bare (Ø)	Total
NP singular 1	80%	20%	0%	100%
NP singular 2	60%	40%	0%	100%
NP singular 3	100%	0%	0%	100%
NP singular 4	40%	40%	20%	100%
NP plural 1	90%	0%	10%	100%
NP plural 2	100%	0%	0%	100%
NP plural 3	100%	0%	0%	100%
NP plural 4	100%	0%	0%	100%

Table 5-29 shows the four sentences the participants had to complete for each type, with the three options available for them to choose from: the definite article “the”, indefinite article “a/an” and bare plural (Ø). For NP singular and plural, the correct response is the definite article (highlighted in green). For the first NP singular item, 80% of the participants chose the definite article, 20% chose the indefinite article and 0% the bare plural. For the second item, 60% chose the definite article and 40% the indefinite article (0% opted for bare plural). For the third item, the definite article was selected by 100% of participants, i.e. the total number of responses, and the other options were selected by 0%. For the final item in the NP singular context, 40% of responses were for the definite article, the indefinite article was chosen in 40% and 20% of responses were the bare plural.

With NP singular, the second item ([79], below) and the fourth item ([80], below) were problematic for the L1 English speakers, which could be explained by the fact that there was a low number of them included. For the second item, four of the ten L1 English speakers selected the indefinite article, and for the fourth item, four selected the correct response (the definite article), while four selected the definite article and two selected bare plurals. More than ten participants in this group may have reduced how problematic these sentences seemed to be.

(79) A: The conservationists are making news again.

B: What are they doing now?

A: They are trying to encourage __the__ oyster catcher to come back to urban rivers.

Ø an a the

(80) A: Michelin have made some advances in bicycle tyre technology.

B: Oh, yes?

A: They have developed tyres to help __the__ cyclist avoid punctures.

an Ø the a

These items were not excluded as they were not problematic for the Saudi-Arabic learners (low-level or high-level), as shown below.

For the first NP plural item, the definite article was selected by 90% of L1 English speakers and the bare plural selected by 10%, which left 0% selecting the indefinite article. For the second, third and fourth items, the definite article was selected 100% of the time, and the remaining three options were selected 0% of times. The second test category, sentence generic, is presented in Table 5-30 (below).

Table 5-30: Descriptive results for sentence generic for L1 English speakers

	Sentence singular			Sentence plural		
	Definite	Indefinite	Bare	Definite	Indefinite	Bare
Mean	1.100	2.900	0.000	0.700	0.000	3.300
SD	0.738	0.738	0.000	0.675	0.000	0.675
Range	2.000	2.000	0.000	2.000	0.000	2.000
Minimum	0.000	2.000	0.000	0.000	0.000	2.000
Maximum	2.000	4.000	0.000	2.000	0.000	4.000

Table 5-30 shows the mean, SD, range, minimum and maximum for the number of times each option was selected with the sentence generic (four singular and four plural conversations). For the sentence singular, the correct response is the indefinite article, and for the sentence plural it is the bare plural, highlighted in green in Table 5-30. For the sentence singular mean, the indefinite article mean was 2.900, for the definite article 1.100 and the bare plural 0. The minimum for the indefinite article was 2 out of 4, with minimums of zero out of 4 for the definite article and bare plural. The maximum for the indefinite article was 4 out of 4, with 2 out of 4 for the definite article and zero out of 4 for bare plural.

For the sentence plural, the bare plural mean was 3.300, the highest, compared to means of 0.700 for the definite article and 0 for the indefinite article. The minimum for the bare plural was 2 out of 4, with minimums of 0 for the definite and indefinite articles. The maximum for the bare plural was 4 out of 4, with 2 out of 4 for the definite article and 0 out of 4 for the indefinite article. L1 English speakers selected the correct article for both the sentence singular and plural, as the means for these options were higher than those for the other articles. The frequency of each option for the sentence generic is presented in Table 5-31 (below).

Table 5-31: Frequency for sentence generic for L1 English speakers

Items	Definite	Indefinite	Bare	Total
Sentence singular 1	20%	80%	0%	100%
Sentence singular 2	0%	100%	0%	100%
Sentence singular 3	70%	30%	0%	100%
Sentence singular 4	20%	80%	0%	100%
Sentence plural 1	60%	0%	40%	100%
Sentence plural 2	10%	0%	90%	100%
Sentence plural 3	0%	0%	100%	100%
Sentence plural 4	0%	0%	100%	100%

In Table 5-31, the green highlighted columns are the correct responses – the indefinite article for sentence singular contexts, and the bare plural for sentence plural. For the first item, the indefinite article comprises 80% of responses, while 20% of responses were the definite article and 0% were the bare plural. For the second item, 100% of L1 English speakers selected the indefinite article, while 0% selected the definite article and the bare plural. For the third item, the indefinite article was selected in 70% of responses, the indefinite article was selected in 30% and the bare plural in 0%. For the last sentence singular item, the indefinite article comprised 80% of responses, with the definite article making up 20% and the bare plural 0%.

For the second context, the sentence plural, the correct response is the bare plural (the green highlighted column in Table 5-31). The bare plural was selected in 40% of responses, the definite article in 60% and the indefinite article in 0%. In the second item, the bare plural comprised 90% of responses, the definite article 10% and the indefinite article 0%. In the third and the fourth items, the bare plural was selected in 100% of responses. The results for the test categories show that L1 English speakers

selected the correct responses in both NP generic and sentence generic contexts, singular and plural.

The third sentence singular item (as in [81] below) and the first sentence plural item (as in [82] below) seemed problematic. As before, this could have been the result of the low number of participants.

(81) A: My daughter is doing postgraduate work at university.

B: What is she doing?

A: She is studying __a__ freshwater snail found only in Scotland.

Ø an a the

(82) A: Many scientists now say that global warming is happening.

B: What do you think is causing it?

A: Some people blame __Ø__ cars, but I'm not so sure.

the a an Ø

The control categories, the anaphoric singular and plural, are presented in Table 5-32 (below), with frequency shown in Table 5-33.

Table 5-32: Descriptive results for anaphoric references for L1 English speakers.

	Anaphoric singular			Anaphoric plural		
	Definite	Indefinite	Bare	Definite	Indefinite	Bare
Mean	3.800	0.200	0.000	3.800	0.000	0.200
SD	0.422	0.422	0.000	0.422	0.000	0.422
Range	1.000	1.000	0.000	1.000	0.000	1.000
Minimum	3.000	0.000	0.000	3.000	0.000	0.000
Maximum	4.000	1.000	0.000	4.000	0.000	1.000

Table 5-32 shows the mean, SD, range, minimum and maximum for the number of times each option was selected for the anaphoric singular and plural for L1 English speakers. For anaphoric references, the correct response is the definite article (highlighted in green in Table 5-32). For the anaphoric singular, the definite article mean was 3.800, with means of 0.200 for the indefinite article and 0 for the bare plural. The minimum for the definite article was 3 out of 4, with 0 for the indefinite and bare plural.

For the anaphoric plural, the definite article mean was 3.800, with means of 0.200 for the bare plural and 0 for the indefinite article. The minimum for the definite article was 3 out of 4, with 0 for the indefinite article and bare plural. The maximums were 4 out of 4, 1 out of 4 for the bare plural and 0 for the indefinite article.

Table 5-33: Frequency for anaphoric references for L1 English speakers

Items	Definite	Indefinite	Bare	Total
Anaphoric singular 1	80%	20%	0%	100%
Anaphoric singular 2	100%	0%	0%	100%
Anaphoric singular 3	100%	0%	0%	100%
Anaphoric singular 4	100%	0%	0%	100%
Anaphoric plural 1	100%	0%	0%	100%
Anaphoric plural 2	100%	0%	0%	100%
Anaphoric plural 3	80%	20%	0%	100%
Anaphoric plural 4	100%	0%	0%	100%

Table 5-33 shows the frequency of each option for the anaphoric references for L1 English speakers. For the first singular anaphoric item, the definite article was selected in 80% of responses, 20% of responses indicate the indefinite article and 0% the bare plural. For the second, third and fourth items, the definite article was selected in all responses (100%), and the other options in none (0%). This applies

also to the second type, the anaphoric plural, for which the definite article was selected in 100% of responses to the first, second and fourth items. In the third item, 80% of responses comprised the definite article, 20% were bare plural and 0% included the indefinite article. For the final anaphoric plural item, the definite article was selected in 100% of responses.

To identify significant differences between the NP generic and sentence generic, Friedman's ANOVA was carried out for the generic and anaphoric references. Friedman's ANOVA was selected because the low-level learners were non-normally distributed, explained in more detail later in this section. The test of normality for L1 English speakers is presented in Table 5-34.

Table 5-34: Test of normality with forced-choice task with L1 English speakers

Test	Statistics	P
Shapiro–Wilk	0.915	0.318
Kolmogorov–Smirnov	0.288	0.376

Note: Significant results suggest a deviation from normality.

The results in Table 5-34 show that the L1 English speakers were normally distributed. The mean ranks for the generic and anaphoric references are given in Table 5-35 (below).

Table 5-35: Mean ranks for generic and anaphoric references with L1 English speakers

	NP singular (Definite)	NP singular (Indefinite)	NP singular (Bare)	NP plural (Definite)	NP plural (Indefinite)	NP plural (Bare)
Mean rank	9.75	6.50	4.00	11.45	3.25	3.65
	Sentence singular (Indefinite)	Sentence singular (Definite)	Sentence singular (Bare)	Sentence plural (Bare)	Sentence plural (Definite)	Sentence plural (Indefinite)
Mean rank	9.95	6.65	3.25	10.50	5.80	3.25
	Anaphoric singular (Definite)	Anaphoric singular (Indefinite)	Anaphoric singular (Bare)	Anaphoric plural (Definite)	Anaphoric plural (Indefinite)	Anaphoric plural (Bare)
Mean rank	5.50	2.70	2.30	5.50	2.30	2.70

Table 5-35 shows that for the NP singular, the mean rank for the definite article (target item) was 9.75, 6.50 for the indefinite article and 4.00 for the bare plural (non-target items). For the NP plural, for the definite article (target item), the mean rank was 11.45, 3.25 for the indefinite article and 3.65 for the bare plural. For the sentence singular, the mean rank was 9.95 for the target item, the indefinite article; 6.65 for the definite article and 3.25 for the bare plural. For the sentence plural, the mean rank was 10.50 for the bare plural (target item), 5.80 for the definite article and 3.25 for the indefinite article. For the anaphoric singular, the mean rank was 5.50 for the definite article (target item), 2.70 for the indefinite article and 2.30 for the bare plural. For the anaphoric plural, for the definite article (target item), the mean rank

was 5.50, 2.30 for the indefinite article and 2.70 for the bare plural. The results of Friedman's ANOVA are presented in Table 5-36.

Table 5-36: Friedman's ANOVA for L1 English speakers

Test categories (generic references)		
Chi-square	df	Asymptotic significance
95.479	11	0.000
Control categories (anaphoric references)		
Chi-square	df	Asymptotic significance
45.373	5	0.000

Table 5-36 shows a chi-square of 95.479 with the test categories. This indicates a significant difference between the two generic references (NP generic and sentence generic). The Friedman's ANOVA shows a chi-square of 45.373 with the control categories, and there is a significant difference (0.000) between the anaphoric singular and plural. Thus, a post hoc Wilcoxon signed rank test was also conducted between and among the generic references (Table 5-37 and Table 5-38, respectively).

Table 5-37: Post hoc analysis between generic references for L1 English speakers

		Z	Asymptotic significance (two-tailed)
NP singular (Definite)	NP singular (Indefinite)	-2.558	0.011
	NP singular (Bare)	-2.827	0.005
NP plural (Definite)	NP plural (Indefinite)	-3.051	0.002
	NP plural (Bare)	-3.051	0.002
Sentence singular (Indefinite)	Sentence singular (Definite)	-2.460	0.014
	Sentence singular (Bare)	-2.850	0.004
Sentence plural (Bare)	Sentence plural (Definite)	-2.739	0.006
	Sentence plural (Indefinite)	-2.859	0.004

As shown in Table 5-37, for the NP singular, the definite article (the correct response) was significantly different from the indefinite article and the bare plural, with $p = 0.011$ and $p = 0.005$ respectively. For the NP plural, the definite article (the correct response) was significantly different from the indefinite article and the bare plural, with $p = 0.002$.

For the sentence generic, singular context, the correct response is the indefinite article, significantly different from the definite article and bare plural, with $p = 0.014$ and $p = 0.004$, respectively. For the sentence plural, the bare plural (the correct response) was significantly different from the definite article ($p = 0.006$) and indefinite article ($p = 0.004$).

The results show that L1 English speakers performed accurately with the NP generic and sentence generic, as the target articles for generic references were significantly

different from the other options. There are significant results for the L1 English speakers between the NP singular and plural and the sentence singular and plural.

In order to identify whether there was a significant difference with the participants' responses among the generic references, the post hoc analysis is presented in Table 5-38 for article types among the NP and sentence generic.

Table 5-38: Post hoc analysis among generic references for L1 English speakers

		Z	Asymptotic significance (two- tailed)
NP singular (Definite)	Sentence singular (Definite)	-2.871	0.004
NP singular (Indefinite)	Sentence singular (Indefinite)	-2.840	0.005
NP singular (Bare)	Sentence singular (Bare)	-1.414	0.157
NP plural (Definite)	Sentence plural (Definite)	-2.842	0.004
NP plural (Indefinite)	Sentence plural (Indefinite)	0.000	1.000
NP plural (Bare)	Sentence plural (Bare)	-2.842	0.004

Table 5-38 shows that for singular contexts, the definite NP singular and definite sentence singular significantly differ ($p = 0.004$) – the definite article is the target article for NP generic. For the indefinite NP, the generic and indefinite sentence singular significantly differed ($p = 0.005$) – the indefinite article is the target article for sentence singular. The bare plural showed no significant difference between NP singular and sentence singular ($p = 0.157$), as articles were rejected, and their means lower for both generic contexts (Table 5-35).

For plural contexts, the definite NP plural and definite sentence plural were significantly different ($p = 0.004$) – the definite article is the correct response for NP

plural. For the indefinite article there was no significant difference between NP plural and sentence plural ($p = 1.000$), as it was rejected for both and had the same lower mean (Table 5-35). The bare NP plural and bare sentence plural were significantly different ($p = 0.004$) – the bare plural is the target item for the sentence plural and had a high mean (Table 5-35). For the control categories (anaphoric references), the post hoc Wilcoxon signed rank test is presented in Table 5-39.

Table 5-39: Post hoc analysis between anaphoric references for L1 English speakers

		Z	Asymptotic significance (two-tailed)
Anaphoric singular (Definite)	Anaphoric singular (Indefinite)	-2.972	0.003
	Anaphoric singular (Bare)	-2.972	0.003
Anaphoric plural (Definite)	Anaphoric plural (Indefinite)	-2.972	0.003
	Anaphoric plural (Bare)	-2.972	0.003

The post hoc results show that for the anaphoric singular, the definite article significantly differed from the indefinite article and bare plural ($p = 0.003$). The definite article also significantly differed from the indefinite article and the bare plural with the anaphoric plural ($p = 0.003$). The significant difference among anaphoric references is displayed in Table 5-40 (below).

Table 5-40: Post hoc analysis among anaphoric references for L1 English speakers

		Z	Asymptotic significance (two-tailed)
Anaphoric singular (Definite)	Anaphoric plural (Definite)	0.000	1.00
Anaphoric singular (Indefinite)	Anaphoric plural (Indefinite)	-1.414	0.157
Anaphoric singular (Bare)	Anaphoric plural (Bare)	-1.414	0.157

Table 5-40 shows that there was no significant difference among anaphoric singular and anaphoric plural references with definite or indefinite articles and the bare plural ($p = 1.00$) as the correct response for the anaphoric, the definite article, was selected the most for both, with similar means (Table 5-35). Both the indefinite article and the bare plural were rejected, with low means (Table 5-35) and showed no significant difference ($p = 0.157$). The results for the L1 English speakers show that these participants selected the correct articles for both generic and anaphoric references. Although some items were problematic with the NP singular and sentence singular and plural, a significant difference was found between the target articles and non-target articles with generic references.

The results of the L1 English speaker control group were used for comparison with the Saudi-Arabic learners' results. The Saudi-Arabic learners were divided into low-level ($n = 80$) and high-level ($n = 80$) groups to determine the extent to which level of accuracy with generic and anaphoric references differs according to academic level. The low-level learners' results are presented below, starting with the descriptive results for the NP generic (Table 5-41) below.

Table 5-41: Descriptive results for NP generic for low-level learners

	NP singular			NP plural		
	Definite	Indefinite	Bare	Definite	Indefinite	Bare
Mean	1.850	1.350	0.800	1.950	0.78	1.28
SD	1.069	0.887	0.933	1.211	0.886	1.055
Range	4.000	4.000	4.000	4.000	4.000	3.000
Minimum	0.000	0.000	0.000	0.000	0.000	0.000
Maximum	4.000	4.000	4.000	4.000	4.000	3.000

Table 5-41 shows the three options (definite article, indefinite article and bare plural) from which the learners selected, and the green highlighted columns indicate the statistics for the correct options. For the NP generic, the definite article had a mean of 1.850, with 1.350 for the indefinite article and 0.800 for the bare plural. The mean for the definite article was the highest. The minimum for all three options was 0 out of 4, and the maximum for all three options was 4 out of 4. For the NP generic plural, the definite article is the correct response (explained in Section 5.4.2.2). The mean for the definite article was 1.950, with 0.78 for the indefinite article and 1.28 for the bare plural. The minimum for all three options was 0 out of 4, while the maximum for definite and indefinite articles was 4 out of 4 and 3 out of 4 for the bare plural. The low-level learners selected the definite article more often than the other two options with the NP generic. To show the distribution of the articles for all eight items with the NP generic, the frequency of each option (out of 100%) for the NP singular and NP plural is presented in Table 5-42 (below).

Table 5-42: Frequency for NP generic for low-level learners

Items	Definite (the)	Indefinite (a, an)	Bare (Ø)	Total
NP singular 1	45%	37.5%	17.5%	100%
NP singular 2	65%	13.8%	21.3%	100%
NP singular 3	36.3%	46.3%	17.5%	100%
NP singular 4	38.8%	37.5%	23.8%	100%
NP plural 1	51.2%	18.8%	30%	100%
NP plural 2	36.3%	28.7%	35%	100%
NP plural 3	51.2%	10%	38.8%	100%
NP plural 4	56.3%	20%	23.8%	100%

Table 5-42 show the four items for the NP singular and the four items for the NP plural, with the frequency of the three options from which the learners selected; the green highlighted column shows the frequency for the correct article. For NP singular 1, the frequency of the definite article was 45%, with 37.5% for the indefinite article and 17.5% for the bare plural. For NP singular 2, the definite article frequency was 65%, with 13.8% for the indefinite article and 21.3% for the bare plural. The low-level learners demonstrated no difficulty in NP singular 2, as was the case with the L1 English speakers (Table 5-29). For NP singular 3, the frequency was 36.3% for the definite article, 46.3% for the indefinite article and 17.5% for the bare plural, and for NP singular 4, it was 38.8% for the definite article, 37.5% for the indefinite article and 23.8% for the bare plural. The low-level learners selected the indefinite article with both NP singular 3 and NP singular 4, indicating that they were uncertain which article should be selected.

For NP plural 1, the frequency was 51.2% for the definite article, 18.8% for the indefinite article and 30% for the bare plural. For NP plural 2, it was 36.3% for the definite article, 28.7% for the indefinite article and 35% for the bare plural. For NP plural 3, the frequency was 51.2% for the definite article, 10% for the indefinite

article and 38.8% for the bare plural, and, finally, for NP plural 4, the frequency was 56.3% for the definite article, 20% for the indefinite article and 23.8% for the bare plural. The descriptive results for the sentence generic for low-level learners are given in Table 5-43.

Table 5-43: Descriptive results for sentence generic for low-level learners

	Sentence singular			Sentence plural		
	Definite	Indefinite	Bare	Definite	Indefinite	Bare
Mean	1.250	1.89	0.863	1.58	0.813	1.613
SD	0.921	0.914	0.775	1.145	1.020	1.248
Range	4.000	4.000	3.000	4.000	4.000	4.000
Minimum	0.000	0.000	0.000	0.000	0.000	0.000
Maximum	4.000	4.000	3.000	4.000	4.000	4.000

In Table 5-43, for the sentence generic singular, the correct article choice is the indefinite article, highlighted in green. The mean was 1.89 for the indefinite article, 1.250 for the definite article and 0.863 for the bare plural. The minimum for all options was 0 out of 4. The maximum was 4 out of 4 for the definite and indefinite articles and 3 out of 4 for the bare plural. For the sentence plural, the correct choice is the bare plural (highlighted in green). For the bare plural, the mean was 1.613, with means of 1.58 for the definite article and 0.813 for the indefinite article. The minimum was 0 out of 4 and the maximum was 4 out of 4 for all three options. The low-level learners tended to overuse the definite article with the sentence plural, as the bare plural and the definite article show similar means. The frequency for the sentence generic is displayed below in Table 5-44 (below).

Table 5-44: Frequency for sentence generic for low-level learners

Items	Definite	Indefinite	Bare	Total
Sentence singular 1	20%	55%	25%	100%
Sentence singular 2	31.3%	43.8%	25%	100%
Sentence singular 3	23.8%	43.8%	32.5%	100%
Sentence singular 4	50%	46.3%	3.8%	100%
Sentence plural 1	42.5%	20%	37.5%	100%
Sentence plural 2	48.8%	23.8%	27.5%	100%
Sentence plural 3	40%	13.8%	46.3%	100%
Sentence plural 4	26.3%	23.8%	50%	100%

Table 5-44 shows the frequency of the eight items for the sentence generic, with the correct choices highlighted in green. For sentence singular 1, the indefinite article is the correct choice, and its frequency was 55%, while it was 20% for the definite article and 25% for the bare plural. For sentence singular 2, the frequency was 48.8% for the indefinite article, 31.3% for the definite article and 25% for the bare plural. For sentence singular 3, it was 43.8% for the indefinite article, 23.8% for the definite article and 32.5% for the bare plural. The low-level learners displayed no difficulties with the three sentence singular items, as found with L1 English speakers (Table 5-31). For sentence singular 4, the frequency was 46.3% for the indefinite article, 50% for the definite article and 3.8% for the bare plural. As the frequency shows (Table 5-44), the learners selected the correct option, but the definite article frequency was high compared to that of the option for the L1 English speakers (Table 5-31), which might be due to L1 influence. This is discussed in detail in the next section (Section 5.6).

For sentence plural 1, as shown in Table 5-44, the bare plural is the correct choice and the frequency for this option was 37.5%, with frequencies of 42.5% for the definite article and 20% for indefinite article. For sentence plural 2, the bare plural

frequency was 27.5%, with 48.8% for the definite article and 23.8% for the indefinite article. For sentence plural 3, the bare plural frequency was 46.3%, with 40% for the definite article and 13.8% for the indefinite article. Finally, for sentence plural 4, the frequency was 50% for the bare plural, 26.3% for the definite article and 23.8% for the indefinite article. Sentence plural 1 was problematic for L1 English speakers (Table 5-31), while the low-level learners (Table 5-44) tended to overuse the definite article in all four items of the sentence plural, suggesting they had difficulties with the bare plural with the sentence generic. Table 5-45 shows the descriptive results for the anaphoric references.

Table 5-45: Descriptive results for anaphoric references for low-level learners

	Anaphoric singular			Anaphoric plural		
	Definite	Indefinite	Bare	Definite	Indefinite	Bare
Mean	2.813	0.950	0.24	3.013	0.550	0.44
SD	1.170	1.066	0.534	0.834	0.614	0.744
Range	4.000	4.000	3.000	3.000	2.000	3.000
Minimum	0.000	0.000	0.000	1.000	0.000	0.000
Maximum	4.000	4.000	3.000	4.000	2.000	3.000

Anaphoric references were used in the forced-choice task as the control category to show whether the Saudi-Arabic learners were aware of the article system in English (explained in Section 5.4.2.2). Table 5-45 shows the mean, SD, range, minimum and maximum for the scores of every time each option was selected with the anaphoric singular and plural. The correct choice for both singular and plural is the definite article (highlighted in green in Table 5-45). For the anaphoric singular, the definite article mean was 2.813, with means of 0.950 for the indefinite article and 0.237 for the bare plural. The minimum was 0 out of 4 for all three options, and the maximum was 4 out of 4 for definite and indefinite articles and 3 out of 4 for the bare plural. For the anaphoric plural, the definite article mean was 3.013, with means of 0.550 for the indefinite article and 0.44 for the bare plural. The minimum for the definite

article was 1 out of 4, with 0 out of 4 for the indefinite article and the bare plural. The maximum for the definite article was 4 out of 4, with 2 out of 4 for the indefinite article and 3 out of 4 for the bare plural. The low-level learners accurately selected the definite article, which had the highest mean. The frequency of each option for the anaphoric references is presented in Table 5-46.

Table 5-46: Frequency for anaphoric references for low-level learners

Items	Definite	Indefinite	Bare	Total
Anaphoric singular 1	76.3%	18.8%	5%	100%
Anaphoric singular 2	62.5%	33.8%	3.8%	100%
Anaphoric singular 3	72.5%	17.5%	10%	100%
Anaphoric singular 4	70%	25%	5%	100%
Anaphoric plural 1	77.5%	8.8%	13.8%	100%
Anaphoric plural 2	78.8%	11.3%	10%	100%
Anaphoric plural 3	58.8%	27.5%	13.8%	100%
Anaphoric plural 4	86.3%	7.5%	6.3%	100%

Table 5-46 shows the frequency of each option (as a percentage) with the anaphoric singular and plural; the green column highlights the frequency of the correct option. For anaphoric singular 1, the definite article frequency was 76.3%, with frequencies of 18.8% for the indefinite article and 5% for the bare plural. For anaphoric singular 2, the definite article frequency was 62.5%, with 33.8% for the indefinite article and 3.8% for the bare plural. For anaphoric singular 3, the frequency was 72.5% for the definite article, 17.5% for the indefinite article and 10% for the bare plural. For anaphoric singular 4, the definite article frequency was 70%, with frequencies of 25% for the indefinite article and 5% for the bare plural.

For anaphoric plural 1, the definite article frequency was 77.5%, with frequencies of 8.8% for the indefinite article and 13.8% for the bare plural. For anaphoric plural 2,

the definite article frequency was 78.8%, with frequencies of 11.3% for the indefinite article and 10% for the bare plural. For anaphoric plural 3, the definite article frequency was 58.8%, with 27.5% for the indefinite article and 13.8% for the bare plural. Finally, for anaphoric plural 4, the definite article frequency was 86.3%, the indefinite article 7.5% and the bare plural 6.3%. The learners selected the definite article (the correct choice) more than any other option with the anaphoric references. The low-level learners showed more accuracy with the anaphoric references than with the generic references, which indicates difficulty with the generic references, particularly in using the indefinite article with the sentence generic singular and the bare plural with the sentence generic plural. To illustrate further differences between the generic and anaphoric references, and as the low-level learners are not normally distributed, Friedman's ANOVA is presented in Table 5-47 (below).

Table 5-47: Test of normality for forced-choice task for low-level learners

Test	Statistics	P
Shapiro–Wilk	0.960	0.014
Kolmogorov–Smirnov	0.166	0.024

The Shapiro–Wilk test results are significantly different, with $p = 0.014$, and this also applies to the Kolmogorov–Smirnov test ($p = 0.024$), indicating that the learners are non-normally distributed. Thus, Friedman's ANOVA has been employed to show the differences between the test categories (generic references) and control categories (anaphoric references). First, the mean ranks for NP generic, sentence generic and anaphoric references are given in Table 5-48 (below).

Table 5-48: Mean ranks for generic and anaphoric references for low-level learners

	NP singular (Definite)	NP singular (Indefinite)	NP singular (Bare)	NP plural (Definite)	NP plural (Indefinite)	NP plural (Bare)
Mean rank	8.16	6.75	4.76	8.21	4.76	6.43
	Sentence singular (Indefinite)	Sentence singular (Definite)	Sentence singular (Bare)	Sentence plural (Bare)	Sentence plural (Definite)	Sentence plural (Indefinite)
Mean rank	8.26	6.33	5.16	7.14	7.18	4.87
	Anaphoric singular (Definite)	Anaphoric singular (Indefinite)	Anaphoric singular (Bare)	Anaphoric plural (Definite)	Anaphoric plural (Indefinite)	Anaphoric plural (Bare)
Mean rank	5.04	3.26	2.16	5.31	2.76	2.48

For the NP singular, the mean rank was 8.16 for the definite article (target), 6.75 for the indefinite article and 4.76 for the bare plural. For the NP plural, the mean rank was 8.21 for the definite article (target), 4.76 for the indefinite article and 6.43 for bare plural. For the sentence singular, the mean rank was 8.26 for the indefinite article (target), 6.33 for the definite article and 5.16 for the bare plural. For the sentence plural, the mean rank was 7.14 for the bare plural (target), 7.18 for the definite article and 4.87 for the indefinite article. For the anaphoric singular, the mean rank was 5.04 for the definite article (target), 3.26 for the indefinite article and 2.16 for the bare plural. For the anaphoric plural, the mean rank was 5.31 for the definite article (target), 2.76 for the indefinite article and 2.48 for the bare plural. The results of Friedman's ANOVA for low-level learners are shown in Table 5-49 (below).

Table 5-49: Friedman's ANOVA for low-level learners

Test categories (generic references)		
Chi-square	df	Asymptotic significance
138.732	11	0.000
Control categories (anaphoric references)		
Chi-Square	df	Asymptotic significance
240.851	5	0.000

The chi-square for the generic references stands at 138.732 and a significant difference of $p = 0.000$. For the anaphoric references, the chi-square is 240.851 and significantly different ($p = 0.000$). As a result of this finding of significant difference, a post hoc Wilcoxon signed rank test was performed to demonstrate these differences. Table 5-50 and Table 5-51 (below) show the post hoc analysis between and among the generic references respectively.

Table 5-50: Post hoc analysis between generic references for low-level learners

		Z	Asymptotic significance (two-tailed)
NP singular (Definite)	NP singular (Indefinite)	-2.336	0.019
	NP singular (Bare)	-4.478	0.000
NP plural (Definite)	NP plural (Indefinite)	-4.868	0.000
	NP plural (Bare)	-2.820	0.005
Sentence singular (Indefinite)	Sentence singular (Definite)	-3.159	0.002
	Sentence singular (Bare)	-5.196	0.000
Sentence plural (Bare)	Sentence plural (Definite)	-0.200	0.841
	Sentence plural (Indefinite)	-3.477	0.001

For the NP singular, there was a significant difference between the definite article (the correct choice) and the indefinite article and bare plural, with $p = 0.019$ and $p = 0.000$ respectively. For the NP plural, there were also significant differences between the definite article and the indefinite article ($p = 0.000$) and bare plural ($p = 0.005$). The low-level learners showed accuracy with the NP singular and plural as there was a significant difference between the correct article and the other options. For the sentence generic singular, there were significant differences between the indefinite article (the correct choice) and the definite article ($p = 0.002$) and bare plural ($p = 0.000$). For the sentence generic plural, there was no significant difference between the bare plural (the correct choice) and the definite article, with $p = 0.841$, but there was a significant difference between the bare plural and the indefinite article ($p = 0.001$). The low-level learners showed more accuracy with the sentence generic singular references than with the sentence generic plural, as there was a

significant difference between the correct choice and the other options for the former, but in the latter the results showed no difference between the bare plural and the definite article.

Table 5-51: Post hoc analysis among generic references for low-level learners

		Z	Asymptotic significance (two-tailed)
NP singular (Definite)	Sentence singular (Definite)	-3.926	0.000
NP singular (Indefinite)	Sentence singular (Indefinite)	-3.576	0.000
NP singular (Bare)	Sentence singular (Bare)	-0.791	0.429
NP plural (Definite)	Sentence plural (Definite)	-1.901	0.057
NP plural (Indefinite)	Sentence plural (Indefinite)	-0.301	0.764
NP plural (Bare)	Sentence plural (Bare)	-1.803	0.071

The post hoc results among the generic references (Table 5-51) show that there was a significant difference between the NP singular and sentence singular ($p = 0.000$); the correct choice for NP singular is the definite article, which had a higher mean than the sentence generic (Table 5-48). For the indefinite article for the NP singular and sentence singular there was a significant difference ($p = 0.000$); the indefinite article is the correct choice for the sentence singular and achieved a higher mean than the NP singular (Table 5-48). For the bare plural with the NP singular and sentence singular there was no significant difference ($p = 0.429$), as both had low means (Table 5-48).

For the definite article with the NP plural and sentence generic, there was no significant difference ($p = 0.057$), as both had high means (Table 5-48); the definite

article is the correct response for the NP plural, but not for the sentence plural – the learners tended to overuse the definite article with the sentence generic plural. For the indefinite article with the NP plural and sentence plural there was no significant difference ($p = 0.764$) as both had low means (Table 5-48). For the bare plural, there was no significant difference between the NP plural and sentence plural, with $p = 0.071$. The correct response for the sentence plural is the bare plural, which is why the mean was high (Table 5-48); however, the bare plural is not the correct option for the NP plural, and the learners selected it more than they should have. The results indicate that the learners showed greater accuracy with NP singular and plural and sentence singular than sentence plural. For the anaphoric references, the results between references are shown in Table 5-52 (below).

Table 5-52: Post hoc analysis between anaphoric references for low-level learners

		Z	Asymptotic significance (two-tailed)
Anaphoric singular (Definite)	Anaphoric singular (Indefinite)	-5.834	0.000
	Anaphoric singular (Bare)	-7.320	0.000
Anaphoric plural (Definite)	Anaphoric plural (Indefinite)	-7.577	0.000
	Anaphoric plural (Bare)	-7.391	0.000

For the anaphoric singular, there was a significant difference between the definite article and the indefinite article ($p = 0.000$) and bare plural ($p = 0.000$). For the anaphoric plural, too, the definite article was significantly different from both the indefinite article ($p = 0.000$) and bare plural ($p = 0.000$). This indicates that the low-level learners were able to accurately produce the anaphoric singular and plural as the correct options were significantly different from the other options. The results among the anaphoric references are presented in Table 5-53 (below).

Table 5-53: Post hoc analysis among anaphoric references for low-level learners

		Z	Asymptotic significance (two-tailed)
Anaphoric singular (Definite)	Anaphoric plural (Definite)	-1.660	0.097
Anaphoric singular (Indefinite)	Anaphoric plural (Indefinite)	-3.203	0.001
Anaphoric singular (Bare)	Anaphoric plural (Bare)	-1.996	0.046

There was no significant difference with the definite article between the anaphoric singular and plural ($p = 0.097$): it is the correct choice for both and had high means (Table 5-48). There was significant difference with the indefinite article between the anaphoric singular and plural ($p = 0.001$), as it had a lower mean with the anaphoric plural than with the anaphoric singular (Table 5-48). For the bare plural, there was significant difference between the anaphoric singular and plural ($p = 0.046$), as it was more highly rated with anaphoric plural than anaphoric singular (Table 5-48).

To sum up, the low-level learners showed more accuracy with the NP singular, NP generic plural and sentence generic singular than with the sentence generic plural, where they tended to overuse the definite article (discussed in Section 5.6). For the anaphoric references, the low-level learners showed high accuracy with both singular and plural, suggesting that they were aware of the article system in English.

The results for the high-level learners are presented below, beginning with the descriptive results for the NP generic in Table 5-54 (below).

Table 5-54: Descriptive results for NP generic for high-level learners

	NP singular			NP plural		
	Definite	Indefinite	Bare	Definite	Indefinite	Bare
Mean	2.175	1.29	0.54	2.04	0.69	1.275
SD	0.965	0.930	0.841	1.227	0.866	1.136
Range	4.000	3.000	4.000	4.000	4.000	4.000
Minimum	0.000	0.000	0.000	0.000	0.000	0.000
Maximum	4.000	3.000	4.000	4.000	4.000	4.000

Table 5-54 shows the descriptive results for NP singular and NP plural with the mean, SD, range, and the minimum and maximum scores for each time an option was selected. The green highlighted columns display the statistics for the correct choices. For the NP singular, the mean for the definite article (the correct choice) was 2.175; 1.29 for the indefinite article and 0.54 for the bare plural. The minimum was 0 out of 4 and the maximum was 4 out of 4 for the definite article and bare plural, and 3 out of 4 for the indefinite article. For the NP plural, the mean for the definite article (the correct choice) was 2.04, with means of 0.69 for the indefinite article and 1.275 for the bare plural. The minimum was 0 out of 4 for all three options and the maximum was 4 out of 4 for all three options. The high-level learners achieved the highest means in selection of the correct choice, performing more accurately than the low-level learners (Table 5-41). The frequency of each option for the NP generic for the high-level learners is presented in Table 5-55 (below).

Table 5-55: Frequency for NP generic for high-level learners

Items	Definite (the)	Indefinite (a, an)	Bare(Ø)	Total
NP singular 1	66.3%	30%	3.8%	100%
NP singular 2	63.7%	25%	11.3%	100%
NP singular 3	43.8%	42.5%	13.8%	100%
NP singular 4	43.8%	31.3%	25%	100%
NP plural 1	45%	18.8%	36.3%	100%
NP plural 2	47.5%	22.5%	30%	100%
NP plural 3	60%	16.3%	23.8%	100%
NP plural 4	51.2%	11.3%	37.5%	100%

Table 5-55 shows the frequency of each option as a percentage for the NP singular and plural; the green columns highlight the correct choices. For NP singular 1, the definite article frequency was 66.3%, with frequencies of 30% for the indefinite article and 3.8% for the bare plural. For NP singular 2, the definite article frequency was 63.7%, with 25% for the indefinite article and 11.3% for the bare plural. For NP singular 3, the definite article frequency was 43.8%, while it was 42.5% for the indefinite article and 13.8% for the bare plural. For NP singular 4, the frequency was 43.8% for the definite article, 31.3% for the indefinite article and 25% for the bare plural. NP plurals 2 and 4 were problematic for neither the high-level learners (Table 5-55) nor the low-level learners (Table 5-42), as it was for L1 English speakers (Table 5-29). Thus, these items should be retained rather than excluded.

For NP plural 1, the definite article frequency was 45%, with frequencies of 18.8% for the indefinite article and 36.3% for the bare plural. For NP plural 2, the definite article frequency was 47.5%, with 22.5% for the indefinite article and 30% for the bare plural. For NP plural 3, the frequency was 60% for the definite article, 16.3% for the indefinite article and 23.8% for the bare plural. For NP plural 4, the frequency was 51.2% for the definite article, 11.3% for the indefinite article and 37.5% for the

bare plural. The high-level learners selected the correct choice more frequently than the other choices, which indicates greater accuracy than the low-level learners (Table 5-42) in the selection of the definite article with the NP generic singular and plural. The descriptive results for the sentence generic references are in Table 5-56 (below).

Table 5-56: Descriptive results for sentence generic for high-level learners

	Sentence singular			Sentence plural		
	Definite	Indefinite	Bare	Definite	Indefinite	Bare
Mean	1.49	1.98	0.54	1.59	0.64	1.78
SD	1.019	1.031	0.711	1.087	0.815	1.169
Range	4.000	4.000	3.000	4.000	3.000	4.000
Minimum	0.000	0.000	0.000	0.000	0.000	0.000
Maximum	4.000	4.000	3.000	4.000	3.000	4.000

Table 5-56 shows the mean, SD, range, and minimum and maximum scores for the selection of each option by the high-level learners for the sentence generic. The green columns once again show the correct choices. For the sentence singular, the correct choice (indefinite article) mean was 1.98, with means of 1.49 for the definite article and 0.54 for the bare plural. The minimum was 0 out of 4 for all three options, and the maximum was 4 out of 4 for the definite and indefinite articles and 3 out of 4 for the bare plural. For the sentence generic plural, the mean for bare plural (the correct choice) was 1.78, with means of 1.59 for the definite article and 0.64 for the indefinite article. The minimum was 0 out of 4 for all three options, and the maximum was 4 out of 4 for the definite article and bare plural and 3 out of 4 for the indefinite article. The means were high for the correct choices with both sentence singular and plural, and also high for the definite article for both sentence singular and plural. The frequency of each option for the sentence generic is presented in Table 5-57 (below).

Table 5-57: Frequency for sentence generic for high-level learners

Items	Definite	Indefinite	Bare	Total
Sentence singular 1	22.5%	62.5%	15%	100%
Sentence singular 2	47.5%	37.5%	15%	100%
Sentence singular 3	33.8%	47.5%	18.8%	100%
Sentence singular 4	45%	50%	5%	100%
Sentence plural 1	43.8%	7.5%	48.8%	100%
Sentence plural 2	45%	7.5%	47.5%	100%
Sentence plural 3	41.3%	21.3%	37.5%	100%
Sentence plural 4	28.7%	27.5%	43.8%	100%

The frequency of each option is presented as a percentage for the sentence singular and sentence plural; the green highlighted columns show the correct choices. For sentence singular 1, the frequency for the indefinite article (the correct choice) was 62.5%, with frequencies of 22.5% for the definite article and 15% for the bare plural. For sentence singular 2, the indefinite article frequency was 37.5%, with 47.5% for the definite article and 15% for the bare plural. For sentence singular 3, the frequency was 47.5% for the indefinite article, 33.8% for the definite article and 18.8% for the bare plural. For sentence singular 4, the frequency was 50% for the indefinite article, 45% for the definite article and 5% for the bare plural.

For sentence plural 1, the frequency for the bare plural (the correct choice) was 48.8%, with frequencies of 43.8% for the definite article and 7.5% for the indefinite article. For sentence plural 2, the frequency was 47.5% for bare plural, 45% for the definite article and 7.5% for the indefinite. For sentence plural 3, the frequency was 37.5% for the bare plural, 41.3% for the definite article and 21.3% for the indefinite article. For sentence plural 4, the frequency for the bare plural was 43.8%, with frequencies of 28.7% for the definite article and 27.5% for the indefinite article. In both sentence singular 3 and sentence plural 1, the learners performed similarly to

how they performed in the other items, unlike the L1 English speakers (Table 5-31). Thus, once again these items were retained. For the sentence generic, the high-level learners tended to overuse the definite article, which was expected due to L1 influence (discussed in Section 5.6). The descriptive results for the anaphoric references for high-level learners are presented in Table 5-58.

Table 5-58: Descriptive results for anaphoric references for high-level learners

	Anaphoric singular			Anaphoric plural		
	Definite	Indefinite	Bare	Definite	Indefinite	Bare
Mean	2.850	1.04	0.113	3.413	0.550	0.04
SD	1.069	1.037	0.390	0.937	0.926	0.191
Range	4.000	4.000	2.000	4.000	4.000	1.000
Minimum	0.000	0.000	0.000	0.000	0.000	0.000
Maximum	4.000	4.000	2.000	4.000	4.000	1.000

Table 5-58 shows the mean, SD, range, and minimum and maximum scores for the number of times each option was selected by the high-level learners for anaphoric singular and plural references; the green columns again highlight the statistics for the correct choices. For the anaphoric singular, the mean for the definite article (the correct choice) was 2.850, with 1.04 for the indefinite article and 0.113 for the bare plural. The minimum was 0 out of 4 for all options, and the maximum was 4 out of 4 for the definite and indefinite articles and 2 out of 4 for the bare plural. For the anaphoric plural, the mean for the definite article (the correct choice) was 3.413, with means of 0.550 for the indefinite article and 0.04 for the bare plural. The minimum was 0 out of 4 for all options, and the maximum was 4 out of 4 for the definite and indefinite articles and only 1 out of 4 for the bare plural. Like the low-level learners, the high-level learners showed high accuracy with the anaphoric references. The frequency is given in Table 5-59 (below).

Table 5-59: Frequency for anaphoric references for high-level learners

Items	Definite	Indefinite	Bare	Total
Anaphoric singular 1	75%	23.8%	1.3%	100%
Anaphoric singular 2	71.3%	26.3%	2.5%	100%
Anaphoric singular 3	70%	27.5%	2.5%	100%
Anaphoric singular 4	68.8%	26.3%	5%	100%
Anaphoric plural 1	85%	15%	0%	100%
Anaphoric plural 2	83.8%	16.3%	0%	100%
Anaphoric plural 3	83.8%	12.5%	3.8%	100%
Anaphoric plural 4	88.8%	11.3%	0%	100%

Table 5-59 shows the frequency of each option in percentages for anaphoric references; the green highlighted columns show the correct choices. For anaphoric singular 1, the frequency of the definite article (the correct choice) was 75%, with 23.8% for the indefinite article and 1.3% for the bare plural. For anaphoric singular 2, the frequency of the definite article was 71.3%, with frequencies of 26.3% for the indefinite article and 2.5% for the bare plural. For anaphoric singular 3, the frequency of the definite article was 70%, with 27.5% for the indefinite article and 2.5% for the bare plural. Finally, for anaphoric singular 4, the frequency of the definite article was 68.8%, with frequencies of 26.3% for the indefinite article and 5% for the bare plural.

For anaphoric plural 1, the frequency for the definite article (the correct choice) was 85%, with 15% for the indefinite article and 0% for the bare plural. For anaphoric plural 2, the frequency for the definite article was 83.8%, with frequencies of 16.3% for the indefinite article and 0% for the bare plural. For anaphoric plural 3, the frequency was 83.8% for the definite article, 12.5% for the indefinite article and 3.8% for the bare plural. For anaphoric plural 4, the frequency of the definite article was 88.8%, with frequencies of 11.3% for the indefinite article and 0% for the bare

plural. The high-level learners showed a higher level of accuracy with anaphoric references than the low-level learners (Table 5-46), and similar accuracy to the L1 English speakers (Table 5-33), particularly with the anaphoric plural. To show the significant difference between the generic and anaphoric references, Friedman's ANOVA was employed, as unlike the low-level learners, the high-level learners are normally distributed (Table 5-60).

Table 5-60: Test of normality for forced-choice task high-level learners

Test	Statistics	P
Shapiro–Wilk	0.971	0.066
Kolmogorov–Smirnov	0.141	0.083

Table 5-60 shows no significant difference with both the Shapiro–Wilk and the Kolmogorov–Smirnov test, with $p = 0.066$ and $p = 0.083$ respectively, and reveal normal distribution. However, as the low-level learners were not normally distributed, the Friedman's ANOVA results are presented in Table 5-62 (below) to enable comparisons to be made between the groups. First, the mean ranks are shown in Table 5-61 (below).

Table 5-61: Mean ranks for generic and anaphoric references for high-level learners

	NP singular (Definite)	NP singular (Indefinite)	NP singular (Bare)	NP plural (Definite)	NP plural (Indefinite)	NP plural (Bare)
Mean rank	8.89	6.55	4.09	8.34	4.66	6.30
	Sentence singular (Indefinite)	Sentence singular (Definite)	Sentence singular (Bare)	Sentence plural (Bare)	Sentence plural (Definite)	Sentence plural (Indefinite)
Mean rank	8.30	7.09	4.16	7.71	7.36	4.56
	Anaphoric singular (Definite)	Anaphoric singular (Indefinite)	Anaphoric singular (Bare)	Anaphoric plural (Definite)	Anaphoric plural (Indefinite)	Anaphoric plural (Bare)
Mean rank	4.98	3.53	2.17	5.47	2.81	2.04

Table 5-61 For the NP singular, the mean rank for the definite article (the target item) was 8.89, with 6.55 for the indefinite article and 4.09 for the bare plural. For the NP plural, the mean rank was 8.34 for the definite article (the target item), 4.66 for the indefinite article and 6.30 for the bare plural. For sentence singular, the mean rank for the indefinite article (the target item) was 8.30, with mean ranks of 7.09 for the definite article and 4.16 for the bare plural. For the sentence plural, the mean rank for the bare plural (the target item) was 7.71, with means of 7.36 for the indefinite article and 4.56 for the bare plural. For the anaphoric singular, the mean rank was 4.98 for the definite article (the target item), 3.53 for the indefinite article and 2.17 for the bare plural. For the anaphoric plural, the mean rank was 5.47 for the definite article, 2.81 for the indefinite article and 2.04 for the bare plural. The Friedman's ANOVA results are displayed in Table 5-62 (below).

Table 5-62: Friedman's ANOVA for high-level learners

Test categories (generic references)		
Chi-square	Df	Asymptotic significance
229.961	11	0.000
Control categories (anaphoric references)		
Chi-square	Df	Asymptotic significance
287.277	5	0.000

The results show the chi-square at 229.961 for generic references, and significant difference with $p = 0.000$. For the control categories (anaphoric references), the chi-square is 287.277, and $p = 0.000$, which is significantly different. A post hoc Wilcoxon signed rank test was therefore carried out to determine the significant differences. The post hoc analysis between the generic references is shown in Table 5-63, while Table 5-64 (below) shows the post hoc analysis among the generic references.

Table 5-63: Post hoc between generic references for high-level learners

		Z	Asymptotic significance (two-tailed)
NP singular (Definite)	NP singular (Indefinite)	-3.971	0.000
	NP singular (Bare)	-6.388	0.000
NP plural (Definite)	NP plural (Indefinite)	-5.369	0.000
	NP plural (Bare)	-2.897	0.004
Sentence singular (Indefinite)	Sentence singular (Definite)	-2.346	0.019
	Sentence singular (Bare)	-6.140	0.000
Sentence plural (Bare)	Sentence plural (Definite)	-0.830	0.407
	Sentence plural (Indefinite)	-5.029	0.000

Table 5-63 shows the post hoc analysis between the NP generic and sentence generic. For the NP singular, the results show that the definite article (the correct choice) was significantly different from both the indefinite article ($p = 0.000$) and the bare plural ($p = 0.000$). For the NP plural, the results also show significant difference between the definite article and both the indefinite article ($p = 0.000$) and bare plural ($p = 0.004$).

For the sentence generic singular, the indefinite article (the correct choice) shows a significant difference from the definite article, with $p = 0.019$, and from the bare plural, with $p = 0.000$. For the sentence plural, the correct choice, the bare plural, shows no significant difference from the definite article ($p = 0.407$), but does show significant difference from the indefinite article ($p = 0.000$). The high-level learners were more accurate with the NP generic than the sentence generic, as well as with

the NP generic than the low-level learners. The results indicate that the learners faced difficulties using the indefinite article and bare plural with generic references (discussed in Section 5.6). The results of post hoc analysis among the generic references are shown in Table 5-64.

Table 5-64: Post hoc analysis among generic references for high-level learners

		Z	Asymptotic significance (two- tailed)
NP singular (Definite)	Sentence singular (Definite)	-4.132	0.000
NP singular (Indefinite)	Sentence singular (Indefinite)	-3.840	0.000
NP singular (Bare)	Sentence singular (Bare)	-0.046	0.963
NP plural (Definite)	Sentence plural (Definite)	-2.499	0.012
NP plural (Indefinite)	Sentence plural (Indefinite)	-0.376	0.707
NP plural (Bare)	Sentence plural (Bare)	-2.808	0.005

Table 5-64 shows a significant difference between the definite article with NP singular and with sentence singular ($p = 0.000$); the definite article is the correct choice with NP singular (Table 5-61). For the indefinite article, there was a significant difference between the NP singular and sentence singular ($p = 0.000$); the indefinite article is the correct choice for sentence singular and had a high mean (Table 5-61). For the bare plural, there was no significant difference between NP singular and sentence singular ($p = 0.963$), as both had low means (Table 5-61).

Between the NP plural and sentence plural, there was a significant difference ($p = 0.012$) with the definite article, which is the correct choice with the NP plural and had a high mean (Table 5-61). For the indefinite article, there was no significant

difference between the NP plural and sentence plural ($p = 0.707$), as both had low means (Table 5-61). For the bare plural, there was significant difference between the NP plural and sentence plural, with $p = 0.028$. These results indicate that the high-level learners were more accurate with NP singular, plural, and sentence singular than sentence plural, similar to the results of the low-level learners. Table 5-65 (below) shows the results of the post hoc analysis between the anaphoric references, and Table 5-66 (below) presents the results among the anaphoric references.

Table 5-65: Post hoc analysis between anaphoric references for high-level learners

		Z	Asymptotic significance (two-tailed)
Anaphoric singular (Definite)	Anaphoric singular (Indefinite)	-5.837	0.000
	Anaphoric singular (Bare)	-7.672	0.000
Anaphoric plural (Definite)	Anaphoric plural (Indefinite)	-7.301	0.000
	Anaphoric plural (Bare)	-8.013	0.000

Table 5-65 shows that with the anaphoric singular, there was significant difference between the definite article (the correct choice) and both the indefinite article ($p = 0.000$) and bare plural ($p = 0.000$). The anaphoric plural also showed significant difference between the definite article (the correct choice) and the indefinite article ($p = 0.000$) and bare plural ($p = 0.000$), suggesting that the learners were aware of the anaphoric references in English, as the correct options were significantly different from the others. The results of the post hoc analysis among the anaphoric references are displayed in Table 5-66 (below).

Table 5-66: Post hoc analysis among anaphoric references for high-level learners

		Z	Asymptotic significance (two-tailed)
Anaphoric singular (Definite)	Anaphoric plural (Definite)	-3.551	0.000
Anaphoric singular (Indefinite)	Anaphoric plural (Indefinite)	-3.241	< 0.001
Anaphoric singular (Bare)	Anaphoric plural (Bare)	-1.513	0.130

With the definite article, there was significant difference between the anaphoric singular and plural ($p = 0.000$), as the definite article had a higher mean with the anaphoric plural (Table 5-61). The indefinite article was also shown to differ significantly from the anaphoric singular to the plural ($p = < 0.001$), as it had a higher mean with the anaphoric singular (Table 5-61). There was no significant difference between the anaphoric singular and plural with the bare plural ($p = 0.130$), as both had low means (Table 5-61).

To summarise these results, both the high- and low-level learners showed greater accuracy with the NP singular, NP plural and sentence singular than with the sentence plural, where they overused the definite article (discussed in Section 5.6). Similar accuracy to the L1 English speakers was displayed with both the anaphoric singular and plural, which was expected as the anaphoric references are the control categories. However, as the descriptive results show, there was considerable variation within the results. Three possible factors which may have influenced this variation – general proficiency level, and receptive and productive vocabulary knowledge – are described in addressing the third research question in the following section.

3- What roles do receptive and productive vocabulary knowledge and general proficiency level play in how Saudi Arabic learners of English judge and select anaphoric and generic references in English?

The Saudi-Arabic learners completed two vocabulary tasks and one proficiency test to establish whether any of the factors named in the question are related to the accuracy scores for the acceptability judgement task and the forced-choice task – for receptive vocabulary knowledge, the Yes/No test (Meara, 2010); for productive vocabulary knowledge, the Lex30 (Meara & Fitzpatrick, 2000); and the Standardized Oxford Proficiency Test. The details for all tasks can be found in Section 5.4.2. The descriptive results for the low- and high-level learners in these tasks are displayed in Table 5-67 (below).

Table 5-67: Descriptive results for vocabulary and proficiency tests for low-level and high-level learners

	Yes/No (receptive vocabulary) (Out of 400)	Lex30 (productive vocabulary) (Out of 120)	Standardized Oxford Proficiency Test (Out of 40)
	Low-level learners (<i>n</i> = 80)		
Mean	206.463	25.137	20.575
SD	60.560	8.392	4.292
Minimum	100.000	9.000	13.000
Maximum	370.000	50.000	32.000
	High-level learners (<i>n</i> = 80)		
Mean	255.575	30.387	20.863
SD	67.938	8.352	4.738
Minimum	121.000	11.000	15.000
Maximum	390.000	52.000	36.000

For the Yes/No (receptive vocabulary knowledge) test (Meara, 2010), the score was out of 400. In this task, the learners had to classify words they knew with “Yes” and those they did not with “No” (more details are given in Section 5.4.2.3). The low-level learners’ mean score in the receptive vocabulary task was 206.463, with SD of 60.560, a minimum of 100 out of 400 and a maximum of 370 out of 400. For the high-level learners, the mean score was 255.575, with SD of 67.938, a minimum of 121 out of 400 and a maximum 390 out of 400.

In the Lex30 task (Meara & Fitzpatrick, 2000) for productive vocabulary, the learners were given 30 stimuli and asked to think of four words to write in front of each stimulus for a total score out of 120 (more detail in Section 5.4.2.4). The mean score for Lex30 was 25.137 for the low-level learners and 30.387 for the high-level learners. The SD for the low-level learners was 8.392 and 8.352 for the high-level learners. The low-level learners’ minimum was 9 out of 120 and their maximum 50 out of 120; the high-level learners’ minimum was 11 out of 120, and their maximum 52 out of 120. The proficiency instrument used, the Standardized Oxford Proficiency Test, consists of 40 gap-fill items (see Section 5.4.2.5) and is scored out of 40. The mean score for the low-level learners was 20.575, the SD was 4.292, the minimum was 13 out of 40 and the maximum was 32 out of 40. For the high-level learners, the mean was 20.863, the SD was 4.738, the minimum was 15 out of 40 and the maximum was 36 out of 40. Table 5-68 (below) shows the correlation between these three tasks.

Table 5-68: Pearson's correlation for vocabulary task and proficiency level for low-level ($n = 80$) and high-level ($n = 80$) learners

		Yes/No (receptive vocabulary)	Lex30 (productive vocabulary)
	Low-level learners ($n = 80$)		
Lex30 (Productive vocabulary)	Pearson's r rho	0.460***	-
	P-value	< 0.001	-
Standardized Oxford Proficiency Test	Pearson's r rho	0.389***	0.358**
	P-value	< 0.001	<0.001
	High-level learners ($n = 80$)		
Lex30 (Productive vocabulary)	Pearson's r rho	0.521***	-
	P-value	< 0.001	-
Standardized Oxford Proficiency Test	Pearson's r rho	.644 ***	0.305 **
	P-value	< 0.001	0.006

There was a significant correlation between the three tasks for both low- and high-level learners. For the low-level learners, receptive vocabulary knowledge correlated moderately strongly with productive vocabulary knowledge, with $r = 0.460$ and $p = < 0.001$. Standardized Oxford Proficiency Level had a weak correlation with both receptive vocabulary knowledge, with $r = 0.389$ and $p = < 0.001$, and productive vocabulary knowledge, with $r = 0.358$ and $p = < 0.001$.

For the high-level learners, receptive vocabulary knowledge also showed a moderately strong correlation with productive vocabulary knowledge, with $r = 0.521$ and $p = < 0.001$. Unlike with the low-level learners, Standardized Oxford Proficiency Level was found to have a strong correlation with receptive vocabulary knowledge, with $r = 0.644$ and $p = < 0.001$, and a weak correlation with productive vocabulary knowledge, with $r = 0.305$ and $p = 0.006$. The three tests are correlated for both low- and high-level learners, which indicates that the three factors are related.

To show whether vocabulary knowledge and proficiency level are related to the ability to judge (acceptability judgement task) and select (forced-choice task) with generic and anaphoric references, the results of multivariate linear regression, which was selected as the most appropriate means to investigate the significant relationships between the three factors and the various target items, are presented below. First, these results are given for the three factors (receptive and productive vocabulary knowledge and proficiency level) with the ability to judge (acceptability judgement task) generic and anaphoric references (NP singular, NP plural, sentence singular, sentence plural, anaphoric singular and anaphoric plural). The results of multivariate linear regression are then provided for the same three factors with the ability to select (forced-choice task) generic and anaphoric references (NP singular, NP plural, sentence singular, sentence plural, anaphoric singular and anaphoric plural). The results relating to the ability to judge generic references are shown in Table 5-69 (below).

Table 5-69: Factor estimates of multivariate linear regression with ability to judge generic and anaphoric references for low-level learners

Target items	Adjusted R-squared	Factor	B	Std. error	t	Sig.
NP singular	-.003	Intercept	3.018	.359	8.410	.000
		Receptive vocabulary	-.001	.001	-.898	.372
		Productive vocabulary	-.009	.009	-.968	.336
		Proficiency level	.015	.018	.839	.404
NP plural	.177	Intercept	1.926	.244	7.909	.000
		Receptive vocabulary	.003	.001	2.900	.005
		Productive vocabulary	-.008	.006	-1.211	.230
		Proficiency level	.028	.012	2.317	.023
Sentence singular	-.001	Intercept	2.443	.375	6.510	.000
		Receptive vocabulary	.002	.001	1.405	.164
		Productive vocabulary	.003	.010	.330	.742
		Proficiency level	-.009	.019	-.468	.641
Sentence plural	-0.010	Intercept	2.142	.335	6.403	.000
		Receptive vocabulary	.000	.001	-.296	.768
		Productive vocabulary	.003	.009	.324	.747
		Proficiency level	.021	.017	1.296	.199
Anaphoric singular	.116	Intercept	2.474	.278	8.911	.000
		Receptive vocabulary	.003	.001	2.476	.015
		Productive vocabulary	.004	.007	.573	.568
		Proficiency level	.010	.014	.708	.481
Anaphoric plural	.134	Intercept	2.035	.474	4.291	.000
		Receptive vocabulary	.003	.002	1.531	.130
		Productive vocabulary	.031	.012	2.497	.015
		Proficiency level	-.007	.023	-.281	.779

Table 5-69 shows the multivariate linear regression with generic references for the low-level learners, with the grey rows highlighting the significant relationships. For the NP generic singular, the results showed no significant relationship with any of the factors (receptive vocabulary knowledge: $p = 0.372$, productive vocabulary knowledge: $p = 0.336$, and proficiency level: $p = 0.404$). The NP plural did show a significant relationship with receptive vocabulary knowledge ($p = 0.005$) and proficiency level ($p = 0.023$), but not with productive vocabulary knowledge ($p = 0.230$). There was no significant relationship for the sentence singular with receptive ($p = 0.164$) or productive vocabulary knowledge ($p = 0.742$), or proficiency level ($p = 0.641$), nor the sentence plural and receptive vocabulary knowledge ($p = 0.768$) or productive vocabulary knowledge ($p = 0.747$) or proficiency level ($p = 0.199$). So, for the generic references with low-level learners only two significant relationships were found – those between the NP plural and receptive vocabulary knowledge and proficiency level, as highlighted in grey in Table 5-69. This indicates that the low-level learners' accuracy in judging the NP plural was affected by their receptive vocabulary knowledge and proficiency level.

Table 5-69 also shows the significant relationships for the anaphoric singular and receptive vocabulary knowledge ($p = 0.015$) and anaphoric plural and productive vocabulary knowledge ($p = 0.015$). No significant relationships were found with the other factors, with the anaphoric singular and productive vocabulary knowledge showing $p = 0.568$ and proficiency level showing $p = 0.481$. Finally, there was no significant relationship for anaphoric plural and receptive vocabulary knowledge, $p = 0.130$; and with proficiency level, $p = 0.779$. This demonstrates that for low-level learners, the ability to judge anaphoric references was affected by vocabulary knowledge. The results for the low-level learners showed that their accuracy in judging generic and anaphoric references was affected by all three factors (receptive and productive vocabulary knowledge, and proficiency level) but only with some items (Table 5-69), which is further discussed in Section 5.6. The results for the high-level learners with generic references are presented in Table 5-70 (below).

Table 5-70: Factor estimates of multivariate linear regression with ability to judge generic and anaphoric references for high-level learners

Target items	Adjusted R-squared	Factor	B	Std. error	t	Sig.
NP singular	0.015	Intercept	2.763	.304	9.088	.000
		Receptive vocabulary	-.002	.001	-1.345	.183
		Productive vocabulary	.016	.008	1.974	.052
		Proficiency level	.008	.016	.467	.642
NP plural	-.007	Intercept	2.515	.296	8.502	.000
		Receptive vocabulary	.000	.001	.325	.746
		Productive vocabulary	-.001	.008	-.078	.938
		Proficiency level	.015	.016	.948	.346
Sentence singular	.052	Intercept	2.182	.317	6.876	.000
		Receptive vocabulary	.002	.001	1.282	.204
		Productive vocabulary	.010	.009	1.167	.247
		Proficiency level	-.003	.017	.180	.857
Sentence plural	.140	Intercept	1.699	.350	4.858	.000
		Receptive vocabulary	.004	.001	2.563	.012
		Productive vocabulary	.011	.010	1.131	.262
		Proficiency level	-.016	.019	-.865	.390
Anaphoric singular	.042	Intercept	2.876	.245	11.734	.000
		Receptive vocabulary	-.001	.001	-.749	.456
		Productive vocabulary	.013	.007	1.862	.054
		Proficiency level	.018	.013	1.359	.178
Anaphoric plural	.067	Intercept	2.447	.334	7.322	.000
		Receptive vocabulary	.001	.001	.948	.346
		Productive vocabulary	.003	.009	.379	.706
		Proficiency level	.022	.018	1.228	.223

Table 5-70 shows the multivariate linear regression with the NP generic and sentence generic for high-level learners. As before, the grey rows illustrate the significant relationships. For the NP generic, there was a nearly significant relationship between the NP singular and productive vocabulary with $p = 0.052$ but no correlation with the other two factors (receptive vocabulary knowledge: $p = 0.183$, and proficiency level: $p = 0.642$). The NP plural showed no significant relationship with the three factors (receptive vocabulary knowledge: $p = 0.746$, productive vocabulary knowledge: $p = 0.938$, and proficiency level: $p = 0.346$). This also stands for the sentence singular, with no significant relationships found with any of the factors (receptive vocabulary knowledge: $p = 0.204$, productive vocabulary knowledge: $p = 0.247$, and proficiency level: $p = 0.857$). However, a significant relationship was found for sentence plural with receptive vocabulary knowledge, with $p = 0.012$, indicating that the high-level learners' accuracy with the sentence plural was affected by their receptive vocabulary knowledge. For the other factors, there was no significant relationship with the sentence plural for high-level learners (productive vocabulary knowledge: $p = 0.262$, and proficiency level: $p = 0.390$).

The relationship between the anaphoric singular and productive vocabulary knowledge was nearly significant, with $p = 0.054$, but not for anaphoric singular and either receptive vocabulary knowledge ($p = 0.456$) or proficiency level ($p = 0.178$). For the anaphoric plural, no significant relationship was observed with any of the factors (receptive vocabulary knowledge: $p = 0.346$, productive vocabulary knowledge: $p = 0.706$, and proficiency level: $p = 0.223$). These results indicate that the high-level learners' accuracy with the anaphoric singular was affected by productive vocabulary knowledge, elaborated further in Section 5.6.

To sum up the learners' judgement of generic and anaphoric references: productive vocabulary knowledge was shown to have a significant relationship with the anaphoric plural for low-level learners and with NP singular and anaphoric singular for high-level learners. Receptive vocabulary knowledge also showed a significant relationship with NP plural and anaphoric singular with low-level learners, but only with the sentence plural for high-level learners. With low-level learners, a significant relationship was found between proficiency level and NP plural. The target items which were unaffected by the factors (i.e. receptive vocabulary knowledge,

productive vocabulary knowledge and proficiency level) might have been affected by L1 (discussed in Section 5.6).

Table 5-71 (below) presents the results for the low-level learners in the forced-choice task with generic and anaphoric references, with the grey rows highlighting significant relationships.

Table 5-71: Factor estimates of multivariate linear regression with ability to produce generic and anaphoric references for low-level learners

Target items	Adjusted R-squared	Factor	B	Std. error	t	Sig.
NP singular	-.035	Intercept	6.800	1.521	4.472	.000
		Receptive vocabulary	.002	.006	.370	.713
		Productive vocabulary	.011	.040	.278	.782
		Proficiency level	-.010	.075	-.134	.894
NP plural	.027	Intercept	10.926	1.547	7.063	.000
		Receptive vocabulary	-.010	.006	-1.786	.048
		Productive vocabulary	.025	.041	.605	.547
		Proficiency level	-.059	.077	-.771	.443
Sentence singular	-0.009	Intercept	7.855	1.265	6.210	.000
		Receptive vocabulary	.003	.005	.615	.541
		Productive vocabulary	.035	.033	1.060	.292
		Proficiency level	-.035	.063	-.559	.578
Sentence plural	.126	Intercept	3.027	1.821	1.663	.101
		Receptive vocabulary	.004	.007	.545	.587
		Productive vocabulary	.019	.048	.396	.693
		Proficiency level	.266	.090	2.954	.004
Anaphoric singular	.163	Intercept	9.657	1.019	9.476	.000
		Receptive vocabulary	-.007	.004	-1.819	.053
		Productive vocabulary	-.037	.027	-1.365	.176
		Proficiency level	-.082	.050	-1.628	.108
Anaphoric plural	.015	Intercept	8.466	1.294	6.543	.000
		Receptive vocabulary	-.002	.005	-.392	.696
		Productive vocabulary	-.025	.034	-.748	.457
		Proficiency level	-.073	.064	-1.140	.258

No significant relationship was found between the NP singular and the three factors (receptive vocabulary knowledge: $p = 0.713$, productive vocabulary knowledge: $p = 0.782$, and proficiency level: $p = 0.894$). The NP plural showed a significant relationship with receptive vocabulary knowledge ($p = 0.048$) but none with productive vocabulary knowledge ($p = 0.547$) or proficiency level ($p = 0.443$). There were no significant relationships between the sentence singular and any of the three factors (receptive vocabulary knowledge: $p = 0.541$, productive vocabulary knowledge: $p = 0.292$, or proficiency level: $p = 0.578$), and although a significant relationship was discovered between the sentence plural and proficiency level ($p = 0.004$), no others were found (receptive and productive vocabulary knowledge: $p = 0.587$ and $p = 0.693$, respectively). For the low-level learners, therefore, the NP plural was affected by receptive vocabulary knowledge and the sentence plural was affected by proficiency level.

Table 5-71 shows that receptive vocabulary showed an almost significant relationship with the anaphoric singular ($p = 0.053$), but no significant relationships were found either between the anaphoric singular and the other factors (productive vocabulary knowledge: $p = 0.176$ and proficiency level $p = 0.108$) or between the anaphoric plural and the other factors (receptive vocabulary knowledge: $p = 0.696$, productive vocabulary knowledge: $p = 0.457$ and proficiency level $p = 0.258$). This indicates that the low-level learners' performance with the NP plural and anaphoric singular was affected by receptive vocabulary knowledge and the sentence plural was affected by proficiency level (discussed in Section 5.6).

The high-level learners' results with the generic and anaphoric references are presented in Table 5-72 (below), with significant relationships again illustrated by the grey rows.

Table 5-72: Factor estimates of multivariate linear regression with ability to produce generic and anaphoric references for high-level learners

Target items	Adjusted R-squared	Factor	B	Std. error	t	Sig.
NP singular	-.017	Intercept	7.932	1.246	6.364	.000
		Receptive vocabulary	.002	.005	.339	.736
		Productive vocabulary	-.005	.033	-.156	.876
		Proficiency level	-.080	.069	-1.161	.249
NP plural	.077	Intercept	11.347	1.459	7.779	.000
		Receptive vocabulary	.005	.006	.780	.438
		Productive vocabulary	-.019	.039	-.490	.626
		Proficiency level	-.219	.081	-2.706	.008
Sentence singular	.007	Intercept	8.437	1.186	7.116	.000
		Receptive vocabulary	-.009	.005	-1.782	.049
		Productive vocabulary	.018	.032	.563	.575
		Proficiency level	.045	.066	.677	.500
Sentence plural	.056	Intercept	6.617	1.883	3.514	.001
		Receptive vocabulary	.008	.008	1.060	.292
		Productive vocabulary	-.056	.050	-1.125	.264
		Proficiency level	.148	.104	1.414	.161
Anaphoric singular	.149	Intercept	8.790	.875	10.049	.000
		Receptive vocabulary	.002	.004	.695	.489
		Productive vocabulary	-.043	.023	-1.840	.050
		Proficiency level	-.135	.049	-2.792	.007
Anaphoric plural	.188	Intercept	7.679	.655	11.732	.000
		Receptive vocabulary	.000	.003	-.145	.885
		Productive vocabulary	-.018	.017	-1.038	.303
		Proficiency level	-.109	.036	-2.996	.004

As was found with the low-level learners, the NP singular had no significant relationship with the three factors (receptive vocabulary knowledge: $p = 0.736$, productive vocabulary knowledge: $p = 0.876$, and proficiency level: $p = 0.249$). A significant relationship was found between the NP plural and proficiency level ($p = 0.008$), but with neither receptive nor productive vocabulary knowledge ($p = 0.438$ and $p = 0.626$, respectively). There was a significant relationship found between the sentence singular and receptive vocabulary knowledge ($p = 0.049$) but none with the other factors (productive vocabulary knowledge: $p = 0.575$, and proficiency level: $p = 0.500$). For the sentence plural, there were no significant relationships discovered with the three factors (receptive vocabulary knowledge: $p = 0.292$, productive vocabulary knowledge: $p = 0.264$, and proficiency level: $p = 0.161$).

Table 5-72 shows that there were significant relationships between the anaphoric singular and proficiency level ($p = 0.007$) as well as productive vocabulary ($p = 0.050$) but not with receptive vocabulary ($p = 0.489$). There was a significant relationship between the anaphoric plural and proficiency level ($p = 0.004$) but not with receptive vocabulary knowledge ($p = 0.885$) or productive vocabulary knowledge ($p = 0.303$).

The results of multivariate linear regression with the forced-choice task showed that proficiency level affected the learners' accuracy: for low-level learners in the sentence plural and for high-level learners in the NP plural and anaphoric singular and plural contexts. Receptive vocabulary affected the NP plural and anaphoric singular with low-level learners and the sentence singular with high-level learners, while productive vocabulary affected high-level learners' accuracy with the anaphoric singular. The factors displayed different effects between the acceptability judgement task and the forced-choice task (discussed in Section 5.6).

The results thus far have helped to answer the three research questions. Table 5-73 (below) provides a summary of the acceptability judgement task and the forced choice task with regard to questions 1 and 2. "Accurate" indicates that the learners' use of the target items was significantly different from their avoidance of the non-target items. "Overuse of definite article" indicates that the learners did not solely use the target items.

Table 5-73: Accuracy in the acceptability judgement task and forced-choice task

Target items	Low-level learners (<i>n</i> = 80)	High-level learners (<i>n</i> = 80)
Acceptability judgement task		
NP singular (Definite article)	Accurate	Accurate
NP plural (Bare plural)	Accurate	Accurate
Sentence singular (Indefinite article)	Overuse of definite article	Overuse of definite article
Sentence plural (Bare plural))	Accurate	Accurate
Anaphoric singular (Definite article)	Accurate	Accurate
Anaphoric plural (Definite article)	Accurate	Accurate
Forced-choice task		
NP singular (Definite article)	Accurate	Accurate
NP plural (Definite article)	Accurate	Accurate
Sentence singular (Indefinite article)	Accurate	Accurate
Sentence plural (Bare plural))	Overuse of definite article	Overuse of definite article
Anaphoric singular (Definite article)	Accurate	Accurate
Anaphoric plural (Definite article)	Accurate	Accurate

Both low- and high-level learners found the sentence singular problematic, as they employed not only the indefinite article but also the definite article, with no significant difference between the use of the two articles. The Saudi-Arabic learners might have been affected by L1 influence due to the difference between L1 and L2 (discussed in Section 5.6). For research question 2, the forced-choice task revealed significant difference according to the post hoc Wilcoxon signed rank test. “Accurate” means that the use of the target item was significantly different from that of the other (non-target) items.

As seen in Table 5-73, the learners were not accurate with the sentence plural, but overused the definite article; again, possibly as a result of L1 influence. The learners faced difficulties with the sentence generic, which was shown to be problematic, in contrast to the NP generic and anaphoric references. Whether other factors may have affected the learners’ accuracy is addressed in research question 3, with the results showing that proficiency level affected the results of the forced-choice task but not the acceptability judgement task as (Table 5-74, below).

Table 5-74: The significant relationships between the two tasks (acceptability judgement task and forced-choice task) and proficiency level.

Factor	Level	Sentence type	P
Acceptability Judgement Task			
Proficiency level	Low-level	NP Plural	0.023
Receptive vocabulary	Low-level	NP Plural	0.005
	Low-level	Anaphoric singular	0.015
	High-level	Sentence plural	0.012
Productive vocabulary	Low-level	Anaphoric plural	0.015
Forced-choice task			
Proficiency level	Low-level	Sentence plural	0.004
	High-level	NP plural	0.008
	High-level	Anaphoric singular	0.007
	High-level	Anaphoric plural	0.004
Receptive vocabulary	Low-level	NP plural	0.048
	High-level	Sentence singular	0.049
Productive vocabulary	High-level	Anaphoric singular	0.050

Learners' performance in the acceptability judgement task and the forced-choice task were affected by the three factors. The following section entails a detailed discussion of all the findings described above.

5.6 Discussion

The goal of this study was to investigate the acquisition of generic references by Saudi-Arabic learners of English by assessing their sensitivity to the morphological

distinction between the NP generic and sentence generic with singular and plural contexts

Table 5-1 shows the differences between English and Arabic). The study also investigated the impact of the participants' proficiency and vocabulary knowledge on their ability to judge and select the generic reference in English. The first question in this study sought to determine:

1- Can Saudi-Arabic learners distinguish between generic and anaphoric references in L2 English in a judgement task?

The aim of this question was to fill the research gap surrounding whether Saudi-Arabic learners can accurately judge between generic and anaphoric references in English. Predictions for generic and anaphoric references were made according to the theories tested in the study, which focus on second language acquisition (SLA) and how L1 affects the learning process. These were the Bottleneck Hypothesis (BH) (Slabakova, 2008) and Representational Deficit Hypothesis (RDH) (Hawkins & Chan, 1997).

According to the predictions drawn from BH (Slabakova, 2008), the Saudi-Arabic learners would be able to use the definite article with NP singular [+definite], [-plural] as it is present in their L1, but that they might face difficulties with use of the indefinite article and bare plural due to differences between L1 and L2, as Arabic uses only the definite article with generic references. This prediction has been confirmed: the learners demonstrated greater difficulty with the sentence singular [-definite, -plural], sentence plural [-definite], [+plural] and NP plural [+definite], [+plural] than the NP singular [+definite], [-plural] due to the difference between L1 and L2. The learners were able to use the definite article with the NP singular and anaphoric singular and plural due to similarities between L1 and L2, as the learners were easily able to map the definite article from L1 to L2. The sentence generic caused problems as a result of L1-L2 differences as it required use of the indefinite singular. Moreover, the learners showed difficulty with bare plurals as English is [+arg, +pred] and Arabic is [-arg, +pred] which must be used with both NP plural and sentence plural. Thus, the differences between L1 and L2 were shown to affect the learners' accuracy.

The learners were able to use the definite article accurately with control categories; for the anaphoric singular, the mean score was 3.303 (out of 4) for low-level learners and 3.435 for high-level learners with the definite singular; and for the anaphoric plural, the mean score was 3.184 for low-level learners and 3.355 for high-level learners with the definite plural. For the test categories, particularly the NP singular (with the definite singular as the target article), the low-level learners achieved a mean of 2.85 (out of 4) and the high-level learners achieved a mean of 2.984 with the definite article, which confirms the prediction that the learners would be able to map the definite article in L1 with the definite article of L2.

The L1 Arabic-learners required acquisition of new features. These were the indefinite article and the bare plural: [-definite] to be mapped with [-plural] to be used with sentence singular. They needed also to acquire the [+definite] and map it with [+plural] bare plural to be used with NP plural and acquire [-definite] and map it with [+plural] to be used with sentence plural. Thus, the Saudi-Arabic learners' accuracy using the indefinite article was low, as predicted with BH: the learners tended to overuse the definite article. The mean score for low-level learners for the indefinite article with the sentence singular was 2.748 (out of 4), and 2.886 for the definite article: no significant difference was found between the indefinite article and the definite article with a pairwise t-test ($p = 0.194$). Additionally, for the high-level learners, the mean for the indefinite article with the sentence singular was 2.862 (out of 4), with a mean of 2.838 for the definite article: again, no significant difference was detected between the indefinite article and the definite article with a pairwise t-test ($p = 0.775$). The prediction that learners would face difficulties with the indefinite article as it does not exist in their L1 has been confirmed; learners had to acquire the indefinite article, and therefore experienced problems with it.

For the second difference between English and Arabic, the bare plural with NP plural and sentence plural contexts, the mean scores for the bare plural and the definite article were similar for both low- and high-level learners. With regard to the NP plural, for the low-level learners the means were 2.844 (out of 4) with the bare plural and 2.614 with the definite plural; for the high-level learners, the means were 2.915 with the bare plural and 2.754 with the definite plural. With the sentence plural, for the low-level learners, the means were 2.58 (out of 4) with the bare plural and 2.38 with the definite article; and for the high-level learners, the means were 2.65 with the

bare plural and 2.348 with the definite article. Snape (2013) indicates that the mean difference between the target item and the other options must be above 0.5 (detailed in Section 5.5); for the NP plural and sentence plural, bare plural and definite plural, the paired t-test showed significant difference for low-level learners ($p = 0.026$) and high-level learners ($p = 0.052$) with the NP plural, and again for low-level learners ($p = 0.049$) and high-level learners ($p = 0.004$) with the sentence plural. Although there was a significant difference, it was not strong, especially for the NP plural with both groups and for the sentence plural with low-level learners. Thus, the predictions according to BH regarding the bare plural have been confirmed, as the learners achieved high mean scores with the definite plural but managed to use the bare plural more accurately than the indefinite article.

BH posits that definiteness is a part of functional morphology and entails an agreement mechanism between determiners and nouns which classifies interpretable (definite, indefinite article, bare plural) and uninterpretable features [*number*] in the nouns (elaborated in Section 2.1.2). Subject–verb agreement is more difficult to acquire than verb movement for learners of both high and low proficiency (Jensen et al., 2020). The results of the Saudi-Arabic learners in this study demonstrated that the learners encountered difficulties with the indefinite article and the bare plural due to differences in article–noun agreement between L1 and L2, as Arabic employs only the definite article with singular and plural contexts while English has NP singular with [+definite], [-plural], NP plural with [+definite], [+plural], sentence singular with [-definite], [-plural] and sentence plural with [-definite], [+plural]. The difficulties were the result of the functional morphology ‘bottleneck’ of definiteness. The definite plural with specific and generic references has previously been investigated by Azaz (2019) with L1 English learners of L2 Arabic in a study which showed that only the high-advanced learners (and not the low-advanced or beginners) were able to achieve high levels of accuracy with the definite plural generic in L2 Arabic because definiteness is part of functional morphology: the bottleneck of acquisition (Azaz, 2019).

BH (Slabakova, 2008) and one of its elements, Feature Reassembly Hypothesis (FRH) (Lardiere, 2009), overlap in that both postulate that learners are able to acquire features which are absent in their L1. The Saudi-Arabic learners tended to overuse the definite article with the NP generic plural and sentence generic singular

and plural, matching the results of earlier studies (Ionin et al., 2011). Ionin et al. (2011) support Slabakova's (2008) suggestion that the semantic principles and constraints are still available for L2 learners, as they are universal, but that mapping between semantics and morphology can be difficult for learners if these differ between L1 and L2. This is similar to that proposed by FRH (Lardiere, 2009). The results support Slabakova's (2008) BH, as explained by Ionin et al. (2011, p. 275): 'semantic principles are available to all L2-learners, while the mappings between semantics and morphology present a stumbling block'.

The predictions of RDH (Hawkins and Chan, 1997) state that the learners would not be able to acquire a new uninterpretable feature already acquired in L1 after the critical period. With the generic references, the uninterpretable features were the number feature [*number*] associated with nouns occurring with the indefinite article and the bare plural (explained in Section 5.3.2.) The learners were able to use the indefinite article with the sentence singular and the bare plural with NP plural and sentence plural, despite these not being used in L1 generic references. A significant relationship was found between the target item and NP singular, NP plural and sentence plural, indicating that the learners were able to acquire the bare plural and the uninterpretable feature [*+plural*]. They were also able to distinguish between [*-plural*] and [*+plural*] with NP generic. A significant difference was revealed between the definite singular (the target item) for NP singular and the other singular items (the indefinite singular and bare singular). There was also a significant difference between the bare plural (the target item) for NP plural and definite plural (the non-target item) with [*+plural*] contexts, suggesting that the learners were able to distinguish between the uninterpretable features [*-plural*] and [*+plural*] with the NP generic.

Although the indefinite article was selected with the sentence singular [*-definite*], [*-plural*] as the target item, the definite article was still shown to be high compared to the other items. This may be due to differences between L1 and L2, with L1 transfer affecting the learners as they overused the definite article, which is the only article used in their L1 with generic references. The learners displayed greater accuracy with the indefinite article in the forced-choice task (discussed in research question 2). The differences between L1 and L2 leads to mapping difficulties which could be the reason for the more frequent choice of the definite article with the sentence singular,

rather than because the learners were not able to acquire the uninterpretable feature related to generic references, as suggested by RDH. There was a significant difference displayed by the Saudi-Arabic learners between the bare plural (the target item) and the definite plural (non-target item) with the sentence plural [-definite], [+plural], also indicating that they could acquire the new uninterpretable feature [+plural] and associate it with the bare plural to be used with the sentence plural. This differs from their L1, in which only the definite article is used with generic references. The results therefore point to the conclusion that the learners had difficulty with generic references as a result of differences between L1 and L2 which caused difficulties in mapping between L1 and L2, and not because they were unable to acquire the new uninterpretable feature [\pm plural] with generic references

These results are consistent with a study by Momenzade and Youhanaee (2014) which investigated the acquisition of number (singular and plural) with nouns using the definite and indefinite articles with L1 Persian speakers acquiring L2 English. Momenzade and Youhanaee's results showed that the advanced learners performed at target-like level, unlike the elementary and intermediate learners, who scored only above the chance level. The outcomes support FRH due to assembly of the number feature rather than the absence of the feature, as would be the case with RDH (Momenzade and Youhanaee, 2014).

There are two potential explanations for the lower accuracy of the Saudi-Arabic learners compared to the L1 English speakers: L1 transfer and proficiency level. With regard to L1 transfer, the findings of this study support Jarvis' (2002) argument that learners with article systems which differ from the English one might tend to overgeneralise the use of articles. This was found to be the case with the Saudi-Arabic learners in this study, who overused the definite article with the NP plural, sentence singular and sentence plural. The tendency of the Saudi-Arabic learners to accept multiple options indicated indeterminacy in their judgements, suggesting that while they knew the indefinite article may be possible for the sentence singular and the bare plural for the NP plural and sentence plural, they had not yet ruled out the use of the definite article and appear to have been assuming a form of optionality.

This reflects the findings of Hermas (2020a, 2020b), who determined that L1 Moroccan Arabic learners of L2 French and L3 English did not show target-like

accuracy with genericity, even in the case of advanced learners. Hermas (2020a) showed that L1 Moroccan Arabic L3 learners of English demonstrated difficulty with the indefinite article in the sentence singular and the bare plural with the NP plural and sentence plural. This echoes the results of the present study with Saudi-Arabic learners, in which the learners showed lower accuracy with the sentence singular, NP plural and sentence plural, suggesting that Saudi-Arabic learners' accuracy is affected by their L1 as they have performed similarly to those with L1 Moroccan-Arabic. Hermas (2020b) also investigated the acquisition of genericity with L1 Moroccan Arabic and L2 French. French has the NP generic and sentence generic and employs definite and indefinite articles but does not allow the bare plural (explained in Section 2.5.1). In agreement with the results of the present study, Hermas (2020b) demonstrated that L1 Arabic learners were accurate with the use of the definite singular and plural with L2 French, but nevertheless showed low levels of accuracy with the indefinite article as a result of L1 transfer. This applied even to advanced learners.

The findings with regard to the NP singular were also similar to those of a study by Sabir (2015) with Saudi (Hejazi) Arabic-learners, which found that the learners were accurate in selecting the definite singular with the NP singular but demonstrated low accuracy with sentence plural with indefinite singular, and rated the definite singular higher, which can be explained by reference to L1 transfer. A difference between the results of the present study and those of Sabir (2015) is that the Saudi-Arabic learners in this experiment did not reject the bare plural for the NP plural and sentence plural, but instead were found to select the bare plural more frequently than the definite plural, and there was a significant difference found with the results (Section 5.5). Sabir (2015) also found that the learners rated the bare singular higher than the bare plural with NP plural and sentence plural, while the learners in the present study were able to distinguish between the bare singular as the non-target item by rating it low, and the bare plural as the target item by rating it high. The bare singular was accurately rejected by the Saudi-Arabic learners and the rating was lower, with 0.5 from the target items for both the high- and low-level.

As the learners showed greater accuracy with plural contexts than those in Sabir's (2015) study, they would benefit from explicit teaching, as proposed by Abumlhah (2016), who found that explicit teaching led to better accuracy with generic plural

contexts with Saudi (Najdi) Arabic-learners. There is currently a dearth of research into generic references in the classroom with Saudi-Arabic learners, and this is a need that should be addressed in future research.

A recent study by Umeda et al. (2019) investigated the effect of explicit instruction about English articles with the NP generic and sentence generic with 37 L1 Japanese learners. The study consisted of a pre-test and four post-tests, with the first post-test taking place after three weeks of instruction with the generic, the second after 10 weeks of instruction with the generic, definiteness and specificity, and the third after 12 weeks of further instruction. Post-test 4 was carried out one year later. The results showed that the learners showed positive improvement with the NP generic and sentence generic between the pre-test and post-tests 1, 2 and 3, but reduced accuracy in post-test 4, suggesting that the positive improvement was short-term in nature. The results of Umeda et al. (2019) agree with those of Abumlhah (2016), who maintained that explicit instruction showed improvement with a delay of eight weeks before the post-test. Future research in this area with Saudi-Arabic learners would benefit from delivering a post-test one year later to determine whether the gains from explicit instruction would be retained long-term.

The evidence presented thus far supports Snape's (2008) research in that the replaced the article “a/an” with “the”, which provides further evidence that their L1 influenced their ability to acquire the English article system. Snape (2008) showed that even advanced Japanese learners demonstrated difficulty with the definite article with count and mass nouns with Nominal Mapping Parameter (NMP), and L1 Japanese and L1 Spanish performed differently as a result of L1 transfer. The L1 groups were able to distinguish between the interpretable and uninterpretable features but the L1 Spanish were more accurate than the L1 Japanese due to the fact that Spanish possesses a definite article and Japanese does not. In the present study, the Saudi-Arabic learners could use the indefinite article and the bare plural, which are missing in their L1, but nevertheless showed difficulties with these features, overusing the definite article with the sentence singular (indefinite article) and NP plural and sentence plural (plural-s) due to L1 transfer (as mentioned, with generic references, Arabic only uses the definite article).

L1 transfer also affected this study's Saudi-Arabic learners' sensitivity to the NP plural and sentence singular and plural. This supports Jarvis and Odlin's (2000) finding that the overuse of "from" instead of "in" with L1 Finnish speakers learning English was due to semantic transfer from L1 to L2. Anaphoric references are similar in English and Arabic, which might give learners an advantage in judging anaphoric references as there is L1 transfer. This was determined by Jarvis (2002), who found that due to the similarities between the article systems of Swedish and English, learners were accurate in their use of the definite and indefinite articles in English.

With regard to proficiency level, Hermas (2020b) investigated the acquisition of genericity with L1 Moroccan Arabic and L2 French, noting that even advanced learners faced difficulties with generic references due to L1 influence. Snape et al. (2013) further investigated the acquisition of generic reference with three L1 background languages (Spanish, Turkish and Japanese), and discovered that proficiency level played a role, particularly with the NP generic singular (definite article). In that study, the advanced Spanish learners demonstrated high accuracy while the Turkish and Japanese learners showed difficulties with the NP generic singular due to the absence of the definite article from their L1. It was also found that the advanced L1 Spanish learners faced problems with the bare plural due to L1 influence, similar to Snape's (2008) earlier study with advanced Japanese learners. Therefore, it can be stated that L1 Arabic learners would encounter difficulty with generic references even at relatively advanced levels (Crompton, 2011). The effect of proficiency level with generic references is elaborated further in research question 3, which wanted to determine if there was any significant relationship between different types of generic reference and proficiency level and vocabulary knowledge.

In the acceptability judgement task, the Saudi-Arabic learners displayed problems with the use of the indefinite article as generic references in their L1 only use the definite article. However, despite the fact that the bare plural is also not employed in their L1 generic references, the Saudi-Arabic learners were accurate with the NP plural and sentence plural, using the bare plural more than the sentence singular. However, the results in the forced choice task question 2 differ, as the learners have been more accurate with sentence singular than sentence plural. Snape (2018) argued that using different tasks might affect the learners' outcomes, and the ultimate results of a study. Therefore, the Saudi-Arabic learners may display greater (or worse)

accuracy given an alternative type of task with genericity. This is further explored in research question 2 as part of the discussion of the results of the forced-choice task.

The results of the present study corroborate the findings of a great deal of previous work, including Ionin et al. (2011) and Snape (2013), who showed that learners perform differently with generic contexts depending on their language background. The Saudi-Arabic learners behaved differently to the Russian and Korean learners in Ionin et al. (2011) and to the Japanese and Spanish learners in Snape (2013). The Russian and Korean L1 learners of English in Ionin et al. (2011) were able to judge the generic context despite possessing article-less L1s, although they were more accurate with the sentence generic than the NP generic. For the sentence generic, the L1 Russian and Korean learners selected the target items – the indefinite singular (the target item) over the non-target items. For the NP generic, they chose the definite singular, indefinite singular and bare plural over the other options. For the L1 Koreans, the indefinite singular mean was 2.76 (out of 4) and the bare plural mean was 3.57 (out of 4): both higher than the definite singular mean (2.53 out of 4), indicating that they experienced problems selecting the definite article with the NP generic. For the L1 Russians, the definite singular mean (2.40 out of 4) and the bare plural mean (3.52 out of 4) were higher than the indefinite singular mean (2.35 out of 4), but with a small difference between means for the definite and indefinite singular. These results for L1 Russian and Korean learners show that their learnability issue was with the definite article as their L1s lack article systems; this differs from the learnability issue of the Saudi-Arabic learners, which concerns the indefinite article and bare plural. The Saudi-Arabic learners overused the definite article due to their L1 background

Table 5-1).

Snape (2013) obtained a similar pattern of results. Japanese is another article-less language, and the L1 Japanese learners were found to be more accurate with the sentence generic than the NP generic. Studies by Ionin et al. (2011) and Snape (2013) have suggested that learners with article-less languages perform similarly in generic contexts, being more accurate with the sentence generic than the NP generic. Snape's (2013) study involved L1 Spanish learners of English. Spanish does not have an argument position in the generic context, and, like Arabic, the use of the

article is obligatory, not allowing the bare plural with the generic. However, Spanish differs from Arabic in that it has an indefinite article employed with generic references. Spanish uses the definite article “la/el” with the NP generic singular and the definite article “las/los” with the plural marker -s in the NP generic plural context. For the sentence generic, the indefinite article “una/un” is used with sentence generic singular, and the definite article “unas/unos” is used with the plural markers -s to express the sentence generic plural. The results of the L1 Spanish learners were different from those of the L1 Japanese learners: the L1 Spanish learners were accurate with both the NP generic and the sentence generic, i.e. their performance differed from that of learners with article-less L1s. Arabic, like Spanish, lacks an argument position (explained in Section 2.5), but unlike Spanish, Arabic only uses the definite article with generic references (

Table 5-1). The results indicated that learners perform differently with generic references depending on their L1 background, which could explain the Saudi-Arabic learners’ tendency to overuse the definite article in place of the indefinite article and bare plural.

The present study found that Saudi-Arabic learners were more accurate with the NP generic singular for which the definite singular was required, but overused the definite article with the NP generic plural, sentence singular and plural. L1 influence can help explain why the Saudi-Arabic learners behaved differently from the learners in Ionin et al. (2011) and Snape (2013). With the NP generic, the learners showed greater accuracy using the definite singular with the NP generic singular. For the bare plural, the learners used the definite plural more than they should have, again possibly due to L1 influence. For the sentence generic singular, the learners showed less accuracy with the indefinite singular, selecting the definite singular more than the indefinite singular; the low accuracy in the sentence generic singular could be due to L1 influence. The results showed that the Saudi-Arabic learners were able to acquire the bare plural despite the fact it is not used in the Arabic generic context, which indicates that the learners were more accurate with the NP plural and sentence plural.

In summary, for the control categories (the anaphoric references), the Saudi-Arabic learners performed similarly to the L1 English speakers in both singular and plural

contexts, which shows that the learners possessed the basic information of the article system (which was the purpose of including the control categories). English and Arabic share the same feature with the definite article and anaphoric references (Table 5-1). Both the Saudi-Arabic learners and the L1 English speakers performed as expected in the control categories. However, in the test categories (NP generic and sentence generic), the Saudi-Arabic learners demonstrated low accuracy compared to the L1 English speakers as there is a learnability issue with regard to overuse of the definite article in position of the indefinite article and bare plural (i.e. it is used only with generic references in L1, which differs from L2 usage). These results show persistent differences in terms of the acquisition of the sentence singular with the indefinite article, which proved to be the main problematic feature for the Saudi-Arabic learners.

The predictions of BH (Slabakova, 2008) – that the learners would acquire the indefinite article and bare plural even though these are absent in their L1 – have been confirmed, while the predictions of RDH (Hawkins & Chan, 1997) – that the learners would not be able to acquire the new uninterpretable feature in L2 already acquired in L1 – have been rejected. The results of this study support evidence from previous studies by Ionin et al. (2011) and Snape (2013).

2- Can Saudi-Arabic learners distinguish between generic and anaphoric references in L2 English in a forced-choice task?

Predictions were made according to the hypotheses presented in Section 5.3: BH (Slabakova, 2008) and RDH (Hawkins & Chan, 1997). The question relates to generic and anaphoric references in a forced-choice task. The results support evidence from previous research (Slabakova, 2008; Lardiere, 2009) and reject the predictions of RDH (Hawkins & Chan, 1997). Arabic only allows the definite article with the generic reference, whereas English uses the definite and indefinite articles and the bare plural (

Table 5-1). The Saudi-Arabic learners were able to choose the indefinite article with the test category, the sentence singular [-definite], [-plural], and demonstrated an ability to use the bare plural in the sentence plural [-definite], [+plural]. Although L1 generic features use only the definite article, the learners were able to map and

reassemble this feature with the bare plural and gain the indefinite article with the test categories (generic references). This accords with the earlier observations that the learners were able to choose the articles despite the fact they are missing in their L1.

BH (Slabakova, 2008) posits that similarities and differences between L1 and L2 affect learners' acquisition. In the present study, although the learners were able to select the indefinite article and bare plural despite their absence in L1, they showed lower accuracy with the sentence generic than with the NP generic and anaphoric references, which might be due to the variance in the feature between L1 and L2. Slabakova (2008) argues that mismatching the feature between L1 and L2 leads to mapping difficulties, which occurred with the Saudi-Arabic learners in this study.

These results reflect those of Momenzade and Youhanaee (2014), who also support FRH. Momenzade and Youhanaee (2014) investigated the acquisition of number with the article system in English by L1 Persian speakers and showed that similar difficulties arose with the English article system with the definite singular and plural due to L1 transfer, as their L1 lacks the definite article. It was also found that the advanced learners showed target-like accuracy, but the elementary and intermediate learners did not. These results support the assembly of the number feature, in line with FRH (Lardiere, 2009), rather than the absence of the number feature, as postulated by RDH (Hawkins & Chan, 1997). The results of the present study show that Saudi-Arabic learners were able to acquire the generic feature and use the indefinite article even though it is not present in their L1; in addition, they were able to use bare plural with generic references, although this is not acceptable in their L1 generic. However, the learners did not show target-like performance due to L1 transfer and proficiency level, similar to Momenzade and Youhanaee's findings that learners with intermediate (or, in this case, lower) level did not achieve target-like accuracy.

In contrast with the findings of the first question, which were gleaned from the acceptability judgement task, in the forced-choice task the Saudi-Arabic learners proved more accurate with the sentence singular than the sentence plural. Previously, they had shown greater accuracy with the sentence plural than the sentence singular. There are several factors which could explain this. First, in the forced-choice task,

the learners had only one choice, whereas in the acceptability judgement task, they could choose more than one option – i.e. this task forces the participant to choose rather than allow the assumption of optionality. Snape (2018) made a similar observation as a result of his research with L1 Japanese learners using a picture matching task and a forced-choice elicitation task, which found that each task produced differing levels of accuracy with the definite generic and definite unique. Therefore, it is important to consider and account for how the type of task can produce varying levels of accuracy with the sentence generic. In the present study, the learners may have shown differing levels of accuracy between the two tasks as Arabic lacks the indefinite article and bare plurals with generic references.

The second reason is that the learners were at intermediate level, and the sentence generic is difficult for Saudi-Arabic learners, indicated as a problematic feature in both the first and the second experiment. The mean rating for the definite article was high in both tasks, even though that was not the target item. Although the definite article was rated highly in both tasks, the forced-choice task rating was lower than the acceptability judgement task rating, which allowed the means to be significantly different from the other non-target options. This was also the case with the sentence plural.

For the other test category, the NP generic, the results showed significant difference with both singular and plural contexts in both tasks. Despite this significance, the learners were not as accurate as the L1 English speakers, although the results showed a slight improvement between the low- and high-level learners, suggesting that the learners were continuing to develop their interlanguage grammars in a target-like manner. For the control categories (anaphoric references), the results of the acceptability judgement task and the forced-choice task were similar, as the learners were accurate with the anaphoric singular and plural, demonstrating similar performance to the L1 English speakers.

Consistent with the literature, this study has found that in the choice of generic references, learners show L1 influence with the sentence generic plural. They overused the definite article in the sentence plural, and there was no significant difference between the target item (bare plural) and the non-target article (the definite article). This finding is consistent with that of Ortega (2009), who argues

that learners with different article systems to English tend to overuse the definite article as an effect of their L1. These results are also in agreement with Alhaysony's (2012) findings, which showed that learners overused the definite article due to L1 influence causing a negative transfer; their low accuracy was due to L1 influence. Crompton (2011) noted that 'learners from languages with article systems, such as Arabic, may also face significant problems and these problems may survive until relatively advanced stages of learning' (p. 28). The results are also consistent with Snape et al. (2013), who found that L1 Spanish, Turkish and Japanese learners of English did not perform similarly to L1 English speakers when selecting articles in generic references in a forced-choice task.

By contrast, Alzamil's (2015) study into the acquisition of generic references with L1 Arabic and L1 Mandarin Chinese learners of English concluded that there was no difference between the performance of the two L2 groups using a forced-choice task. The results showed lower- and upper-intermediate learners failing to accurately use the definite article with the NP singular and use of the indefinite article was high with L1 Arabic learners and L1 Mandarin Chinese. Moreover, both language groups, whether they were lower-intermediate, upper-intermediate or advanced, overused the bare plural (the non-target item) rather than the definite article (the target-item) with the NP plural (Alzamil, 2015). However, both groups performed with high accuracy with the sentence singular and plural.

The Saudi-Arabic learners in the present study showed some effect from their L1, as elaborated above. There was a significant difference between the definite article (the target item) and the indefinite article and bare plural (the non-target item) with NP singular and plural with both low- and high-level learners. For the sentence singular, the learners showed significant difference between the indefinite article (the target item) and the definite article and bare plural (the non-target items), but found difficulties with the sentence plural as they overused the definite article rather than employing the bare plural (the target item). The learners were more accurate with the NP singular and plural than the sentence singular and plural due to L1 transfer, in contrast to Alzamil (2015), who found that both L1 Arabic and L1 Mandarin Chinese learners performed similarly with the singular and plural generic and showed greater accuracy with the sentence generic than the NP generic.

That the learners in the present study showed an effect of L1 transfer is consistent with Hermas (2020a, 2020b), Ionin et al. (2011), Snape (2008, 2013) and Snape et al. (2013), who all found that generic references were affected by L1 transfer, learners from different L1 backgrounds will show varying performance according to their L1 article system.

The Saudi-Arabic learners were accurate with anaphoric references (the control categories) as anaphoric references in L2 English are similar to their L1 article system. Lardiere (2009) noted the distinction between feature selection and feature reassembly. For features present in L1, such as definiteness, the learners need to reconfigure or remap the feature from L1 to the new feature in L2. Snape et al. (2013) illustrated that L1 Spanish speakers performed differently in tasks than L1 Japanese and Turkish speakers. Spanish (as explained in Section 2.5.1) possesses a similar article system to English, unlike Japanese and Turkish, which differ from English; this affects learners' accuracy with generic references, as shown by the Saudi-Arabic learners in this study.

In summary, in the selection of generic references, the Saudi-Arabic learners showed more sensitivity towards the sentence generic in both singular and plural contexts than the NP generic. With the NP generic, they selected the definite article more than any other article; this reflects their L1, in which only the definite article is used in the generic context. For anaphoric references, the learners were able to use the definite article, and were more accurate with anaphoric references than generic references.

3- What roles do receptive and productive vocabulary knowledge and general proficiency level play in how Saudi-Arabic learners of English judge and select anaphoric and generic references in English?

The Saudi-Arabic learners showed that they were able to acquire generic and anaphoric references from L1 to L2, but the third research question is designed to determine whether or not the generic and anaphoric references are affected by other factors. L1 transfer has been discussed and the hypothesis forwarded that proficiency level may constitute a factor affecting performance. This section examines proficiency level and vocabulary knowledge in light of the results of the study to

explain the Saudi-Arabic learners' ability to judge (acceptability judgement task) and select (forced-choice task) generic and anaphoric references.

In the acceptability judgement task, for the test categories (generic references), there was a significant relationship between the NP plural and receptive vocabulary knowledge (Yes/No test [Meara, 2010]) for the low-level learners $p = 0.005$ and proficiency level with $p = 0.023$.

The high-level learners showed a significant relationship between sentence plural and receptive vocabulary knowledge (Yes/No test [Meara, 2010]) with $p = 0.012$. No significant relationship was found for the sentence singular, which might be because the features were affected by L1 (as explained in research question 1). For anaphoric references (the control categories), there was a significant relationship between the anaphoric singular and receptive vocabulary knowledge with $p = 0.015$ with low-level with low-level learners, who showed a significant relationship between the anaphoric plural and productive vocabulary ($p = 0.015$).

In the forced-choice task, for the generic and anaphoric references, the results showed a significant relationship between the NP plural and receptive vocabulary knowledge ($p = 0.048$) for low-level learners, and with proficiency level (according to the Standardized Oxford Proficiency Test) with high-level learners ($p = 0.008$). The sentence plural showed a significant relationship with proficiency level with low-level learners ($p = 0.004$) and the sentence singular with receptive vocabulary with high-level learners ($p = 0.049$). A significant relationship was also discerned for high-level learners between proficiency level and the anaphoric singular ($p = 0.007$) and the anaphoric plural ($p = 0.004$). High-level learners also showed a significant relationship between the anaphoric singular and productive vocabulary ($p = 0.050$). The results showed that proficiency level and vocabulary knowledge affected generic references and anaphoric references with Saudi-Arabic learners.

Proficiency level and generic references were significantly related in L2, with the results suggesting that the learners' accuracy with plural contexts was affected by their proficiency level. A significant relationship was also found between proficiency level and the NP plural, sentence plural and anaphoric plural. In singular contexts, the anaphoric singular showed a relationship with proficiency level, whereas none was discovered between the NP singular and sentence singular and proficiency level.

With regard to the sentence singular, this may have been because the learners' problems with the indefinite article were influenced by their L1, as there was no significant difference between the target item (indefinite article) and the other non-target items (discussed in research question 1). Hermas (2020a, 2020b) previously found that even advanced learners of Moroccan-Arabic encountered difficulty with the indefinite article difficult due to L1 influence with L2 French and L3 English. This is also likely to be the case with the Saudi-Arabic learners in this experiment, as L1 influence appears to affect their accuracy with the indefinite article in L2 English.

This finding is consistent with that of Momenzade and Youhanaee (2014) and Snape et al. (2013). The latter found that proficiency level played a role in English article selection, but also that proficiency level affected NP singular contexts, which was not reflected in the present study. This difference may be the result of the different L1 backgrounds of the learners. In this experiment, the NP singular showed a significant relationship with productive vocabulary knowledge. Momenzade and Youhanaee (2014) similarly found that the learners' accuracy in using the definite and indefinite article with singular and plural contexts was affected by their proficiency level, as the advanced learners showed greater accuracy than the intermediate- and low-level learners.

The final factor, vocabulary knowledge, has been found in the present study to have an effect with generic and anaphoric references. Receptive vocabulary showed a significant relationship with the sentence singular and plural, NP plural and anaphoric singular, while significant relationships were revealed between productive vocabulary and the NP singular and anaphoric singular and plural. This suggests that vocabulary knowledge is related to the interpretable feature [\pm definite] and the uninterpretable feature [\pm plural], with the learners' vocabulary knowledge having affected their accuracy.

A significant relationship between vocabulary knowledge and the uninterpretable feature [μ number] with the sentence singular with [-definite] and [-plural] and the NP plural and sentence plural with -s plural with [+plural] contexts was shown in the results of this study. Previous studies have investigated receptive vocabulary knowledge and uninterpretable features (David et al., 2009; Treffers-Daller & Rogers, 2014). David et al. (2009) determined that receptive vocabulary knowledge

is related to the development of complex syntax in generic terms, such as mean length of utterance, but does not show any relationship with uninterpretable features. Treffers-Daller and Rogers (2014) suggested that the uninterpretable feature (verb movement measure) significantly correlated with receptive vocabulary knowledge. The present experiment has found that the uninterpretable feature related to generic references was affected by both receptive and productive vocabulary knowledge: the learners' accuracy with the sentence singular clearly correlated with their receptive vocabulary knowledge with the indefinite article with uninterpretable feature [-plural]. This indicated that receptive vocabulary is required for the use of plural-s with the uninterpretable feature [+plural]. There is therefore a significant relationship between the indefinite article and plural-s and receptive vocabulary knowledge. Productive vocabulary was found to be significantly related with the definite article with the anaphoric singular and plural.

The present experiment is consistent with the findings of the first experiment (Section 4.5), which showed that receptive and productive vocabulary knowledge were significantly related with the indefinite article with definiteness and specificity. In the second experiment, only receptive vocabulary knowledge was found to be related with the indefinite article. This indicates that the Saudi-Arabic learners' accuracy with the indefinite article with specificity and genericity was affected by their vocabulary knowledge, and that receptive vocabulary has a greater impact on generic references than productive vocabulary.

In summary, the Saudi-Arabic learners' accuracy with generic references was found to have been affected by their proficiency level and their receptive and productive vocabulary knowledge. Results surrounding the uninterpretable feature [*number*] with generic references showed variation depending on these factors. Proficiency level particularly affected the plural contexts with NP and sentence generic, as well as the anaphoric singular and plural. Receptive vocabulary showed an effect on the indefinite article and plural-s with sentence singular and plural contexts and NP plural, and productive vocabulary showed a significant relationship with the definite article with the anaphoric singular and plural. These results, along with those discussed in the previous sections, indicate that proficiency level and vocabulary knowledge are crucial factors to consider when attempting to increase learners' accuracy and overcome the influence of L1 transfer with generic references.

5.7 Limitations

This study was limited by weaknesses related to the participants and the research instruments. The first limitation lies in the fact that all participants were of intermediate level in learning English as a foreign language; this affected the results as it neglected to determine what level of accuracy advanced learners might show.

A further limitation comes from the fact that the NP plural target article was the definite article in the forced-choice task (explained in Section 5.4.2.2), but the corresponding target item in the acceptability judgement task was the bare plural; this meant there was no opportunity to compare the results for the NP plural between the two tasks.

5.8 Conclusions from the second experiment

The second experiment focused on the accuracy of Saudi-Arabic learners with generic references. A total of 160 learners completed tasks related to genericity, proficiency level and vocabulary knowledge. The study examined their accuracy with generic references and tested factors which may affect that accuracy: proficiency level, L1 transfer or vocabulary level. The results showed that the Saudi-Arabic learners were accurate with the NP generic singular but less so with the NP plural as they tended to overuse the definite article. For the sentence generic, the learners showed low accuracy with both singular and plural contexts, again displaying a tendency to overuse the definite article. The learners' low accuracy with generic references can be explained by L1 influence.

The learners were able to use the indefinite article and bare plural with the NP plural and sentence singular and plural, which was a learnability issue for Saudi-Arabic learners. This confirms the predictions of BH (Slabakova, 2008): that the learners would be able to use these articles but might face some difficulties due to differences between L1 and L2. The results reject RDH (Hawkins & Chan, 1997), which predicted that the learners would not be able to use the indefinite article and bare plural with their uninterpretable feature, which is [-plural] for the indefinite and [+plural] for the bare plural. However, it was found that the learners were able to use the indefinite article and the bare plural but not at target-like performance due to their proficiency level. The two tasks used (acceptability judgement task and forced-

choice task) generated differing levels of accuracy with the sentence generic. The learners were more accurate with the sentence plural than sentence singular in the acceptability judgement task, but showed greater accuracy with the sentence singular than with the sentence plural in the forced-choice task. This strongly suggests that the type of task selected has an effect on the learners' accuracy with generic references. The experiment also found that proficiency level and receptive and productive vocabulary knowledge influenced the learners' accuracy with generic references in singular and plural contexts.

Further research could assess the effect of countable and uncountable generic references with Saudi-Arabic learners, which would be useful as a difference may be discovered in the learners' performance because L1 (Arabic) does not differentiate between countable and mass nouns with generic references.

Chapter 6 General Conclusion

The broad aim of the two experiments conducted for this thesis was to investigate Saudi-Arabic learners' accuracy regarding definiteness, specificity, genericity and anaphoric references by examining their ability to judge and select articles in English. The study examined the effect of L1 transfer by testing hypotheses related to Universal Grammar (UG) and how L1 transfer may affect the acquisition process: the Bottleneck Hypothesis (BH) (Slabakova, 2008), the Fluctuation Hypothesis (FH) (Ionin et al, 2004) and the Representational Deficit Hypothesis (RDH) (Hawkins and Chan, 1997). The experiments also explored the factors of proficiency level and receptive and productive vocabulary knowledge. This chapter brings together the results and general outcomes from this thesis.

The first experiment was intended as a pilot study, and focused on the accuracy of Saudi-Arabic postgraduate English learners with regard to definiteness and specificity, while the second measured the accuracy of Saudi-Arabic undergraduate English learners with genericity in singular and plural contexts.

Overall, the learners showed high accuracy using definiteness, specificity, and anaphoric references, demonstrating a reduced effect of L1 transfer with these than with generic references. Proficiency level and receptive and productive vocabulary knowledge all influenced accuracy in definiteness, specificity, genericity and anaphoric references.

The two experiments tested the predictions of different hypotheses in relation to Arabic learners of English. The first tested BH (Slabakova, 2008) and FH (Ionin et al., 2004) and the second tested BH and RDH (Hawkins and Chan, 1997). BH was included in both as it posits that any mismatch between L1 and L2 leads to difficulties in acquiring features. The first experiment also tested FH (Ionin et al., 2004), which postulates that learners fluctuate between the Article Choice Parameters (ACP) until they set the article system with definiteness in L2 English. The second experiment tested accuracy with genericity in singular and plural contexts using the predictions of RDH (Hawkins and Chan, 1997), which state that learners will be unable to acquire a new uninterpretable feature (in this case,

genericity with the numbering feature [*number*]) in L2 if they have already acquired such a feature in L1 after the critical period.

The differences between L1 (Arabic) and L2 (English) are presented in Table 6-1 for specificity with [-plural] and Table 6-2 (below) for genericity with [\pm plural] contexts.

Table 6-1: Differences between English and Arabic regarding specificity

Definiteness and specificity	English	Arabic
[+specific, +definite], [-plural]	the	al-
[-specific, +definite], [-plural]	the	al-
[+specific, -definite], [-plural]	a/an	Ø Bare singular
[-specific, -definite], [-plural]	a/an	Ø Bare singular

The learnability issues centred on the indefinite article, as Arabic does not employ the indefinite article as English does with definiteness and specificity.

For generic and anaphoric references, related to the second experiment, the differences between English and Arabic are shown in Table 6-2.

Table 6-2: Comparison between English and Arabic in generic and anaphoric references

Generic and anaphoric references	English	Arabic
NP generic singular [+definite], [-plural]	the	al-
NP generic plural [+definite], [+plural]	Plural-s	al-
Sentence generic singular [-definite], [-plural]	a/an	al-
Sentence generic plural [-definite], [+plural]	Plural-s	al-
Anaphoric singular [+definite], [-plural]	the	al-
Anaphoric plural [+definite], [+plural]	the	al-

For generic references, the learnability issue was that L1 uses only the definite article and does not differentiate between the NP generic (where the definite article is used with singular contexts and bare plural with plural contexts) and sentence generic (where the indefinite article is used with singular contexts and the bare plural with plural contexts).

The predictions generated by each hypothesis are summarised in Table 6-3 (below). This does not include FH as it is related to the setting of parameters rather than to the role of L1 transfer.

Table 6-3: Summary of predictions from the tested hypotheses

	BH	RDH
Support L1 transfer	√	√
Learners will have partial access	χ	√
Learners will have Full Transfer/Full Access	√	χ
Acquiring a new interpretable feature	√	√
Acquiring a new uninterpretable feature	√	χ
Learner will not acquire the new uninterpretable feature [± plural] after the critical period but will be able to acquire [± definite] as interpretable feature	χ	√
Learner will acquire the uninterpretable feature [± plural] and interpretable feature [± definite] but will have difficulties with functional morphology and the difference between L1 and L2	√	χ

In the first experiment, which examined definiteness and specificity, the results showed that learners developed in terms of accuracy with proficiency level and vocabulary knowledge. The participants comprised 32 Saudi-Arabic English learners' resident in the UK and studying as postgraduate students. The experiment

used OpenSesame to design the grammatical judgement task with definiteness and specificity and examined the effect of proficiency level and vocabulary knowledge.

The research questions were:

- 1- Can Saudi-Arabic learners of English distinguish between grammatical and ungrammatical uses of definiteness and specificity in L2 English?

The learners showed similar accuracy with use of the definite and the indefinite article with the four types [+specific, +definite], [+specific, -definite], [-specific, +definite] and [-specific, -definite]. No significant difference was found between the four types and with the grammatical and ungrammatical contexts. The learners' results were not target-like, as they achieved only slightly above the chance level. This may be due to their proficiency level and the design of the task, which repeated the same conversation twice and so may have been unnecessarily confusing to the extent that it had a negative impact on the learners' judgement. There was no discernible effect of definiteness and specificity, and no significant difference between the four types.

- 2- What roles do receptive and productive vocabulary size and general proficiency level play in how Saudi-Arabic learners of English judge definiteness and specificity in English?

The results in Section 4.5 show that, with regard to [+specific, +definite], proficiency level affected the learners' accuracy with definiteness and specificity: the grammatical [+specific, +definite], the ungrammatical [+specific, -definite] and the ungrammatical [-specific, +definite]. A significant relationship was found between receptive vocabulary knowledge and [-specific, -definite], grammatical [+specific, -definite] and ungrammatical [-specific, -definite], and also between productive vocabulary knowledge with [-specific, -definite] and grammatical [-specific, -definite]. Both receptive and productive vocabulary knowledge showed an effect with the indefinite article only, which is likely to be the result of its absence in their L1. The learners' accuracy was, therefore, affected by vocabulary knowledge with the indefinite article with definiteness and specificity in English.

In interpreting these results (Section 4.6), it was shown that the predictions of FH were not supported, as the learners did not fluctuate, demonstrated similar accuracy,

and no significant difference was discovered between the four specificity types. However, BH was supported because the learners displayed mapping difficulties, performing less accurately than the L1 English speakers. Little effect of L1 transfer could be observed in the first experiment, but there was a detectable influence of proficiency level and receptive and productive vocabulary knowledge.

The findings of the first experiment (the pilot study) informed the second. As the learners showed no effect of definiteness and specificity in the first experiment, it was considered worthwhile in the second experiment to explore a more complex feature related to the article system: generic references in singular and plural contexts. The learners in the first experiment only judged the task sentences, so it was deemed useful to introduce a forced-choice task along with the judgement task in the second.

The experiment examined generic and anaphoric contexts with 160 learners of English as a foreign language, divided into two groups – lower (low-level) and upper (high-level) intermediate. Two tasks related to generic and anaphoric contexts were employed – one involving judgement (acceptability judgement task) and one involving production (forced-choice task) – with test categories (NP singular and plural and sentence generic singular and plural) and control categories (anaphoric singular and plural). The research questions were:

- 1- Can Saudi-Arabic learners distinguish between generic and anaphoric references in L2 English in a judgement task?

The results of the acceptability judgement task showed that the Saudi-Arabic learners could distinguish between NP generic and anaphoric references but demonstrated difficulties with the sentence generic (overusing the definite article due to L1 transfer) particularly with the sentence singular as there was no significant difference between the indefinite article (the target item) and the definite singular (non-target item) (Section 5.5). The learners showed target-like performance with anaphoric references (singular and plural) but not with NP generic and sentence generic, possibly as a result of L1 transfer and mapping difficulties (Section 5.6).

- 2- Can Saudi-Arabic learners distinguish between generic and anaphoric references in L2 English in a forced-choice task?

The answer to this question was informed by the forced-choice task. The results showed that the Saudi-Arabic learners were more accurate with NP generic and anaphoric references than the sentence generic; again, the definite article was overused, particularly with the sentence plural (Section 5.5). In both the acceptability judgement task and the forced-choice task, the learners demonstrated lower accuracy with the sentence generic than with the NP generic. However, they showed greater accuracy with the sentence plural in the acceptability judgement task than with the sentence singular. As for the forced-choice task, they showed more accuracy with the sentence singular than sentence plural (described in Section 5.6).

- 3- What roles do receptive and productive vocabulary size and general proficiency level play in how Saudi-Arabic learners of English judge and select anaphoric and generic references in English?

Proficiency level and productive and receptive vocabulary knowledge were shown to have a significant relationship with generic and anaphoric references. The effect of proficiency level was seen with the NP plural, sentence plural, and anaphoric singular and plural. The influence of receptive vocabulary knowledge was observed with the NP plural, sentence singular, sentence plural and anaphoric singular, while productive vocabulary knowledge was found to have a significant relationship with the anaphoric singular and plural.

In the discussion (Section 5.6), it was stated that the predictions of RDH were not supported by these results as the learners were able to use [-definite], [-plural] with sentence singular, [-definite], [+plural] with sentence plural and [+definite], [+plural] with NP plural, indicating that they employ the new uninterpretable feature [*u*number] by mapping the indefinite article with the [-plural] and the plural-s with [+plural] to use with generic references. Although the learners overused the definite article with generic references and showed lower accuracy than the L1 English speakers, this was not because they were unable to acquire new uninterpretable features, but rather because of the influence of the differences between L1 and L2 on their accuracy (as predicted by BH).

The learners proved more accurate with the definite article as a result of L1-L2 similarity, and conversely, found difficulty with the use of the indefinite article and bare plural due to mismatch between L1 and L2 (again supporting BH). The learners experienced difficulties with the indefinite article and bare plural due to having to acquire them as new features, which supports FRH (which is an element of BH), as acquiring a new feature would be more problematic than mapping from L1 to L2, which the learners successfully managed. According to BH, the differences between L1 and L2 would present problems for learners acquiring features in L2 (in this case [-definite] and [-plural] with the sentence singular, [-definite] and [+plural] with the sentence plural and [+definite] and [+plural] NP plural) as their L1 employs only the definite article with generic references.

The contribution of this thesis has been to confirm that, for definiteness and specificity, Saudi-Arabic learners demonstrate similar accuracy with the definite and the indefinite article in English. Proficiency level contributes to overcoming the effect of L1 transfer, as the learners in the first experiment were advanced, so less effect was observed than with the (lower than advanced-level) learners in the second experiment. In the second experiment, the Saudi-Arabic learners overgeneralised the use of the definite article, but they were able to acquire the new uninterpretable feature [*u*number] related to generic references. This process seemed to be gradual and was not complete in the study, but the development was clear. This suggests persistent influence from L1 feature settings, but also that acquisition is possible. The contexts (NP plural and sentence plural) in which the L2 learners could reassemble the L1 features seemed to give the learners an advantage in those contexts compared with the acquisition of the new feature [-definite] and new uninterpretable features [-plural] with the sentence singular and plural-s with [+definite] with NP plural and [-definite] with sentence singular.

The different forms of definiteness have in this thesis been empirically tested using existing tasks, but applied to new populations and with tests of the predictions of different hypotheses relating to L1 transfer and L2 acquisition of features. Using tasks which have been previously tested with other L1 backgrounds improves the reliability of the study and affords the opportunity to draw comparisons between the results of the Saudi-Arabic learners in this study with learners in previous studies. The results were in line similar findings by Snape (2008, 2013) in terms of the

support of the ability of learners to acquire features not directly present in L1. The results of both experiments showed that the Saudi-Arabic learners performed differently with specificity and genericity, with greater accuracy with specific contexts than generic references.

However, the learners' performance was not target-like with specificity and genericity. Therefore, these features require more attention from teachers and students in order to achieve target-like performance. This should also form the basis for future research, as little currently exists with Saudi-Arabic learners in the classroom with definiteness, specificity and generality. It would also be of interest to investigate how advanced Saudi-Arabic learners perform with generic references, and whether or not L1 shows the same level of influence.

This thesis also extends previous research by not only investigating the acquisition of features but also considering three general factors that might influence the acquisition of those features – general proficiency and receptive and productive vocabulary knowledge. It was found that general proficiency can account for definiteness, specificity and genericity along with receptive and productive vocabulary knowledge (as discussed above). This suggests that the functional lexicon may be influenced by the size and nature of the semantic lexicon, and that the uninterpretable number feature [*number*] related to generic references with the definite article, the indefinite article and the bare plural is affected by general proficiency and receptive and productive vocabulary knowledge. The results are somewhat limited in that no advanced learners were recruited for the second experiment.

Further expansion of this thesis would therefore be to investigate generic and anaphoric references with advanced learners to determine if difficulties were still experienced with generic references. Further work should also examine the effect of countable, uncountable and mass noun features on article acquisition in English. On the practical side, considerably more work must be carried out to determine how pedagogy can improve the accuracy of Saudi-Arabic learners of English regarding specificity and genericity through the development of new materials on how these features are taught in the classroom. Further research should also be undertaken to

explore the intervention stage with specificity and genericity to determine if Saudi-Arabic learners maintain the positive effects of instruction in the long-term.

The principal theoretical implication of this study is that Saudi-Arabic learners performed differently with the various features of definiteness. The insight provided is that they were able to acquire the indefinite article, but not display target-like performance with either specificity or genericity. These outcomes support the predictions of BH (Slabakova, 2008), as definiteness constitutes an element of functional morphology, which is the ‘bottleneck’ of L2 acquisition. As a result, the mismatch between L1 and L2 with specificity and genericity produced problems for learners in acquiring the feature [-definite]. As for specificity, Arabic does not employ the indefinite article with [-definite] contexts, nor does it use the indefinite and plural -s in contexts of genericity: the [-definite], [-plural] with sentence singular, [+definite], [+plural] with NP plural and [-definite], [+plural] sentence plural. Arabic uses only the definite article with generic reference.

The findings did not support FH (Ionin et al., 2004) as the learners showed similar accuracy with the definite and indefinite article with specificity. As they were also able to distinguish between the singular and plural contexts with NP and sentence generic, they acquired the uninterpretable feature [*u*number] with genericity, leading to the rejection of the predictions of RDH (Hawkins & Chan, 1997), which posited that Saudi-Arabic learners would not be able to acquire the new uninterpretable feature [*u*number] in L2 as it has already been acquired in L1.

This study has shown that proficiency level can affect learners’ accuracy with specificity and genericity. The results strengthen the idea that receptive and productive vocabulary knowledge impact acquisition of the indefinite article with specificity, with receptive vocabulary knowledge specifically influencing the indefinite article and plural-s with the uninterpretable feature [*u*number] with genericity. This was similarly found by Treffers-Daller and Rogers (2014), who noted that the uninterpretable feature with verb movement measure significantly correlated with receptive vocabulary knowledge.

The practical outcome of this study is that teachers can consider how to more effectively address and teach the English article system to Saudi-Arabic learners. Specifically, the learner’s attention could be drawn to specificity and genericity

rather than focusing only on definiteness with article use, which omits important features.

A limitation of this study is that the small number of participants in the first experiment might have affected the outcomes. The design of the task, which repeated the same conversations, is also likely to have negatively impacted the learners' accuracy and therefore the overall results of the experiment. The first experiment used just one laptop computer for all participants, as the experiment was designed in line with time restrictions, but all were tested individually, which affected the sample size. A limitation of the second experiment is that all of the participants were intermediate learners, which means comparison cannot be made with more advanced learners. This is something which could be usefully addressed in future research.

To conclude, this thesis has provided an overall view of definiteness in English and of how the accuracy of learners differs within these features (specificity and genericity). It is hoped that this will offer insight for future research and teaching practice into how L1 and other factors (proficiency level and receptive and productive vocabulary knowledge) might affect definiteness, with the aim of increasing the accuracy of Arabic learners with regard to the article system in English.

Appendices

Appendix A: Full Forced Choice Elicitation Task (Atay, 2010)

1. At a restaurant

A: Hey! Did you see ____ (Ø / a/ an / the) waiter?

B: Yes, but what's so surprising about him?

A: He is my sister's fiancé.

2. Two friends come across each other in the street

Hilda: Hi, William! It's nice to see you. What's up?

William: I've just visited ____ (Ø / a/ an / the) friend from collage, Jack. He called me yesterday and told that he moved to this area.

3. Phone conversation between siblings

Julia: Hi! It's Julia. How are you doing?

Gary: Good Julia, thanks but this is the wrong time to call. I must go now because I'm going to meet ____ (Ø / a/ an / the) friend who is very special Sorry!

4. Two university friends are talking

Mike: Hi, Angela. Did you take the 319-Linguistics course?

Angela: I didn't take the course but, as far as I heard, ____ (Ø / a/ an / the) instructor has high expectations from his students. I don't have the slightest idea about him but everybody says so.

5. Two friends are chatting

A: Did you hear what happened? Someone broke into Mrs. Romney's flat and stole her jewelry.

B: Oh! Did the police catch ____ (Ø / a/ an / the) thief?

A: Not yet, they have no idea about his / her identity, but they are investigating.

6. Two friends are chatting

Susan: Have you decided on Nina's birthday present?

Amy: Well, I've chosen a red skirt or a purple dress, but I think, I'll buy ____ (Ø / a / an / the) dress.

7. In a dormitory, roommates are talking

Rose: Roberta, last week, you showed us ____ (Ø / a / an / the) dress. Can I borrow that dress for tomorrow?

Roberta: Sure, you can.

8. Mother and son are chatting in the kitchen

Mother: How was the birthday party?

Son: Everything was marvelous, mum. Alan's girlfriend, Catharine, told us that Alan's father bought him ____ (Ø / a / an / the) expensive sports car.

9. Mother and father are talking in the kitchen just before the dinner

Mother: Jane will not be with us tonight, honey.

Father: Why not?

Mother: She told me that she is going to wait for ____ (Ø / a / an / the) client.

10. Mother's calling up to her daughter who is upstairs

Mother: Ann! Could you please close ____ (Ø / a / an / the) windows up there? It's getting cold outside!

Ann: Ok mum!

11. Two friends are chatting

Jacob: How is your new job, Amanda?

Amanda: It's great, Jacob. You know I love travelling and this job give me the opportunity. I travel all over _____ (Ø / a / an / the) Middle East at the company's expense.

12. A couple is talking about their marriage

Christina: Rob, I think we need some professional help. I have found ____ (Ø / a/ an / the) good marriage therapist. I know her, she is a real specialist.

Rob: Ok, Let's see if it works.

13. A student is talking to a students' affairs officer

Student: Hi! I have some health problems so I have to get permission to be absent for this term. What are the procedures?

Officer: First, you need to bring me a formal letter from ____ (Ø / a/ an / the) head of your department.

14. Two airline hostesses are talking before a flight

Judy: Everybody is talking about the plane which made an emergency landing yesterday.

Ralph: Yes, it's a miracle. I don't know who he is but ____ (Ø / a/ an / the) pilot must be a real expert. He landed the plane without any loss of life.

15. At a souvenir shop

Shop Assistant: Good afternoon, Miss. May I help you?

Customer: Yes, please. I want to buy ____ (Ø / a/ an / the) present for my dad as it's his birthday tomorrow but I don't know what to buy.

16. Amanda comes to Karen's house to ask about her house mate

Amanda: Hi Karen. Is your house mate at home? I need to talk to her.

Karen: Sorry Amanda. Jenny went to Washington where she is going to have a meeting with ____ (Ø / a/ an / the) politician.

17. Two friends, while chatting

Linda: I don't like ____ (Ø / a/ an / the) cream cakes sold in the local bakery.

Amanda: Really? I always buy them. They are quite delicious in my opinion.

18. Two friends, while chatting

Karen: Addy, where did you go in the summer holiday?

Addy: We went to Vienna. We visited the Cathedral, Hofburg, Karlsplatz, and Schönbrunn. We also went climbing in ____ (Ø / a/ an / the) Alps.

19. Daughter and dad are talking

Dad: Is your mum at home, honey?

Daughter: No, dad. She is eating dinner with ____ (Ø / a/ an / the) colleague, she didn't say who.

20. Two friends are chatting

Mike: Angela, listen, my dad must have a heart operation and we are looking for a good surgeon.

Angela: I know ____ (Ø / a/ an / the) very successful heart surgeon. I can find his phone number for you if you like, Mike.

21. Paul is talking to Jane's mother in front of Jane's house

Paul: Hello, Mrs. Atkinson! Can I talk to Jane?

Mrs. Atkinson: Hey, Paul. Sure you can. She is at home, reading ____ (Ø / a/ an / the) book you gave her on her birthday.

22. Two friends are chatting

Calvin: Did you hear about the accident that happened at this corner yesterday?

Frank: Oh, yes. A car hit a young boy and ____ (Ø // a/ an / the) driver drove off. Nobody recognized him.

23. Husband and wife are on the phone

Wife: Honey, I'll be late for tonight because I 'm going to meet ____ (Ø / a/ an / the) friend from my last job, Jessica.

Husband: Ok sweetheart.

24. Two friends are talking about a piece of literature

A: I like this poem very much; The Red Haired Lady. Do you know ____ (Ø / a/ an / the) poet?

B: No, I don't but obviously she or he is a very emotional person.

25. Mum and daughter are in the kitchen

Mum: Oh my god! What a mess!

Daughter: Sorry, mum. I forget to tell you. I invited ____ (Ø / a/ an / the) friend from my class and I am trying to make a cake for him.

26. Two friends are on their way to a trip

Anne: Tom, can you lend me something to read during the trip? It's a long journey, you know.

Tom: Sure, Anne. Look at my bookshelf and just take ____ (Ø / a/ an / the) book.

27. A husband and wife are talking about their daughter

Mathilda: Nora is very happy with that young man.

Mathilda: I have no idea about him but ____ (Ø / a/ an / the) boy must be very fond of Nora. She's always smiling.

28. Two friends are chatting

Jeremy: How was your weekend, Betsy?

Betsy: Awful! It was rainy and I was at home. I started ____ (Ø / a/ an / the) new book and spent all weekend reading it.

29. In a lawyers' office

Jeremy: Are you still working?

Amanda: Yes. I have to talk to ____ (Ø / a/ an / the) client. She's a poor woman who's been beaten by her husband. The trial's next week and I need to learn each and every detail of the case.

30. Two friends are talking on the phone

Jack: Why is Susanna crying?

Paul: Because ____ (Ø / a/ an / the) coach didn't choose Susanna for the school basketball team. She's very upset.

31. Two girls are gossiping about one of their friends

Juliet: Hey, did you see Jennifer? Jessica told me that Jennifer was waiting in front of the dorm wearing a very nice dress. Then ____ (Ø / a/ an / the) expensive car arrived and took her.

Ashley: Wow! Lucky her!

32. At the office

Mr. Widmore: Do you know where Paul is George?

George: I am sorry, Mr. Widmore. I haven't seen him since ____ (Ø / a/ an / the) meeting yesterday.

33. After a football match

Bill: What an awful match!! The best players were in our team but we couldn't win.

Rick: It was not the players' fault. I don't know about ____ (Ø / a/ an / the) referee but he was biased.

34. Two students come across at the university

Clara: Hi, Ethan. What are you doing, here?

Ethan: I'm waiting for Prof. Austen. There is ____ (Ø / a/ an / the) student in her office and I am waiting for him to go.

35. At a shop, talking to the seller in the shop

Seller: Good morning, Madam. May I help you?

Customer: Can I talk to ____ (Ø / a/ an / the) customer service representative, Mr. Sanders, please. Seller: Of course

36. A phone conversation

Susan: Hi, Mrs. Shepherd. Can I talk to Alice?

Mrs. Shepherd: Sorry Susan, but Alice is out. She went to ____ (Ø / a/ an / the) school library to work on her project.

37. In lost and found

A: May I help you, miss?

B: Yes, please. Has anyone found ____ (Ø / a/ an / the) green wallet with a cherry design on it? We were in “My Best Friend’s Wedding”, in Hall B. I think I left it on my seat.

38. Two friends are chatting at the office

Rose: What will you wear in Sarah’s wedding?

Judy: Well, I am planning to wear ____ (Ø / a/ an / the) dress, but I don’t know what kind of a dress it’s going to be.

39. Two friends are talking at the office

James: Shall we go out for dinner tonight Amanda?

Amanda: Oh, James, I’m sorry. I am going to have dinner with our new client. You know him, he is ____ (Ø / a/ an / the) manager of Privilege Furniture LTD, Mr. Patterson.

40. In a book store

Shop assistant: May I help you, sir?

Customer: Yes please. I am looking for ____ (Ø / a/ an / the) book. It’s a classic by D.H. Lawrence. It’s called “Sons and Lovers”.

Appendix B: Full Grammatical judgement task (Lee, 2013)

(1) Phone conversation

Grandmother: Oh, I just remember that John's turning two next week. What do you think I should get for his birthday?

Mother: Well, these days, John really likes the toys that move. He likes to chase after them.

OK _____ NOT OK _____

(2) In an office

Alice: What did you do last night?

Robin: I went to a video store and got a German film and a video game. Then, I came home and watched the film.

OK _____ NOT OK _____

(3) In a clothing store

Clerk: May I help you?

Customer: Yes, please! I've rummaged through every stall, without any success. I am looking for a warm hat. It's getting rather cold outside.

OK _____ NOT OK _____

(4) At a bookstore

Chris: Well, I bought everything that I wanted. Are you ready to go?

Mike: Almost. Can you please wait a few minutes? I want to talk to a owner of 319 this bookstore. She is my old friend.

OK _____ NOT OK _____

(5) At a news office

Reporter 1: Guess what? I finally got an important assignment.

Reporter 2: Great. What is it?

Reporter 1: This week, I'm interviewing Ø governor of Massachusetts, Mitt Romney. I'm very excited!

OK _____ NOT OK _____

(6) At a family gathering

Gary: I heard that you just started college. How do you like it?

Melissa: It's great. My classes are very interesting.

Gary: That's wonderful. And do you have fun outside of class?

Melissa: Yes. In fact, today, I'm having dinner with the girl from my class. Her name is Angela and she is really nice.

OK _____ NOT OK _____

(7) At a neighbor store

Mary: I heard that it was your son Roger's birthday last week. Did he have a good celebration?

Roger: Yes, it was great. He got lots of gifts – books, toys. And best of all, he got a puppy.

OK _____ NOT OK _____

(8) In an office

Jane: After Thanksgiving week, I gained five pounds! Maybe I should sign up for Weight Watchers or something.

Michelle: I know cutting down on calories will help, but Ø exercise on a regular basis is the best way to lose weight and get healthy. 320

OK _____ NOT OK _____

(9) At a meeting on water quality report

Town official: So did the test results come out? Is it safe to drink from the main reservoir in our town?

Water quality inspector: Ø water in the reservoir is polluted. I recommend that the city government bans residents from drinking it.

OK _____ NOT OK _____

(10) Phone conversation

Mathilda: Hi, Sam. Is your roommate Lewis there?

Sam: No, he went to San Francisco for this weekend.

Mathilda: I see. I really need to talk to him. How can I reach him in San Francisco?

Sam: I don't know. He is staying with the mother of his best friend. I'm afraid I don't know who she is and I don't have her phone number.

OK _____ NOT OK _____

(11) At a gallery

Sarah: Do you see that beautiful landscape painting?

Mary: Yes, it's wonderful.

Sarah: I would like to meet an artist of that painting. Unfortunately, I have no idea who it is, since the painting is not signed.

OK _____ NOT OK _____

(12) At home

Karen: Where is Beth? Is she coming home for dinner?

Anne: No. She is eating dinner with a colleague. She didn't tell me who it is.

OK _____ NOT OK _____

(13) At a high school classroom

Tom: Did you hear that George stood up against that bully for Mike yesterday?

Dave: I know! I was so impressed with Ø courage that George took to help Mike. We were all very proud of him.

OK _____ NOT OK _____

(14) In a restaurant

Waiter: Are you ready to order, sir? Or are you waiting for someone?

Client: Can you please come back in about twenty minutes? You see, I'm waiting. I'm planning to eat with a colleague from work. She will be here soon.

OK _____ NOT OK _____

(15) In an office

Tom: It's not easy to come up with holiday gift ideas. It's especially hard for me to think about what to give to my little nephews and nieces. Do you have any advice for me?

Jane: In my case, I usually buy Ø books for my nephews and nieces. I think reading is very important for children. I have not decided which books to buy this year, though.

OK _____ NOT OK _____

(16) At a college classroom

Jane: I don't know why, but last night, I could not fall asleep.

Cindy: Mm.. did you eat anything for a late night snack?

Jane: Well, I had some hot chocolate and cookies.

Cindy: No wonder. You know that the chocolate contains caffeine, and I think that's why you could not fall asleep.

OK _____ NOT OK _____

Appendix C: Grammatical judgement task for the first experiment

Trials

1- A: Excuse me.

B: How can I help?

A: I would like to buy a CD that I have been trying to find for ages.

2- A: Rose is happy.

B: Why?

A: She got car for her birthday. I wonder what it looks like?

G A: She got a car for her birthday. I wonder what it looks like?

Test conversations:

1. At a gallery

Sarah: Do you see that beautiful landscape painting?

Mary: Yes, it's wonderful.

Sarah: I would like to meet the painter unfortunately; I have no idea who it is, since the painting is not signed.

2. Two airline hostesses are talking before a flight

Judy: Everybody is talking about the plane which made an emergency landing yesterday.

Ralph: Yes, it's a miracle. I don't know who he is but the pilot must be a real expert. He landed the plane without any loss of life.

3. A phone conversation

Susan: Hi, Mrs. Shepherd. Can I talk to Alice?

Mrs. Shepherd: Sorry Susan, but Alice is out. She went to the school library to work on her project.

4. After a football match

Bill: What an awful match!! The best players were in our team but we couldn't win.

Rick: It was not the players' fault. I don't know about the referee but he was biased.

5. At the office

Mr. Widmore: Do you know where Paul is, George?

George: I am sorry, Mr. Widmore. I haven't seen him since the meeting yesterday.

6. At a bookstore

Chris: Well, I've bought everything that I wanted. Are you ready to go?

Mike: Almost. Can you please wait a few minutes? I want to talk to the owner of this bookstore? she is my old friend.

7. At Home

Karen: Where's Beth? Is she coming home for dinner?

Anne: No. She is eating dinner with a colleague; she didn't tell me who it is.

8. At a souvenir shop

Shop Assistant: Good afternoon, Miss. May I help you?

Customer: Yes, please. I want to buy a present for my dad as it's his birthday tomorrow, but I don't know what to buy.

9. Two friends are on their way to a trip

Anne: Tom, can you lend me something to read during the trip? It's a long journey, you know.

Tom: Sure, Anne. Look at my bookshelf and just take a book.

10. Two friends are chatting

Mike: Angela, listen, my dad must have a heart operation and we are looking for a good surgeon.

Angela: I know a very successful heart surgeon. I can find his phone number for you if you like, Mike.

11. Two friends come across each other in the street

Hilda: Hi, William! It's nice to see you. What's up?

William: I've just visited a friend from college, Jack. He called me yesterday and told that he moved to this area.

12. In a bookstore Shop assistant:

May I help you, sir?

Customer: Yes please. I am looking for a book. It's a classic by D.H. Lawrence. It's called "Sons and Lovers".

Fillers

1. Mother and father are talking in the kitchen just before the dinner

Mother: Jane will not be with us tonight, honey.

Father: Why not?

Mother: She tell me that she is going to wait for a client.

2. Two friends are chatting

Jacob: How is your new job, Amanda?

Amanda: It's great, Jacob. You know I love travelling and this job give me the opportunity. I travelled all over the Middle East at the company's expense.

3. Amanda comes to Karen's house to ask about her house mate

Amanda: Hi Karen. Is your house mate at home? I need to talk to her.

Karen: Sorry Amanda. Jenny went to Washington where she is going to have a meeting with a politician.

4. Two friends are chatting

Judy: Last Saturday, I didn't have anywhere to go, and it was raining.

Samantha: So what did you do?

Judy: First, I cleaned my apartment. Then I ate lunch. And then I read a book.

5. Two friends are chatting

Jeremy: How was your weekend, Betsy?

Betsy: Awful! It was rainy and I was at home. I started a new book and spent all weekend reading it.

6. Daughter and dad are talking

Dad: Is your mum at home, honey?

Daughter: No, dad. She eat with a colleague, she didn't say who.

7. At the university

Clara: Hi, Ethan. What are you doing, here?

Ethan: I waits for Prof. Austen. There is a student in her office, and I am waiting for him to leave.

8. A student is talking to a students' affairs officer

Student: Hi! I have some health problems, so I have to get permission to be absent for this term. What are the procedures?

Officer: First, you need to bring me a formal letter from the head of your department.

9. Two friends are chatting

Susan: Have you decided on Nina's birthday present?

Amy: Well, I've choose a red skirt or a purple dress, but I think, I' ll buy the dress.

10. Two friends are chatting at the office

Rose: What will you wear in Sarah's wedding?

Judy: Well, I am planning to wear a dress, but I don't know what kind of a dress it's going to be.

11. Two friends are chatting at the office

Sam: Well, I needs some advice. I am trying to find a lawyer with lots of experience. I think that's the right thing to do.

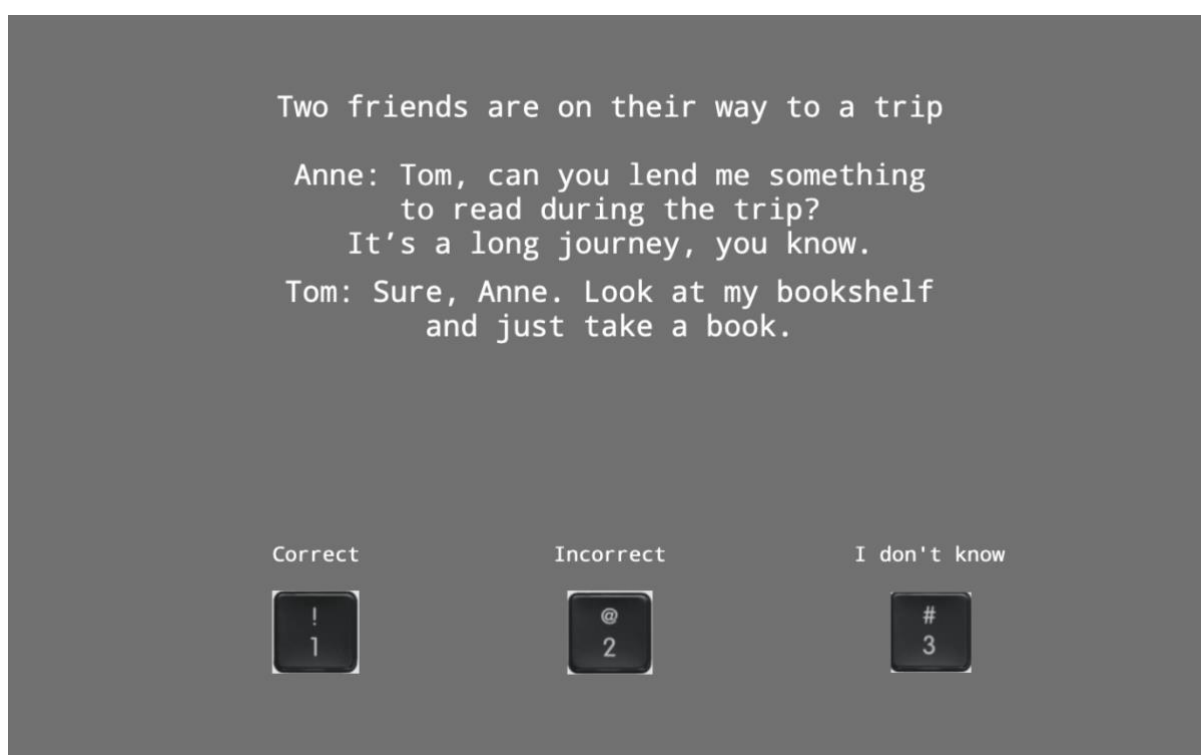
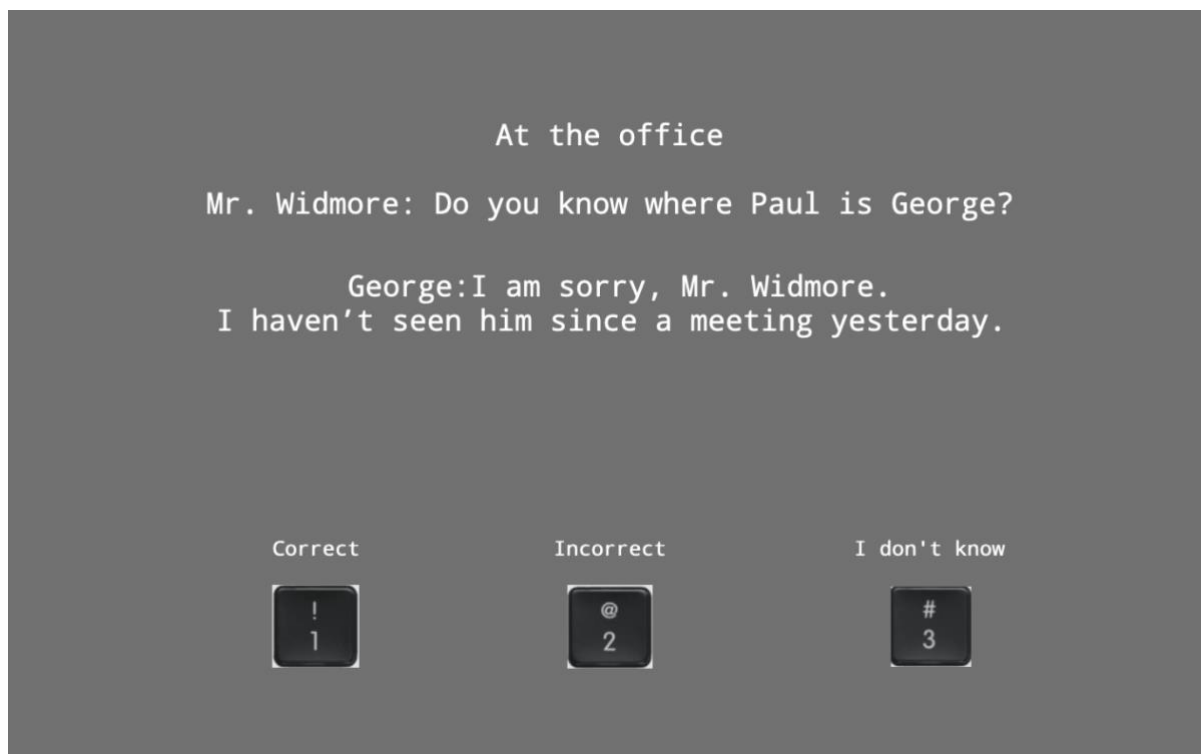
Sam: Well, I need some advice. I am trying to find a lawyer with lots of experience. I think that's the right thing to do.

12. Conversation on the phone

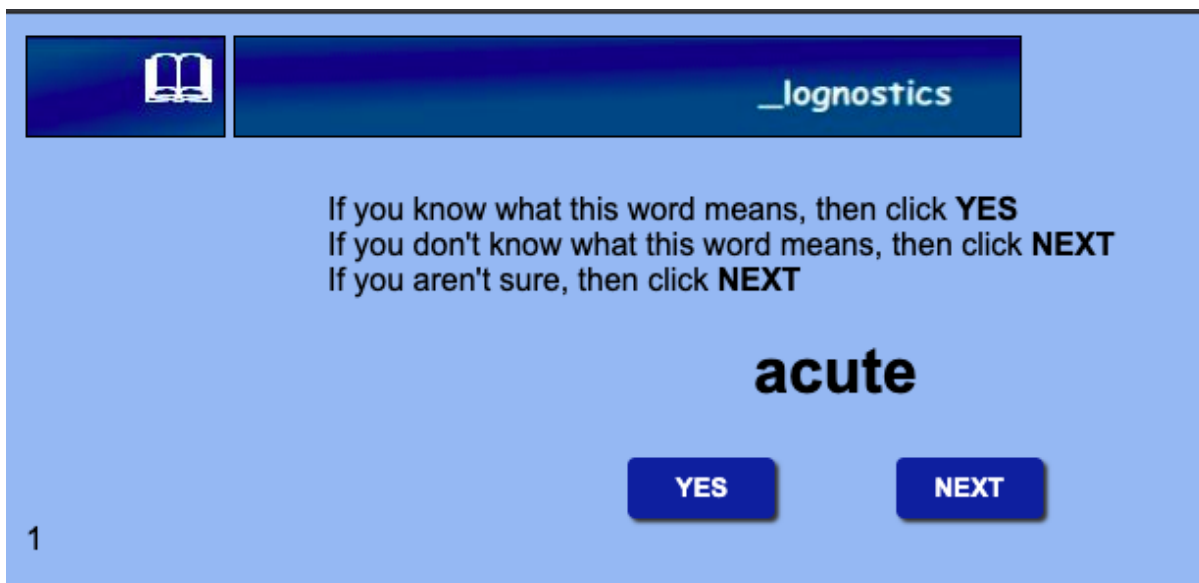
Mary: I heard that it was your son Roger's birthday last week. Did he have a good celebration?

Roger: Yes! It was great. He got lots of gifts - books, toys. And best of all he got a puppy!

Appendix D: Screenshots of OpenSesame with grammatical judgement task for the first experiment.



Appendix E: Screenshot of Yes/No Meara and Miralpeix (2015)



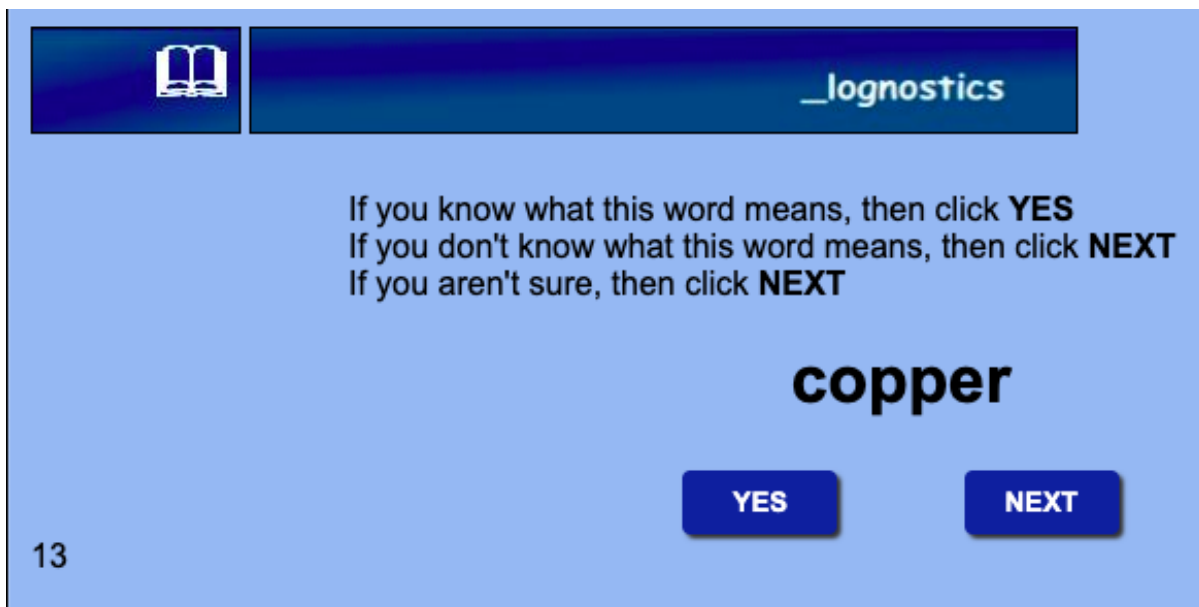
The screenshot shows a word recognition task interface. At the top left is a book icon. To its right is a dark blue bar with the text "_lognostics". Below this bar, the word "acute" is displayed in a large, bold, black font. Underneath the word are two dark blue buttons labeled "YES" and "NEXT". In the bottom left corner, the number "1" is visible.

If you know what this word means, then click **YES**
If you don't know what this word means, then click **NEXT**
If you aren't sure, then click **NEXT**

acute

YES NEXT

1



The screenshot shows a word recognition task interface. At the top left is a book icon. To its right is a dark blue bar with the text "_lognostics". Below this bar, the word "copper" is displayed in a large, bold, black font. Underneath the word are two dark blue buttons labeled "YES" and "NEXT". In the bottom left corner, the number "13" is visible.

If you know what this word means, then click **YES**
If you don't know what this word means, then click **NEXT**
If you aren't sure, then click **NEXT**

copper

YES NEXT

13

Appendix F: Complete Lex30 obtained from Meara & Fitzpatrick (2000)

1	attack	war	castle	guns	armour
2	board	plane	wood	airport	boarding pass
3	close	lock	avenue	finish	end
4	cloth	material	table	design	
5	dig	bury	spade,	garden	earth
6	dirty	disgusting	clean,	grubby	soiled
7	disease	infection	hospital	doctor	health
8	experience	adventure	travel	terrible	
9	fruit	apple	vegetable	pie	
10	furniture	table	chair	bed	
11	habit	smoking	singing	nagging	
12	hold	grip	hang on	cling	
13	hope	expect	optimistic	pessimistic	
14	kick	football	ground	goal	footballer
15	map	country	roads	way	location
16	obey	disobey	children,	mum and dad	school
17	pot	kitchen	vegetables	cook,	roast
18	potato	salad	roast	boiled	baked
19	real	true	sincere	really	
20	rest	pause	sleep	music	
21	rice	pudding,	fried,	pasta	
22	science	technical,	physics,	chemistry	
23	seat	bench	sit	sofa	
24	spell	grammar	test	bell	
25	substance	material	chemical	poisonous	
26	stupid	dumb	silly	brains	
27	television	cupboard	video,	armchair	relax
28	tooth	ache	dentist	drill	injection
29	trade	commerce	bank	exchange	money
30	window	house	glass	broken	pane

Appendix G: Lex30 Meara & Fitzpatrick (2000)

For each word, write up four other words it makes you think of.

1	attack				
2	board				
3	close				
4	cloth				
5	dig				
6	dirty				
7	disease				
8	experience				
9	fruit				
10	furniture				
11	habit				
12	hold				
13	hope				
14	kick				
15	map				
16	obey				
17	pot				
18	potato				
19	real				
20	rest				
21	rice				
22	science				
23	seat				
24	spell				
25	substance				
26	stupid				
27	television				
28	tooth				
29	trade				
30	window				

Appendix H: Full Standardized Oxford Proficiency

Look at these examples. The correct answers are underlined.

a) In warm climates people like / likes / are liking sitting outside in the sun.

b) If it is very hot, they sit at / in / under the shade.

Now the test will begin. Underline the correct answer. (For each correct answer 1 point)

- 1) Water is to boil / is boiling / boils at a temperature of 100°C.
- 2) In some countries there is / is / it is very hot all the time.
- 3) In cold countries people wear thick clothes for keeping / to keep / for to keep warm.
- 4) In England people are always talking about a weather / the weather / weather.
- 5) In some places it rains / there rains / it raining almost every day.
- 6) In deserts there isn't the / some / any grass.
- 7) Places near the Equator have a warm / the warm / warm weather even in the cold season.
- 8) In England coldest / the coldest / colder time of year is usually from December to February.
- 9) The most / Most of / Most people don't know what it's like in other countries.
- 10) Very less / little / few people can travel abroad.
- 11) Mohammed Ali has won / won / is winning his first world title fight in 1960.
- 12) After he had won / have won / was winning an Olympic gold medal he became a professional boxer.
- 13) His religious beliefs have made him/made him to/made him change his name when he became champion.
- 14) If he has / would have / had lost his first fight with Sonny Liston, no one would have been surprised.
- 15) He has travelled a lot both / and / or as a boxer and as a world-famous personality.
- 16) He is very well known all in / all over / in all the world.
- 17) Many people is believing / are believing / believe he was the greatest boxer of all time.
- 18) To be the best from/in/of the world is not easy.
- 19) Like any top sportsman Ali had to / must / should train very hard.

- 20) Even though he has now lost his title, people **would / will / did** always remember him as a champion.
- 21) The history of **aeroplane / the aeroplane / an aeroplane** is
- 22) **quite a / a quite / quite** short one. For many centuries men
- 23) **are trying / try / had tried** to fly, but with
- 24) **little / few / a little** success. In the 19th century a few people
- 25) succeeded **to fly / in flying / into flying** in balloons. But it wasn't until
- 26) the beginning of **this / next / that** century that anybody
- 27) **were/is/was** able to fly in a machine
- 28) **who / which / what** was heavier than air, in other words, in
- 29) **who / which / what** we now call a 'plane'. The first people to achieve
- 30) 'powered flight' were the Wright brothers. **His / Their / Theirs** was the machine which was the
- 31) forerunner of the Jumbo jets and supersonic airliners that are **such / such a / so** common
- 32) sight today. They **could / should / couldn't** hardly have imagined that in 1969
- 33) **not much / not many / no much** more than half a century later,
- 34) a man **will be / had been / would be** landed on the moon.
- 35) Already **a man / man / the man** is taking the first steps towards the stars.
- 36) Although space satellites have existed **since / during / for** less
- 37) than forty years, we are now dependent **from / of / on** them for all
- 38) kinds of **informations / information / an information**. Not only
- 39) **are they / they are / there are** being used for scientific research in
- 40) space, but also to see what kind of weather **is coming / comes / coming**.
- 41) By 1998 there **would / must / will** have been satellites in space for forty
- 42) years and the 'space superpowers' are planning to **have / make / let**
- 43) massive space stations built. When these **will be / are / will have been**
- 44) completed it will be the first time **when / where / that** astronauts will be
- 45) able to work in space in large numbers. **Apart / For / Except** all that,
- 46) in many ways the most remarkable flight **of / above / at** all was
- 47) **it / that / that one** of the flying bicycle, which the world saw on television,
- 48) **flying / to fly / fly** across the Channel from England to France, with nothing
- 49) **apart / but / than** a man to power it. As the bicycle-flyer said,

- 50) “It’s the first time **I realize / I’ve realized / I am realizing** what hard work it is to be a bird!”
- 51) Many teachers **say to / say / tell** their students should learn a foreign language.
- 52) Learning a second language is not the same **as / like / than** learning a first language.
- 53) It takes **long time / long / a long time** to learn any language.
- 54) It is said that Chinese is the world’s **harder / hardest / more hard** language to master.
- 55) English is quite difficult because of all the exceptions **who / which / what** have to be learnt.
- 56) You can learn the basic structures of a language quite quickly, but only if you **are wanting / will to / are willing to** make an effort.
- 57) A lot of people aren’t used **to the study / to study / to studying** grammar in their own language.
- 58) Many adult students wish they **would start / would have started / had started** their language studies earlier.
- 59) In some countries students have to spend a lot of time working **on / by / in** their own.
- 60) There aren’t **no / any / some** easy ways of learning a foreign language in your own country.
- 61) Some people try to improve their English by **hearing / listening / listening to** the BBC World Service.
- 62) **Live / Life / Living** with a foreign family can be a good way to learn a language.
- 63) It’s no use **to try / trying / in trying** to learn a language just by studying a dictionary.
- 64) Many students **would rather not / would rather prefer not / would rather not to** take tests.
- 65) Some people think it’s time we all **learn / should learn / learnt** a single international language.
- 66) Charles Walker is a teacher at a school in Norwich. He **has joined / joined / joins**

- 67) the staff of the school in 1988 and **has been working / worked / works** there ever since.
- 68) Before **move / to move / moving** to Norwich, he taught in Italy and in Wales, and before that
- 69) he **has been / was / was being** a student at Cambridge University.
- 70) So far he **isn't / wasn't / hasn't been** in Norwich for as long as he was in Wales,
- 71) but he likes the city a lot and **should / would / could** like to stay there for at least
- 72) another two years, or, **how / which / as** he puts it, until his two children
- 73) **have / will have / will be** grown up a bit. He met his wife, Kate, in 1982
- 74) while he **was to live / was living / had been living** abroad for a while, and they got married
- 75) in 1986. Their two children, Mark and Susan, **are / were / have been** both born in Norwich.
- 76) Mark, **who / which / he** is four, has just started
- 77) at nursery school, but **his / their / her** sister
- 78) **shall stay / stays / will be staying** at home for another couple of years,
- 79) because she is nearly two years **younger / more young / the younger** than him.
- 80) Charles and Kate **are used / use / used** to live in the country,
- 81) but now they have children, they **have moved / move / moved** into the city.
- 82) Charles wanted a house **next / near / close** the school
- 83) **in order / for / to** get to work easily. Unfortunately
- 84) **the / a / that** one the two of them really wanted was too expensive,
- 85) so they **must / should / had to** buy one a bit further away. By the time the children
- 86) **go / will go / wil have gone** to secondary school,
- 87) **that / which / what** Charles and Kate hope will be in Norwich,
- 88) the Walkers **will have been / have been / will be** living there for a least fifteen years.
- 89) They can't be sure if they **stay / do stay / will stay**, but if they
- 90) **don't / didn't / won't**, their friends won't be too surprised.

Look at the following examples of question tags in English. The correct form of the tag is underlined.

- a) He's getting the 9.15 train, isn't he / hasn't he / wasn't he?

- b) She works in a library, **isn't she / doesn't she / doesn't he?**
- c) Tom didn't tell you, **hasn't he / didn't he / did he?**
- d) Someone's forgotten to switch off the gas, **didn't one / didn't they / haven't they?**

Now underline the correct question tags in the following 10 items. (For each correct answer 1 point)

- 91) John's coming to see you, **hasn't he / wasn't he / isn't he?**
- 92) It's been a long time since you've seen him, **hasn't it / isn't it / haven't you?**
- 93) He's due to arrive tomorrow, **won't he / isn't he / will he?**
- 94) He won't be getting in till about 10.30, **isn't he / is he / will he?**
- 95) You met him while you were on holiday, **didn't you / weren't you / haven't you?**
- 96) I think I'm expected to pick him up, **aren't I / don't I / are you?**
- 97) No doubt you'd rather he stayed in England now, **didn't you / wouldn't you / shouldn't you?**
- 98) Nobody else has been told he's coming, **is he / has he / have they?**
- 99) We'd better not stay up too late tonight, **didn't we / have we / had we?**
- 100) I suppose it's time we called it a day, **didn't we / isn't it / don't I?**

Appendix I: The Standardized Oxford Proficiency Test**Part 1:**

Instructions: Please complete the sentences by selecting the best answer from the available answers below.

1) Water _____ at a temperature of 100° C.

is to boil

is boiling

boils

2) In some countries _____ very hot all the time.

there is

is

it is

3) In cold countries people wear thick clothes _____ warm.

for keeping

to keep

for to keep

4) In England people are always talking about _____.

a weather

the weather

weather

5) In some places _____ almost every day.

- it rains
- there rains
- it raining

6) In deserts there isn't _____ grass.

- the
- some
- any

7) Places near the Equator have _____ weather even in the cold season.

- a warm
- the warm
- warm

8) In England _____ time of year is usually from December to February.

- coldest
- the coldest
- colder

9) _____ people don't know what it's like in other countries.

- The most
- Most of
- Most

10) Very _____ people can travel abroad.

less

little

few

11) Mohammed Ali _____ his first world title fight in 1960.

has won

won

is winning

12) After he _____ an Olympic gold medal, he became a professional boxer.

had won

have won

was winning

13) His religious beliefs _____ change his name when he became a champion.

have made him

made him to

made him

14) If he _____ lost his first fight with Sonny Liston, no one would have been

surprised.

has

would have

had

15) He has traveled a lot _____ as a boxer and as a world-famous personality.

both

and

or

16) He is very well known _____ the world.

all in

all over

in all

17) Many people _____ he was the greatest boxer of all time.

is believing

are believing

believe

18) To be the best _____ the world is not easy.

from

in

of

19) Like any top sportsman, Ali _____ train very hard.

had to

must

should

20) Even though he has now lost his title, people _____ always remember him as a champion.

- would
- will
- did

Part 2:

21) The history of _____ is

- airplane
- the airplane
- an airplane

22) _____ short one. For many centuries men

- quite a
- a quite
- quite

23) _____ to fly, but with

- are trying
- try
- had tried

24) _____ success. In the 19th century a few people

- little
- few
- a little

25) succeeded _____ in balloons. But it wasn't until

to fly

in flying

into flying

26) the beginning of _____ century that anybody

last

next

that

27) _____ able to fly in a machine

were

is

was

28) _____ was heavier than air, in other words, in

who

which

what

29) _____ we now call a 'plane'. The first people to achieve

who

which

what

30) 'powered flight' were the Wright brothers. _____ was the machine

- His
- Their
- Theirs

31) which was the forerunner of the Jumbo jets and supersonic airliners that are

_____ common

- such
- such a
- some

32) sight today. They _____ hardly have imagined that in 1969,

- could
- should
- couldn't

33) _____ more than half a century later,

- not much
- not many
- no much

34) a man _____ landed on the moon.

- will be
- had been
- would have

35) Already _____ is taking the first steps towards the stars.

a man

man

the man

36) Although space satellites have existed _____ less

since

during

for

37) than forty years, we are now dependent _____ them for all

from

of

on

38) kinds of _____. Not only

informations

information

an information

39) _____ being used for scientific research in

are they

they are

there are

40) space, but also to see what kind of weather _____.

is coming

comes

coming

Appendix J: Screenshots of OpenSesame with The Standardized Oxford Proficiency Test.

Part1:

Water _____ at a temperature of 100° C.

- 1)is to boil
- 2)is boiling
- 3)boils

! 1 @ 2 # 3

Part2:

For many centuries men _____ to fly,
but with

- 1)are trying
- 2)try
- 3)had tried

! 1 @ 2 # 3

_____ success. In the 19th century a few people

- 1)little
- 2)few
- 3)a little

! 1 @ 2 # 3

Appendix K: Personal details and background questionnaire

1. Student name:
2. Male / Female:
3. Year of birth:
4. Group:
5. Email(optional)
6. What is your first language?
.....
7. What is your highest educational qualification that you have already received? (e.g. A-level, Master)
.....
8. Please fill in your scores in the tests below.

Yes/No	Lex30	The Standardized Oxford Proficiency test	Acceptability Judgement task	Forced-choice task

Appendix L: Informed ethics consent and ethics consent form

Information sheet for participants

Supervisor: Vivienne Rogers

Dissertation supervisor contact details:

Tel.: (01792)606737

Email: v.e.rogers@swansea.ac.uk

Researcher name: Afnan Aboras

Researcher email: 838929@swansea.ac.uk

You are asked to participate in the data collection for my PhD. As part of my research, I intend to look at the acquisition of (in)definite of English with Saudi-Arabic learners of English.

Your participation is entirely voluntary, and you can withdraw at any time. Your identity will be protected, and your name will not be used in any part of the research. The data will be kept in a secure place in closed cabinet and I will be the only person with access to it.

If you have any further queries, please feel free to contact my supervisor, Vivienne Rogers, preferably via email, at: v.e.rogers@swansea.ac.uk

Thank you for your participation.

Afnan Aboras

Date:

Ethics Consent Form

Supervisor: Vivienne Rogers

Department of Applied linguistics

Researcher Name: Afnan Magdoue Aboras

I have had explained to me by Afnan Magdoue Aboras the purposes of the project and what will be required of me, and any questions have been answered to my satisfaction.

I understand that my identity will be protected and my name will not be used. I understand that data provided through my participation in this project will be used solely for the purposes of this project. I also understand that my participation is entirely voluntary and I can withdraw at any time.

NAME of participant [*please print, in Latin alphabet*]

SIGNED [*by participant, in Latin alphabet*]

DATE _____

CONTACT DETAILS of participants [*please include mailing address, email address, and/or phone number*]

Appendix M: Acceptability judgement task obtained from Snape (2013) for the second experiment

- 1- Saeed enjoys travelling. Last year he travelled around Europe for a week. Although he managed to visit many different countries, he felt tired. You see

a.	the slower-paced holidays are much less stressful.	1	2	3	4
b.	slower-paced holiday is much less stressful.	1	2	3	4
c.	a slower-paced holiday is much less stressful.	1	2	3	4
d.	slower-paced holidays are much less stressful.	1	2	3	4
e.	the slower-paced holiday is much less stressful.	1	2	3	4

- 2- My friend collects stamps. He has three favourites: One is old and two are new. But, they are not typical stamps. For example

a.	the old stamps are solid gold.	1	2	3	4
b.	old stamps are solid gold.	1	2	3	4
c.	old stamp is solid gold.	1	2	3	4
d.	an old stamp is solid gold.	1	2	3	4
e.	the old stamp is solid gold.	1	2	3	4

- 3- I have been studying biology today and I found out that many species are no longer alive. For example, I found out

a.	the dinosaur is extinct.	1	2	3	4
b.	a dinosaur is extinct.	1	2	3	4
c.	dinosaur is extinct.	1	2	3	4
d.	dinosaurs are extinct.	1	2	3	4
e.	the dinosaurs are extinct.	1	2	3	4

- 4- Jun collects plants. He has three plants: one is an orchid and two are bonsai. They are very different from the usual types of plants. For example

a.	an orchid is blue, not green.	1	2	3	4
b.	orchid is blue, not green.	1	2	3	4
c.	the orchid is blue, not green.	1	2	3	4
d.	the orchids are blue, not green.	1	2	3	4
e.	orchids are blue, not green.	1	2	3	4

- 5- My friend is living in Jeddah. He used to live in Tokyo . He said he really misses the food and drinks in Tokyo. He was happy when I told him

a.	the Coca-Colas bottles are better in Saudi Arabia.	1	2	3	4
b.	Coca-Colas bottle are better in Saudi Arabia.	1	2	3	4
c.	a Coca-Cola bottle is better in Saudi Arabia.	1	2	3	4
d.	Coca-Cola bottle is better in Saudi Arabia	1	2	3	4
e.	the Coca-Cola bottle is better in Saudi Arabia	1	2	3	4

- 6- Ali has three shirts: one black shirt and two grey shirts. He takes great care of his grey shirts because they are unusual. You see

a.	grey shirt is hand made.	1	2	3	4
b.	the grey shirts are hand made.	1	2	3	4
c.	grey shirts are hand made.	1	2	3	4
d.	the grey shirt is hand made.	1	2	3	4
e.	a grey shirt is hand made.	1	2	3	4

7- Abdullah owns three animals. One is a horse and two are dogs. They look a bit unusual. For example ...

a.	the horses are pink.	1	2	3	4
b.	horses are pink.	1	2	3	4
c.	horse is pink.	1	2	3	4
d.	the horse is pink.	1	2	3	4
e.	a horse is pink.	1	2	3	4

8- Jeddah people really enjoy eating fish, but I heard that some fish are in danger of disappearing. For example

a.	Napoleon fishes are classified as endangered.	1	2	3	4
b.	Napoleon fish is classified as endangered.	1	2	3	4
c.	the Napoleon fishes are classified as endangered.	1	2	3	4
d.	the Napoleon fish is classified as endangered.	1	2	3	4
e.	a Napoleon fish is classified as endangered.	1	2	3	4

9- Maha has three friends: one is Saudi and two are foreigners. Her

friends are all very different. For instance

a.	Saudi friends are very tall and has short hair.	1	2	3	4
b.	the Saudi friends are very tall and has short hair.	1	2	3	4
c.	Saudi Friend is very tall and has short hair.	1	2	3	4
d.	a Saudi friend is very tall and has short hair.	1	2	3	4
e.	the Saudi friend is very tall and has short hair.	1	2	3	4

10- Amani has to attend a job interview and she is worried about what she should wear.

Her friend Azzah suggested that she go shopping and look for something smart.

Azzah thinks

a.	new jackets are more appropriate for interviews.	1	2	3	4
b.	the new jackets are more appropriate for interviews.	1	2	3	4
c.	new jacket is more appropriate for interviews.	1	2	3	4
d.	the new jacket is more appropriate for interviews.	1	2	3	4
e.	a new jacket is more appropriate for interviews.	1	2	3	4

11- I went on vacation with my friend last month to Nigeria, Africa. It was a really interesting experience and I learnt...

a.	a white-faced monkey is originally from Nigeria.	1	2	3	4
b.	the white-faced monkey is originally from Nigeria.	1	2	3	4
c.	the white-faced monkeys are originally from Nigeria.	1	2	3	4
d.	white-faced monkey is originally from Nigeria.	1	2	3	4
e.	white-faced monkeys are originally from Nigeria.	1	2	3	4

12- My good friend John owns three bicycles: one mountain bike and two racing bikes.

His bicycles are a little different from regular bicycles. For instance ...

a.	the racing bikes are fitted with mirrors.	1	2	3	4
b.	racing bikes are fitted with mirrors.	1	2	3	4
c.	a racing bike is fitted with mirrors.	1	2	3	4
d.	the racing bike is fitted with mirrors.	1	2	3	4
e.	racing bike is fitted with mirrors.	1	2	3	4

13- My friend loves eating all kinds of food. While visiting Egypt she heard, for instance

a.	stuffed ducks are commonly served in Egypt.	1	2	3	4
b.	Stuffed duck is commonly served in Egypt.	1	2	3	4
c.	the stuffed ducks are commonly served in Egypt.	1	2	3	4
d.	the stuffed duck is commonly served in Egypt.	1	2	3	4
e.	a stuffed duck is commonly served in Egypt.	1	2	3	4

14- Sarah is keen on playing games. She has three game consoles: one PlayStation and two X-boxes. Sarah has decorated them to make them look different. For instance

a.	a PlayStation is covered with pink dots.	1	2	3	4
b.	PlayStation is covered with pink dots.	1	2	3	4
c.	PlayStations are covered with pink dots.	1	2	3	4
d.	the PlayStation is covered with pink dots.	1	2	3	4
e.	the PlayStations are covered with pink dots.	1	2	3	4

15- I recently saw a documentary about marine life, which won an Oscar. It was really interesting and I learnt a lot of new facts. For instance

a.	a dolphin is a protected species.	1	2	3	4
b.	the dolphin is a protected species.	1	2	3	4
c.	the dolphins are a protected species.	1	2	3	4
d.	dolphin is a protected species.	1	2	3	4
e.	dolphins are a protected species.	1	2	3	4

16- Ahmad has three friends: one is Egyptian and two are Yemenis. Ahmad's friends behave very differently to each other. You see

a.	The Yemeni friends are very outgoing.	1	2	3	4
b.	Yemeni friend is very outgoing.	1	2	3	4
c.	the Yemeni friend is very outgoing.	1	2	3	4
d.	Yemeni friends are very outgoing.	1	2	3	4
e.	a Yemeni friend is very outgoing.	1	2	3	4

17- We hope to go on safari this year for our holiday. However, I heard that in Africa

a.	the tigers (in Africa) are rare.	1	2	3	4
b.	tigers (in Africa) are rare.	1	2	3	4
c.	a tiger (in Africa) is rare.	1	2	3	4
d.	tiger (in Africa) is rare.	1	2	3	4
e.	the tiger (in Africa) is rare.	1	2	3	4

18- Mohand really enjoys playing music. He has three musical instruments: one guitar and two violins. Mohand violins look unusual. For example

a.	the violin is painted in bright colours.	1	2	3	4
b.	a violin is painted in bright colours.	1	2	3	4
c.	the violins are painted in bright colours.	1	2	3	4
d.	violins are painted in bright colours.	1	2	3	4
e.	violin is painted in bright colours.	1	2	3	4

19- My sister loves cute animals like puppies and kittens. Her friend suggested to her to visit Australia because there are some very cute and exotic animals there. For instance

a.	a koala is well-known throughout the world to be an adorable, gentle creature.	1	2	3	4
b.	koalas are well-known throughout the world to be adorable, gentle creatures.	1	2	3	4
c.	koala is well-known throughout the world to be an adorable, gentle creature.	1	2	3	4
d.	the koala is well-known throughout the world to be an adorable, gentle creature.	1	2	3	4
e.	the koalas are well-known throughout the world to be adorable, gentle creatures.	1	2	3	4

20- Amal has three sweaters she wears during winter: one red sweater and two blue sweaters. She is really fond of her blue sweaters. You see

a.	the blue sweaters are hand made by her aunt.	1	2	3	4
b.	blue sweaters are hand made by her aunt.	1	2	3	4
c.	the blue sweater is hand made by her aunt.	1	2	3	4
d.	blue sweater is hand made by her aunt.	1	2	3	4
e.	a blue sweater is hand made by her aunt.	1	2	3	4

21- Our friends from Riyadh love all the scenic places, wildlife and mountains, but they say

a.	Arabic Cheetah is extinct in Riyadh.	1	2	3	4
b.	Arabic Cheetahs are extinct in Riyadh.	1	2	3	4
c.	an Arabic Cheetah is extinct in Riyadh.	1	2	3	4
d.	the Arabic Cheetahs are extinct in Riyadh.	1	2	3	4
e.	the Arabic Cheetah is extinct in Riyadh	1	2	3	4

22- Majed enjoys watching his pet fish. He has one carp and two goldfishes. Majed's fish like unusual food. For example

a.	a carp loves to eat chocolate.	1	2	3	4
b.	the carps love to eat chocolate.	1	2	3	4
c.	carp loves to eat chocolate.	1	2	3	4
d.	carps love to eat chocolate.	1	2	3	4
e.	the carp loves to eat chocolate.	1	2	3	4

23- Manal loves animals and has three pets: one dog and two cats. Her pets are a little unusual. For example ...

a.	cats are very large.	1	2	3	4
b.	a cat is very large.	1	2	3	4
c.	cat is very large.	1	2	3	4
d.	the cat is very large.	1	2	3	4
e.	the cats are very large.	1	2	3	4

24- Afrah loves listening to music. She has three iPods: one is an iPod touch and two are mini iPods. Afrah’s iPods look very unusual. For instance

a.	mini iPods are decorated with flowers.	1	2	3	4
b.	the mini iPod is decorated with flowers.	1	2	3	4
c.	a mini iPod is decorated with flowers.	1	2	3	4
d.	the mini iPods are decorated with flowers.	1	2	3	4
e.	mini iPod is decorated with flowers.	1	2	3	4

25- Mountains in Al-baha are really beautiful. And you can go hiking and have picnics there. But you have to be very careful – don’t leave food around! Otherwise, you might attract animals. You see...

a.	grey wolves are common in those mountains.	1	2	3	4
b.	a grey wolf is common in those mountains.	1	2	3	4
c.	the grey wolves are common in those mountains.	1	2	3	4
d.	grey wolf is common in those mountains.	1	2	3	4
e.	the grey wolf is common in those mountains.	1	2	3	4

26- Mary enjoys sports. Her favourite sport is snowboarding. She has three snowboards. One is for freestyle and two are for speed. But, they are unusual snowboards. For instance

a.	the freestyle snowboard is circular in shape.	1	2	3	4
b.	the freestyle snowboards are circular in shape.	1	2	3	4
c.	freestyle snowboards are circular in shape.	1	2	3	4
d.	freestyle snowboard is circular in shape.	1	2	3	4
e.	a freestyle snowboard is circular in shape.	1	2	3	4

27- It's really hot today. I must take care of my head while I'm outside. My brother thinks ...

a.	a baseball cap is good protection.	1	2	3	4
b.	baseball cap is good protection.	1	2	3	4
c.	baseball caps are good protection.	1	2	3	4
d.	the baseball cap is good protection.	1	2	3	4
e.	the baseball caps are good protection.	1	2	3	4

28- My three year old daughter's birthday is coming soon. I don't know what to buy her for a present. However, my wife read in a recent survey of young children,

a.	the colourful toys are always popular with young kids.	1	2	3	4
b.	the colourful toy is always popular with young kids.	1	2	3	4
c.	a colourful toy is always popular with young kids.	1	2	3	4
d.	colourful toy is always popular with young kids.	1	2	3	4
e.	colourful toys are always popular with young kids.	1	2	3	4

29- Salah enjoys taking photos of his family. Now he has two young children, so he takes photos much more often to record all the special events like birthdays, vacations etc. I told him a camera is okay, but

a.	video cameras are much better.	1	2	3	4
b.	video camera is much better.	1	2	3	4
c.	a video camera is much better.	1	2	3	4
d.	the video camera is much better.	1	2	3	4
e.	the video cameras are much better.	1	2	3	4

30- Reem found a great sandwich shop which sells lots of international sandwiches. She wants three sandwiches for lunch. One is chicken and two are tuna and mayonnaise. But they are made a little differently. For instance

a.	a chicken sandwich is made with chicken from Al-baha.	1	2	3	4
b.	the chicken sandwiches are made with chicken from Al-baha.	1	2	3	4
c.	chicken sandwich is made with chicken from Al-baha.	1	2	3	4
d.	the chicken sandwich is made with chicken from Al-baha.	1	2	3	4
e.	chicken sandwiches are made with chicken from Al-baha.	1	2	3	4

31- It's now summer and the temperature is 38c every day. It's too hot to work! Friends suggest the best way to cool off is to have tea. But

a.	cold shower is refreshing.	1	2	3	4
b.	cold showers are refreshing.	1	2	3	4
c.	a cold shower is refreshing.	1	2	3	4
d.	the cold shower is refreshing.	1	2	3	4
e.	the cold showers are refreshing.	1	2	3	4

32- These days people seem to work longer hours. As a result more people suffer from tiredness and stress according to a news article. It states

a.	short nap is highly recommended.	1	2	3	4
b.	the short naps are highly recommended.	1	2	3	4
c.	the short nap is highly recommended.	1	2	3	4
d.	a short nap is highly recommended.	1	2	3	4
e.	short naps are highly recommended.	1	2	3	4

33- Eid Al-fitr is coming soon. It is always difficult to decide what I should buy for a gift for my Mum. I think

a.	golden rings are perfect.	1	2	3	4
b.	the golden rings are perfect.	1	2	3	4
c.	the golden ring is perfect.	1	2	3	4
d.	a golden ring is perfect.	1	2	3	4
e.	golden ring is perfect.	1	2	3	4

34- Abrar baked three cakes: one chocolate cake and two sponge cakes. However, she made her sponge cakes a little differently this time. Strangely

a.	the sponge cakes are decorated with vegetables.	1	2	3	4
b.	sponge cakes are decorated with vegetables.	1	2	3	4
c.	sponge cake is decorated with vegetables.	1	2	3	4
d.	the sponge cake is decorated with vegetables.	1	2	3	4
e.	a sponge cake is decorated with vegetables.	1	2	3	4

35- Tourists find Riyadh very large and confusing. My friend said when she visits Riyadh, she always gets lost. In this situation

a.	detailed map is helpful.	1	2	3	4
b.	the detailed map is helpful.	1	2	3	4
c.	a detailed map is helpful.	1	2	3	4
d.	the detailed maps are helpful.	1	2	3	4
e.	detailed maps are helpful.	1	2	3	4

36- Anwar loves birds. She has three pet birds: one canary and two parrots. Anwar's pet birds do not behave as other birds. For example

a.	the parrots are always singing and dancing.	1	2	3	4
b.	parrot is always singing and dancing.	1	2	3	4
c.	parrots are always singing and dancing.	1	2	3	4
d.	a parrot is always singing and dancing.	1	2	3	4
e.	the parrot is always singing and dancing.	1	2	3	4

37- My brother has been in a bad mood lately. And no wonder, his apartment is so uncomfortable, it must be very depressing to live there. I recommend he buy something to cheer up his place and make it more comfortable. For example ...

a.	a green lamp is very relaxing.	1	2	3	4
b.	green lamps are very relaxing.	1	2	3	4
c.	the green lamps are very relaxing.	1	2	3	4
d.	the green lamp is very relaxing.	1	2	3	4
e.	green lamp is very relaxing.	1	2	3	4

38- Amjad has three computers: one desktop and two laptops. Ken's computers are different. For example

a.	desktops are built from recycled parts.	1	2	3	4
b.	a desktop is built from recycled parts.	1	2	3	4
c.	the desktop is built from recycled parts.	1	2	3	4
d.	desktop is built from recycled parts.	1	2	3	4
e.	the desktops are built from recycled parts.	1	2	3	4

39- Samah loves shopping. Yesterday she bought three t-shirts: One is red and two are yellow. However, they are different from regular t-shirts. For example

a.	red t-shirts are plastic.	1	2	3	4
b.	a red t-shirt is plastic.	1	2	3	4
c.	the red t-shirt is plastic.	1	2	3	4
d.	red t-shirt is plastic.	1	2	3	4
e.	the red t-shirts are plastic.	1	2	3	4

40- I have three children: one girl and two boys. But they are not like most kids. For instance

a.	boys are very hyperactive.	1	2	3	4
b.	the boys are very hyperactive.	1	2	3	4
c.	a boy is very hyperactive.	1	2	3	4
d.	the boy is very hyperactive.	1	2	3	4
e.	boy is very hyperactive.	1	2	3	4

Appendix N: Full Forced-choice task Snape (2008)**Definite article****I anaphoric/count singular**

das1. A: Come on! We've been in this shop for hours.

B: I can't make up my mind. Which shirt do you like best?

C: I prefer ____ shirt with stripes.

the a an Ø

das2. A: Mom! Where did you put my cap?

B: Which cap do you mean?

C: I mean ____ cap that has 'GAP' on it.

Ø an a the

das3. A: Could I have some water, please?

B: Sure, I'll bring you another glass.

A: Just use ____ glass I had wine in.

a the Ø an

das4. A: I left my wallet behind this morning.

B: That's terrible! What did you do?

A: I returned home to get ____ wallet.

an Ø the a

II anaphoric/count plural

dap1. A: Hurry up or we'll miss our train. What are you doing?

B: I'm looking for my keys.

A: You're so absent-minded. You just put ____ keys in your rucksack.

the a an Ø

dap2. A: I have just seen some beautiful girls come in.

B: Really? Where are they?

A: That waitress is asking ____ girls what they want to drink.

Ø an a the

dap3. A: I took introductory linguistics courses in my first term.

B: I see you have kept several books.

A: Yes, my sister is going to do ____ courses next year.

a the Ø an

dap4. A: Hi, Jimmy! How was school?

B: We had two chemistry tests.

A: Did you find ____ tests difficult?

an Ø the a

III anaphoric/mass

dam1. A: John got some information about river pollution from our local library.

B: Why?

A: He is using ____ information for his school project on environmental issues.

the a an Ø

dam2. A: I am glad that Jenny and her sister are no longer arguing about some money that their father left them.

B: Was there tension between them, then?

A: Yes, they each wanted _____ money for themselves.

Ø an a the

dam3. A: Where has Matt gone?

B: He went to some cut-price store to buy printer paper.

A: I hope he buys _____ right printer paper this time.

a the Ø an

dam4. A: Jason just asked me for some more cash!

B: I don't understand why he is always so short.

A: He says he will use _____ cash to pay off his credit card bill.

an Ø the a

IV encyclopedic/count singular

des1. A: We had science in school today with Mr Smith.

B: What did you learn?

B: We learned that Mr Smith wants to visit _____ moon!

the a an Ø

des2. A: Jason isn't taking his boat out tomorrow.

B: Isn't he?

A: He has seen _____ ocean, and he thinks it is too rough.

Ø an a the

des3. A: This is my favourite holiday place.

B: Why is that?

A: I love ____ sky here, and it's always warm.

a the Ø an

des4. A: Is this your computer?

B: No, it's Dave's. Do you need to use it?

A: Yes, I want to use _____ internet.

an Ø the a

V encyclopaedic/count plural

dep1. A: I went sightseeing in London last Saturday.

B: Did you see any famous monuments?

A: Yes, I saw ____ Houses of Parliament.

the a an Ø

dep2. A: Do you know what happened on September 11th 2001?

B: Sorry, I can't remember.

A: Well, two planes destroyed ____ Twin Towers in New York.

Ø an a the

dep3. A: I went on holiday to Egypt last summer.

B: Did you see any interesting monuments?

A: Yes, I saw ____ Pyramids.

a the Ø an

dep4. A: I started learning German just last week.

B: Have you learnt anything interesting yet?

A: Yes, I know how to say ____ colours in German!

an Ø the a

VI encyclopaedic/mass

dem1. A: I have been living in England for eight years.

B: Is there anything you don't like?

A: Yes, I don't like ____ weather.

an Ø the a

dem2. A: I went to Italy on holiday last summer.

B: Did you enjoy it?

A: Yes. In particular, I enjoyed ____ sunshine.

Ø an a the

dem3. A: I visited central Africa last year, but I didn't really like it.

B: Why?

A: Because I hate ____ heat you get in tropical regions.

a the Ø an

dem4. A: I don't like winter in Britain.

B: Why?

A: I can't stand ____ wet.

an Ø the a

VII larger situation/count singular

dxs1. A. Are you interested in our internship programme?

B. Yes, I would like to work in your Colchester bank.

A. OK, then, I will contact ____ branch manager for you.

the a an Ø

dxs2. A. I bought some shoes online, but one of them was missing on arrival.

B. Oh, dear. What did you do?

A. I asked ____ seller for my money back.

Ø an a the

dxs3. A. My computer has been infected by several viruses.

B. What bad luck! Did you lose any of your files?

A. No, but it may have damaged ____ hard disk.

a the Ø an

dxs4. A. He has been nominated as best director for his recent film.

B. Does he deserve it?

A. Yes, movie critics rated ____ script very highly.

an Ø the a

VIII larger situation/count plural

dxp1. A. We will go to Paris at Christmas!

B. How I envy you! I thought that all flights were full.

A. We booked ____ tickets three months in advance.

the a an Ø

dxp2. A. I went to watch our local football team last week.

B. It was disappointing, wasn't it?

A. Yes, bad weather affected ____ players.

Ø an a the

dxp3. A. We have received complaints from people who bought our new product.

B. What did you do?

A. We offered ____ customers compensation.

a the Ø an

dxp4. A. I like studying in my university library.

B. Is their collection good?

A. Yes, I found ____ psychology books very useful.

an Ø the a

IX larger situation/mass

dxm1. A: When we got home, all our downstairs rooms were flooded.

B: What did you do?

A: We used buckets to empty ____ water outside.

the a an Ø

dxm2. A: When you make cakes you should mix them well.

B: Why is that?

A: To stop ____ flour from going into lumps.

Ø an a the

dxm3. A: What do you think of that new Italian restaurant?

B: Its atmosphere is good.

A: Yes, but I don't like ____ food much.

a the Ø an

dxm4. A: I've just finished our new patio.

B: That must have been hard work.

A: Not really. Mixing ____ cement was difficult, though.

an Ø the a

X generic/count singular

dgs1. A: Are you going to that lecture on sources of power?

B: What's it about?

A: Professor Hobbs is discussing ____ windmill, and how it can be used to produce electricity.

the a an Ø

dgs2. A: The conservationists are making news again.

B: What are they doing now?

A: They are trying to encourage ____ oyster catcher to come back to urban rivers.

Ø an a the

dgs3. A: Our government wants to reduce car pollution by 20%.

B: How will they manage to do that?

A: By persuading people to take ____ train, and leave their cars at home.

a the Ø an

dgs4. A: Michelin have made some advances in bicycle tyre technology.

B: Oh, yes?

A: They have developed tyres to help ____ cyclist avoid punctures.

an Ø the a

XI generic/count plural

dgp1. A: Damian's grandfather has spent time in Italy.

B: What did he do there?

A: Apparently he was helping ____ Italians to improve their farming techniques.

an Ø the a

dgp2. A: Angela has written about holidays abroad for some magazine.

B: What did she write?

A: She criticised ____ English for behaving so badly when they are in other countries.

an Ø the a

dgp3. A: My cousins, who are Irish, always support other football teams when England are

playing.

B: Do they?

A: Last week they supported ____ Germans when they were playing England.

an Ø the a

dgp4. A: My sister is very keen on sport.

B: Is she?

A: She respects ____ French for organising sporting events so well.

an Ø the a

XII generic/mass There is no definite/generic/mass realisation in English

Indefinite articles

XIII specific de re/count singular

iss1. A: Philippa has been shopping..

B: What did she get?

A: She bought ____ book which is one of my favourites.

the a an Ø

iss2. A: Excuse me.

B: How can I help?

A: I would like to buy ____ CD that I have been trying to find for ages.

Ø an a the

iss3. A: Kylie went to Tim's party.

B: Did she have fun?

A: She met ____ man who I knew at school.

a the Ø an

iss4. A: I need to get some money quickly.

B: How will you do that?

A: I will sell ____ book from my grandma's collection.

an Ø the a

XIV specific de re/count plural

isp1. A: That comedian I saw yesterday wasn't very funny.

B: Wasn't he?

A: Not really. He told ____ jokes that everybody knows.

the a an Ø

isp2. A: I'm not going to Tom's party.

B: Why not?

A: He always invites ____ people who I don't like.

Ø an a the

isp3. A: I visited Colchester's famous old-fashioned tea shop yesterday.

B: Oh yes?

A: They served me ____ cakes I haven't had for years.

a the Ø an

isp4. A: My wife has just come back from Germany.

B: What was she doing there?

A: She was visiting ____ friends we haven't seen for 20 years.

an Ø the a

XV specific de re/mass

ism1. A: My daughter has dry skin.

B: How is she dealing with it?

A: She is using ____ coconut oil, but I don't know if it will work.

the a an Ø

ism2. A: Brian is home.

B: What's he doing?

A: He is baking _____ bread, but I don't think it will taste very nice..

Ø an a the

ism3. A: I didn't like visiting uncle Billy.

B: Why not?

A: He served _____ tea that I thought was disgusting.

a the Ø an

ism4. A: We had that sort of 'pot luck' dinner party last night, where everyone brings something.

B: What did you take?

A: I took _____ beer, as usual.

an Ø the a

XVI non- specific de re/count singular

ins1. A: Rose is happy.

B: Why?

A: She got _____ car for her birthday. I wonder what it looks like?

the a an Ø

ins2. Teacher A: Our bus can't leave yet.

Teacher B: Why not?

Teacher A: I'm missing _____ child, but I don't know who it is.

Ø an a the

ins3. A: What shall we do tomorrow?

B: You decide.

A: Let's watch _____ film.

a the Ø an

ins4. A: Can we go to Waterstone's?

B: Why?

A: I need _____ book to read at bedtime.

an Ø the a

XVII non- specific de re/count plural

inp1. A: Julian has been buying things again.

B: What did he get this time?

A: Apparently he bought _____ skis for his skiing holiday, but I haven't seen them yet.

the a an Ø

inp2. A: Lionel is decorating his new house.

B: Is he?

A: He has ordered _____ plants for his lounge. I wonder what they will look like?

Ø an a the

inp3. A: Our aunt Rosemary is very generous.

B: Is she?

A: She has sent _____ gifts for each of us, but they haven't arrived yet.

a the Ø an

inp4. A: Barry is organising our entertainment this weekend.

B: Is he?

A: He has borrowed ____ videos from his local library, but I don't know what he got.

an Ø the a

XVIII non- specific de re/mass

inm1. A: Terry has been working hard in his garden.

B: What is he doing?

A: He is growing ____ fruit apparently, but I don't know what sort.

the a an Ø

inm2. A: Alan has been across to France again.

B: What for?

A: He says he bought ____ wine, but I haven't seen any of it.

Ø an a the

inm3. A: Robert says he knows who stole from school.

B: I don't believe him.

A: He has ____ evidence, but I don't know what it is.

a the Ø an

inm4. A: Larry has bought something for his wife's birthday.

B: What did he get her?

A: He got her ____ perfume, but he hasn't shown it to me.

an Ø the a

XIX non- specific de dicto/count singular

iys1. A: I was sorry to wake up this morning.

B: Why was that?

A: I dreamt I owned _____ fabulous car.

the a an Ø

iys2. A: I like animals very much.

B: You should have pets, then.

A: I would like to get _____ dog.

Ø an a the

iys3. A: I don't have much money.

B: What would you do then if you suddenly had some?

A: I have always wanted _____ villa in Spain.

a the Ø an

iys4. A: It is my birthday next week.

B: Do you expect to get many gifts?

A: No, but I have told my brother that I want _____ watch.

an Ø the a

XX non- specific de dicto/count plural

iyp1. A: Eric is preparing flowerbeds in his garden.

B: Why?

A: He wants to grow _____ roses.

the a an Ø

iy2. A: Sophie came back from Homebase empty-handed.

B: What did she want?

A: She wanted ____ paint brushes.

Ø an a the

iy3. A: Wendy would like to move to Suffolk.

B: Would she?

A: She dreams of owning ____ horses.

a the Ø an

iy4. A: Nathan, who is 4 years old, can't wait to go to school.

B: Is he academic, then?

A: No, he just wants ____ friends to play with.

an Ø the a

XXI non- specific de dicto/mass

iy1. A: I've got my relatives coming for Christmas.

B: How many are there?

A: Thirteen. I should buy ____ milk.

the a an Ø

iy2. A: We can't have what I planned for dinner.

B: Why not?

A: This recipe requires ____ butter, but we don't have any.

Ø an a the

iy3. A: Dave is dieting for 6 months.

B: Does he miss anything?

A: He says that after 6 months he will have ____ sugar in his tea again.

a the Ø an

iy4. A: What kind of floor would you like in your new kitchen?

B: I don't know.

A: I could lay ____ wood and then varnish it.

an Ø the a

XXII generic/count singular

igs1. A: Our Prime Minister is very determined to help poor people.

B: That's good.

A: Yes, I admire ____ politician who has principles.

the a an Ø

igs2. A: My daughter is doing postgraduate work at university.

B: What is she doing?

A: She is studying ____ freshwater snail found only in Scotland.

Ø an a the

igs3. A: Terry and Liz are arguing over what pet to buy.

B: What does Terry want?

A: He favours ____ cat.

a the Ø an

igs4. A: Caroline is on her travels again.

B: What is she doing?

A: She is trying to find ___ flower that only grows in Alpine areas.

an Ø the a

XXIII generic/count plural

igp1. A: Many scientists now say that global warming is happening.

B: What do you think is causing it?

A: Some people blame ___ cars, but I'm not so sure.

the a an Ø

igp2. A: That country hopes to end its isolation and boost its economy.

B: How?

A: By welcoming ___ tourists.

Ø an a the

igp3. A: I would like to study something different at university.

B: Like what?

A: Since I like ___ trees, maybe I can study forestry.

a the Ø an

igp4. A: Alice and Harry have been discussing what kind of pet they should get.

B: What will they get?

A: They both seem to like ___ dogs.

an Ø the a

XXIV generic/mass

igm1. A: What did Mary's doctor say about her health?

B: He said she should eat vitamin-rich food.

A: Oh! Unfortunately she doesn't like ____ fruit.

the a an Ø

igm2. A: Rowena's new job is odd.

B: What does she do?

A: She advises companies that sell ____ information.

Ø an a the

igm3. A: 'Star Computers' has just sacked 200 employees.

B: Was that to reduce costs?

A: Yes. They always put ____ money before people

a the Ø an

igm4. A: I have been reading about good management.

B: What did you learn?

A: To value ____ advice, but always make your own decisions.

an Ø the a

Appendix O: Forced-choice task Snape (2008) for the second experiment

1- A: Come on! We've been in this shop for hours.

B: I can't make up my mind. Which shirt do you like best?

C: I prefer __the__ shirt with stripes.

the a an Ø

2- A: Are you going to that lecture on sources of power?

B: What's it about?

A: Professor Hobbs is discussing __the__ windmill, and how it can be used to produce electricity.

the a an Ø

3- A: Many scientists now say that global warming is happening.

B: What do you think is causing it?

A: Some people blame _ Ø ___ cars, but I'm not so sure.

the a an Ø

4- A: Hurry up or we'll miss our train. What are you doing?

B: I'm looking for my keys.

A: You're so absent-minded. You just put _the__ keys in your bag.

the a an Ø

5- A: Terry and Liz are arguing over what pet to buy.

B: What does Terry want?

A: He favours _ _a_ cat.

a the Ø a

6- A: Ahmad's grandfather has spent time in Italy.

B: What did he do there?

A: Apparently he was helping __ Ø __ Italians to improve their farming techniques.

an Ø the a

7- A: Our Prime Minister is very determined to help poor people.

B: That's good.

A: Yes, I admire __a__ politician who has principles.

the a an Ø

8- A: The conservationists are making news again.

B: What are they doing now?

A: They are trying to encourage __the__ oyster catcher to come back to urban rivers.

Ø an a the

9- A: Mom! Where did you put my cap?

B: Which cap do you mean?

C: I mean _the___ cap that has 'GAP' on it.

Ø an a the

10- A: Angela has written about holidays abroad for some magazine.

B: What did she write?

A: She criticised _ Ø ___ Saudis for behaving so badly when they are in other countries.

an Ø the a

11- A: I have just seen some new girls come in.

B: Really? Where are they?

A: That waitress is asking _the___ girls what they want to order.

Ø an a the

12- A: Our government wants to reduce car pollution by 20%.

B: How will they manage to do that?

A: By persuading people to take ___the___ train, and leave their cars at home.

a the Ø an

13- A: My daughter is doing postgraduate work at university.

B: What is she doing?

A: She is studying a freshwater snail found only in Scotland.

Ø an a the

14- A: My cousins, who are Irish, always support other football teams when England are playing.

B: Do they?

A: Last week they supported Ø Germans when they were playing England.

an Ø the a

15- A: Could I have some water, please?

B: Sure, I'll bring you another glass.

A: Just use the glass I had juice in.

a the Ø an

16- A: My sister is very keen on sport.

B: Is she?

A: She respects Ø Frenchs for organising sporting events so well.

an Ø the a

17- A: That country hopes to end its isolation and increase its economy.

B: How?

A: By welcoming Ø tourists.

Ø an a the

18- A: Michelin have made some advances in bicycle tyre technology.

B: Oh, yes?

A: They have developed tyres to help __the__ cyclist avoid punctures.

an Ø the a

19- A: I would like to study something different at university.

B: Like what?

A: Since I like __ Ø __ trees, maybe I can study forestry.

a the Ø an

20- A: I took introductory linguistics courses in my first term.

B: I see you have kept several books.

A: Yes, my sister is going to do __the____ courses next year.

a the Ø an

21- A: Caroline is on her travels again.

B: What is she doing?

A: She is trying to find __a__ flower that only grows in Alpine areas.

an Ø the a

22- A: Alice and Harry have been discussing what kind of pet they should get.

B: What will they get?

A: They both seem to like _ Ø _ dogs.

an Ø the a

23- A: I left my wallet behind this morning.

B: That's terrible! What did you do?

A: I returned home to get ___the___ wallet.

an Ø the a

24- A: Hi, Jimmy! How was school?

B: We had two chemistry tests.

A: Did you find ___the___ tests difficult?

an Ø the a

Appendix P: Yes/No Meara (2010)

Level 1: test 101

Write your name here : _____

What you have to do:

Read through the list of words carefully. For each word:

if you know what it means, write Y (for YES) in the box

if you don't know what it means, or if you aren't sure, write N (for NO) in the box.

- | | | |
|---|-------------------------------------|---|
| 1 <input type="checkbox"/> obey | 2 <input type="checkbox"/> thirsty | 3 <input type="checkbox"/> nonagate |
| 4 <input type="checkbox"/> expect | 5 <input type="checkbox"/> large | 6 <input type="checkbox"/> accident |
| 7 <input type="checkbox"/> common | 8 <input type="checkbox"/> shine | 9 <input type="checkbox"/> sadly |
| 10 <input type="checkbox"/> balfour | 11 <input type="checkbox"/> door | 12 <input type="checkbox"/> grow |
| 13 <input type="checkbox"/> lannery | 14 <input type="checkbox"/> red | 15 <input type="checkbox"/> plate |
| 16 <input type="checkbox"/> hold | 17 <input type="checkbox"/> love | 18 <input type="checkbox"/> pull |
| 19 <input type="checkbox"/> enough | 20 <input type="checkbox"/> oxylate | 21 <input type="checkbox"/> degate |
| 22 <input type="checkbox"/> bath | 23 <input type="checkbox"/> birth | 24 <input type="checkbox"/> gummer |
| 25 <input type="checkbox"/> christian | 26 <input type="checkbox"/> succeed | 27 <input type="checkbox"/> cantileen |
| 28 <input type="checkbox"/> warm | 29 <input type="checkbox"/> song | 30 <input type="checkbox"/> tooley |
| 31 <input type="checkbox"/> ralling | 32 <input type="checkbox"/> free | 33 <input type="checkbox"/> father |
| 34 <input type="checkbox"/> speed | 35 <input type="checkbox"/> lip | 36 <input type="checkbox"/> contortal |
| 37 <input type="checkbox"/> lapidoscope | 38 <input type="checkbox"/> path | 39 <input type="checkbox"/> too |
| 40 <input type="checkbox"/> glandle | 41 <input type="checkbox"/> wake | 42 <input type="checkbox"/> channing |
| 43 <input type="checkbox"/> dowrick | 44 <input type="checkbox"/> mundy | 45 <input type="checkbox"/> damage |
| 46 <input type="checkbox"/> book | 47 <input type="checkbox"/> sew | 48 <input type="checkbox"/> dogmatile |
| 49 <input type="checkbox"/> business | 50 <input type="checkbox"/> troake | 51 <input type="checkbox"/> grey |
| 52 <input type="checkbox"/> money | 53 <input type="checkbox"/> lauder | 54 <input type="checkbox"/> aistrophe |
| 55 <input type="checkbox"/> poor | 56 <input type="checkbox"/> system | 57 <input type="checkbox"/> different |
| 58 <input type="checkbox"/> joke | 59 <input type="checkbox"/> new | 60 <input type="checkbox"/> retrogradient |

Swansea Vocabulary Tests v 1.1 1992 Test 201: H: FA: Dm:

Level 1: test 102

Write your name here : _____

What you have to do:

Read through the list of words carefully. For each word:

if you know what it means, write Y (for YES) in the box

if you don't know what it means, or if you aren't sure, write N (for NO) in the box.

- | | | |
|--|---------------------------------------|---------------------------------------|
| 1 <input type="checkbox"/> high | 2 <input type="checkbox"/> building | 3 <input type="checkbox"/> possible |
| 4 <input type="checkbox"/> fear | 5 <input type="checkbox"/> rope | 6 <input type="checkbox"/> attard |
| 7 <input type="checkbox"/> nice | 8 <input type="checkbox"/> neighbour | 9 <input type="checkbox"/> general |
| 10 <input type="checkbox"/> lazy | 11 <input type="checkbox"/> equalic | 12 <input type="checkbox"/> cordle |
| 13 <input type="checkbox"/> milne | 14 <input type="checkbox"/> continue | 15 <input type="checkbox"/> lester |
| 16 <input type="checkbox"/> elode | 17 <input type="checkbox"/> iron | 18 <input type="checkbox"/> do |
| 19 <input type="checkbox"/> difficulty | 20 <input type="checkbox"/> serious | 21 <input type="checkbox"/> probable |
| 22 <input type="checkbox"/> ordinisation | 23 <input type="checkbox"/> soldier | 24 <input type="checkbox"/> spedding |
| 25 <input type="checkbox"/> roscrow | 26 <input type="checkbox"/> trimble | 27 <input type="checkbox"/> local |
| 28 <input type="checkbox"/> end | 29 <input type="checkbox"/> family | 30 <input type="checkbox"/> table |
| 31 <input type="checkbox"/> gummer | 32 <input type="checkbox"/> pick up | 33 <input type="checkbox"/> mabey |
| 34 <input type="checkbox"/> friend | 35 <input type="checkbox"/> page | 36 <input type="checkbox"/> mixture |
| 37 <input type="checkbox"/> hear | 38 <input type="checkbox"/> allow | 39 <input type="checkbox"/> tonight |
| 40 <input type="checkbox"/> spend | 41 <input type="checkbox"/> autumn | 42 <input type="checkbox"/> shoe |
| 43 <input type="checkbox"/> boil | 44 <input type="checkbox"/> justal | 45 <input type="checkbox"/> cruel |
| 46 <input type="checkbox"/> bethell | 47 <input type="checkbox"/> wray | 48 <input type="checkbox"/> chance |
| 49 <input type="checkbox"/> youde | 50 <input type="checkbox"/> cotargent | 51 <input type="checkbox"/> stove |
| 52 <input type="checkbox"/> water | 53 <input type="checkbox"/> magazine | 54 <input type="checkbox"/> wake |
| 55 <input type="checkbox"/> maturate | 56 <input type="checkbox"/> read | 57 <input type="checkbox"/> ballotage |
| 58 <input type="checkbox"/> birth | 59 <input type="checkbox"/> thin | 60 <input type="checkbox"/> renigrade |

Swansea Vocabulary Tests v 1.1 1992 **Test 102:** **H:** **FA:** **Dm:**

Answer Codes Level 1 tests

test code 101

3 10 13 20 21 24 27 30 31 36 37 40 42 43 44 48 50 53 54 60

test code 102

6 11 12 13 15 16 22 24 25 26 31 33 44 46 47 49 50 55 57 60

Level 2: test 201

Write your name here : _____

What you have to do:

Read through the list of words carefully. For each word:

if you know what it means, write Y (for YES) in the box

if you don't know what it means, or if you aren't sure, write N (for NO) in the box.

- | | | |
|---|---|---|
| 1 <input type="checkbox"/> galpin | 2 <input type="checkbox"/> impulse | 3 <input type="checkbox"/> suggest |
| 4 <input type="checkbox"/> advance | 5 <input type="checkbox"/> peculiar | 6 <input type="checkbox"/> benevolate |
| 7 <input type="checkbox"/> indicate | 8 <input type="checkbox"/> needle | 9 <input type="checkbox"/> destruction |
| 10 <input type="checkbox"/> compose | 11 <input type="checkbox"/> ager | 12 <input type="checkbox"/> debt |
| 13 <input type="checkbox"/> generate | 14 <input type="checkbox"/> fast | 15 <input type="checkbox"/> buttle |
| 16 <input type="checkbox"/> horobin | 17 <input type="checkbox"/> route | 18 <input type="checkbox"/> undertake |
| 19 <input type="checkbox"/> descript | 20 <input type="checkbox"/> attach | 21 <input type="checkbox"/> condimented |
| 22 <input type="checkbox"/> leisure | 23 <input type="checkbox"/> benefit | 24 <input type="checkbox"/> protect |
| 25 <input type="checkbox"/> seize | 26 <input type="checkbox"/> pauling | 27 <input type="checkbox"/> carry out |
| 28 <input type="checkbox"/> overend | 29 <input type="checkbox"/> contact | 30 <input type="checkbox"/> vertical |
| 31 <input type="checkbox"/> population | 32 <input type="checkbox"/> loveridge | 33 <input type="checkbox"/> club |
| 34 <input type="checkbox"/> rudge | 35 <input type="checkbox"/> investigate | 36 <input type="checkbox"/> sale |
| 37 <input type="checkbox"/> reservory | 38 <input type="checkbox"/> regulate | 39 <input type="checkbox"/> connery |
| 40 <input type="checkbox"/> venn | 41 <input type="checkbox"/> tend | 42 <input type="checkbox"/> angle |
| 43 <input type="checkbox"/> oligation | 44 <input type="checkbox"/> achieve | 45 <input type="checkbox"/> operation |
| 46 <input type="checkbox"/> historical | 47 <input type="checkbox"/> flame | 48 <input type="checkbox"/> precede |
| 49 <input type="checkbox"/> misabrogate | 50 <input type="checkbox"/> vickery | 51 <input type="checkbox"/> choice |
| 52 <input type="checkbox"/> mass | 53 <input type="checkbox"/> spread | 54 <input type="checkbox"/> eckett |
| 55 <input type="checkbox"/> explore | 56 <input type="checkbox"/> encourage | 57 <input type="checkbox"/> single |
| 58 <input type="checkbox"/> horozone | 59 <input type="checkbox"/> almanical | 60 <input type="checkbox"/> dissolve |

Swansea Vocabulary Tests v 1.1 1992 Test 201: H: FA: Dm:

Level 2: test 202

Write your name here : _____

What you have to do:

Read through the list of words carefully. For each word:

if you know what it means, write Y (for YES) in the box

if you don't know what it means, or if you aren't sure, write N (for NO) in the box.

- | | | |
|---|--|--|
| 1 <input type="checkbox"/> regard | 2 <input type="checkbox"/> invention | 3 <input type="checkbox"/> calendar |
| 4 <input type="checkbox"/> guest | 5 <input type="checkbox"/> communist | 6 <input type="checkbox"/> amagran |
| 7 <input type="checkbox"/> galpin | 8 <input type="checkbox"/> hudd | 9 <input type="checkbox"/> construct |
| 10 <input type="checkbox"/> disturb | 11 <input type="checkbox"/> astin | 12 <input type="checkbox"/> cylinder |
| 13 <input type="checkbox"/> able to | 14 <input type="checkbox"/> influence | 15 <input type="checkbox"/> nowadays |
| 16 <input type="checkbox"/> sacrifice | 17 <input type="checkbox"/> burse | 18 <input type="checkbox"/> contemporize |
| 19 <input type="checkbox"/> perrin | 20 <input type="checkbox"/> temporary | 21 <input type="checkbox"/> view |
| 22 <input type="checkbox"/> prelatoriat | 23 <input type="checkbox"/> concerned with | 24 <input type="checkbox"/> angle |
| 25 <input type="checkbox"/> hermantic | 26 <input type="checkbox"/> failure | 27 <input type="checkbox"/> lecture |
| 28 <input type="checkbox"/> mine | 29 <input type="checkbox"/> disportal | 30 <input type="checkbox"/> ashill |
| 31 <input type="checkbox"/> however | 32 <input type="checkbox"/> bowring | 33 <input type="checkbox"/> spring |
| 34 <input type="checkbox"/> mynott | 35 <input type="checkbox"/> sensation | 36 <input type="checkbox"/> percentage |
| 37 <input type="checkbox"/> sedgebeer | 38 <input type="checkbox"/> essential | 39 <input type="checkbox"/> funny |
| 40 <input type="checkbox"/> plenty | 41 <input type="checkbox"/> flamboyment | 42 <input type="checkbox"/> uniform |
| 43 <input type="checkbox"/> hyde | 44 <input type="checkbox"/> obtain | 45 <input type="checkbox"/> rare |
| 46 <input type="checkbox"/> abrogative | 47 <input type="checkbox"/> substance | 48 <input type="checkbox"/> property |
| 49 <input type="checkbox"/> swithin | 50 <input type="checkbox"/> ahead | 51 <input type="checkbox"/> cheatile |
| 52 <input type="checkbox"/> specialize | 53 <input type="checkbox"/> case | 54 <input type="checkbox"/> ensure |
| 55 <input type="checkbox"/> nichee | 56 <input type="checkbox"/> being | 57 <input type="checkbox"/> delay |
| 58 <input type="checkbox"/> request | 59 <input type="checkbox"/> assume | 60 <input type="checkbox"/> friction |

Swansea Vocabulary Tests v 1.1 1992 Test 202: H: FA: Dm:

Answer Codes Level 2 tests

test code 201

1 6 11 15 16 19 21 26 28 32 34 37 39 40 43 49 50 54 58 59

test code 202

6 7 8 11 17 18 19 22 25 29 30 32 34 37 41 43 46 49 51 55

Level 3: test 301

Write your name here : _____

What you have to do:

Read through the list of words carefully. For each word:

if you know what it means, write Y (for YES) in the box

if you don't know what it means, or if you aren't sure, write N (for NO) in the box.

- | | | |
|---|--|--|
| 1 <input type="checkbox"/> adair | 2 <input type="checkbox"/> gumm | 3 <input type="checkbox"/> cliff |
| 4 <input type="checkbox"/> stream | 5 <input type="checkbox"/> system | 6 <input type="checkbox"/> position |
| 7 <input type="checkbox"/> law | 8 <input type="checkbox"/> whaley | 9 <input type="checkbox"/> contrivial |
| 10 <input type="checkbox"/> pocock | 11 <input type="checkbox"/> amuse | 12 <input type="checkbox"/> museum |
| 13 <input type="checkbox"/> turn over | 14 <input type="checkbox"/> prefer | 15 <input type="checkbox"/> method |
| 16 <input type="checkbox"/> generous | 17 <input type="checkbox"/> hoults | 18 <input type="checkbox"/> organise |
| 19 <input type="checkbox"/> normal | 20 <input type="checkbox"/> everywhere | 21 <input type="checkbox"/> knowledge |
| 22 <input type="checkbox"/> relation | 23 <input type="checkbox"/> whitrow | 24 <input type="checkbox"/> director |
| 25 <input type="checkbox"/> criminal | 26 <input type="checkbox"/> snell | 27 <input type="checkbox"/> check in |
| 28 <input type="checkbox"/> useful | 29 <input type="checkbox"/> enter | 30 <input type="checkbox"/> berrow |
| 31 <input type="checkbox"/> though | 32 <input type="checkbox"/> sale | 33 <input type="checkbox"/> cage |
| 34 <input type="checkbox"/> limidate | 35 <input type="checkbox"/> handkerchief | 36 <input type="checkbox"/> pernicate |
| 37 <input type="checkbox"/> sight | 38 <input type="checkbox"/> humberoid | 39 <input type="checkbox"/> pring |
| 40 <input type="checkbox"/> fountain | 41 <input type="checkbox"/> eldred | 42 <input type="checkbox"/> reward |
| 43 <input type="checkbox"/> eluctant | 44 <input type="checkbox"/> guess | 45 <input type="checkbox"/> persuade |
| 46 <input type="checkbox"/> hubbard | 47 <input type="checkbox"/> stace | 48 <input type="checkbox"/> aim |
| 49 <input type="checkbox"/> detailoring | 50 <input type="checkbox"/> stimulcrate | 51 <input type="checkbox"/> aunt |
| 52 <input type="checkbox"/> bend | 53 <input type="checkbox"/> deny | 54 <input type="checkbox"/> bastionate |
| 55 <input type="checkbox"/> shot | 56 <input type="checkbox"/> maker | 57 <input type="checkbox"/> rabbit |
| 58 <input type="checkbox"/> steady | 59 <input type="checkbox"/> weekly | 60 <input type="checkbox"/> inform |

Swansea Vocabulary Tests v 1.1 1992 Test 301: H: FA: Dm:

Level 3: test 302

Write your name here : _____

What you have to do:

Read through the list of words carefully. For each word:

if you know what it means, write Y (for YES) in the box

if you don't know what it means, or if you aren't sure, write N (for NO) in the box.

- | | | |
|---------------------------------------|--|--|
| 1 <input type="checkbox"/> look on | 2 <input type="checkbox"/> well-made | 3 <input type="checkbox"/> distantial |
| 4 <input type="checkbox"/> precious | 5 <input type="checkbox"/> glad | 6 <input type="checkbox"/> suffer |
| 7 <input type="checkbox"/> perrin | 8 <input type="checkbox"/> refer | 9 <input type="checkbox"/> independent |
| 10 <input type="checkbox"/> feeling | 11 <input type="checkbox"/> bullet | 12 <input type="checkbox"/> drag |
| 13 <input type="checkbox"/> steam | 14 <input type="checkbox"/> contramand | 15 <input type="checkbox"/> hold on |
| 16 <input type="checkbox"/> miserable | 17 <input type="checkbox"/> surman | 18 <input type="checkbox"/> leopradata |
| 19 <input type="checkbox"/> serve | 20 <input type="checkbox"/> rhind | 21 <input type="checkbox"/> tail |
| 22 <input type="checkbox"/> shoulder | 23 <input type="checkbox"/> let down | 24 <input type="checkbox"/> candish |
| 25 <input type="checkbox"/> behave | 26 <input type="checkbox"/> admire | 27 <input type="checkbox"/> army |
| 28 <input type="checkbox"/> think of | 29 <input type="checkbox"/> judd | 30 <input type="checkbox"/> fairly |
| 31 <input type="checkbox"/> bowring | 32 <input type="checkbox"/> cough | 33 <input type="checkbox"/> amagran |
| 34 <input type="checkbox"/> farinize | 35 <input type="checkbox"/> movement | 36 <input type="checkbox"/> deserve |
| 37 <input type="checkbox"/> aunt | 38 <input type="checkbox"/> pint | 39 <input type="checkbox"/> asslam |
| 40 <input type="checkbox"/> eldred | 41 <input type="checkbox"/> juice | 42 <input type="checkbox"/> seclunar |
| 43 <input type="checkbox"/> nod | 44 <input type="checkbox"/> gentle | 45 <input type="checkbox"/> churchlow |
| 46 <input type="checkbox"/> put down | 47 <input type="checkbox"/> venerable | 48 <input type="checkbox"/> neutration |
| 49 <input type="checkbox"/> slip | 50 <input type="checkbox"/> refurge | 51 <input type="checkbox"/> vain |
| 52 <input type="checkbox"/> salary | 53 <input type="checkbox"/> carotic | 54 <input type="checkbox"/> kearle |
| 55 <input type="checkbox"/> educate | 56 <input type="checkbox"/> turn out | 57 <input type="checkbox"/> prepare |
| 58 <input type="checkbox"/> castle | 59 <input type="checkbox"/> collect | 60 <input type="checkbox"/> pass out |

Swansea Vocabulary Tests v 1.1 1992 Test 302: H: FA: Dm:

Answer Codes Level 3 tests

test code 301

1 2 8 9 10 17 23 26 30 34 36 38 39 41 43 46 47 49 50 54

test code 302

3 7 14 17 18 20 24 29 31 33 34 39 40 42 45 47 48 50 53 54

Level 4: test 401

Write your name here : _____

What you have to do:

Read through the list of words carefully. For each word:

if you know what it means, write Y (for YES) in the box

if you don't know what it means, or if you aren't sure, write N (for NO) in the box.

- | | | |
|--|---|---|
| 1 <input type="checkbox"/> sandy | 2 <input type="checkbox"/> suddery | 3 <input type="checkbox"/> military |
| 4 <input type="checkbox"/> interval | 5 <input type="checkbox"/> overcoat | 6 <input type="checkbox"/> overcoat |
| 7 <input type="checkbox"/> get out of | 8 <input type="checkbox"/> structure | 9 <input type="checkbox"/> typist |
| 10 <input type="checkbox"/> break off | 11 <input type="checkbox"/> heap | 12 <input type="checkbox"/> majority |
| 13 <input type="checkbox"/> remedy | 14 <input type="checkbox"/> cure | 15 <input type="checkbox"/> acklon |
| 16 <input type="checkbox"/> jarvis | 17 <input type="checkbox"/> plus | 18 <input type="checkbox"/> duffin |
| 19 <input type="checkbox"/> accuse | 20 <input type="checkbox"/> oestrogeny | 21 <input type="checkbox"/> twose |
| 22 <input type="checkbox"/> impress | 23 <input type="checkbox"/> provision | 24 <input type="checkbox"/> recenticle |
| 25 <input type="checkbox"/> recenticle | 26 <input type="checkbox"/> feel up to | 27 <input type="checkbox"/> wipe out |
| 28 <input type="checkbox"/> fluctual | 29 <input type="checkbox"/> cambule | 30 <input type="checkbox"/> ridout |
| 31 <input type="checkbox"/> kind-hearted | 32 <input type="checkbox"/> kind-hearted | 33 <input type="checkbox"/> dozen |
| 34 <input type="checkbox"/> mystery | 35 <input type="checkbox"/> apartment | 36 <input type="checkbox"/> wilding |
| 37 <input type="checkbox"/> condimented | 38 <input type="checkbox"/> theory | 39 <input type="checkbox"/> leave out |
| 40 <input type="checkbox"/> puzzle | 41 <input type="checkbox"/> charactal | 42 <input type="checkbox"/> emphasise |
| 43 <input type="checkbox"/> send in | 44 <input type="checkbox"/> check over | 45 <input type="checkbox"/> wray |
| 46 <input type="checkbox"/> hapgood | 47 <input type="checkbox"/> tend | 48 <input type="checkbox"/> hapgood |
| 49 <input type="checkbox"/> grip | 50 <input type="checkbox"/> catch up with | 51 <input type="checkbox"/> cut off |
| 52 <input type="checkbox"/> urge | 53 <input type="checkbox"/> menstruable | 54 <input type="checkbox"/> batcock |
| 55 <input type="checkbox"/> vital | 56 <input type="checkbox"/> moffat | 57 <input type="checkbox"/> complicate |
| 58 <input type="checkbox"/> smack | 59 <input type="checkbox"/> exist | 60 <input type="checkbox"/> hemiaphrodite |

Swansea Vocabulary Tests v 1.1 1992 Test 401: H: FA: Dm:

Level 4: test 402

Write your name here : _____

What you have to do:

Read through the list of words carefully. For each word:

if you know what it means, write Y (for YES) in the box

if you don't know what it means, or if you aren't sure, write N (for NO) in the box.

- | | | |
|---|--|---|
| 1 <input type="checkbox"/> daily | 2 <input type="checkbox"/> mastiphitis | 3 <input type="checkbox"/> essential |
| 4 <input type="checkbox"/> wallage | 5 <input type="checkbox"/> pat | 6 <input type="checkbox"/> appertonal |
| 7 <input type="checkbox"/> style | 8 <input type="checkbox"/> snowy | 9 <input type="checkbox"/> remonic |
| 10 <input type="checkbox"/> boundary | 11 <input type="checkbox"/> hawther | 12 <input type="checkbox"/> varyd |
| 13 <input type="checkbox"/> genderation | 14 <input type="checkbox"/> effect | 15 <input type="checkbox"/> typewriter |
| 16 <input type="checkbox"/> coppard | 17 <input type="checkbox"/> coppard | 18 <input type="checkbox"/> schismal |
| 19 <input type="checkbox"/> identify | 20 <input type="checkbox"/> biforcal | 21 <input type="checkbox"/> biforcal |
| 22 <input type="checkbox"/> associate | 23 <input type="checkbox"/> conduct | 24 <input type="checkbox"/> relative |
| 25 <input type="checkbox"/> have round | 26 <input type="checkbox"/> duffin | 27 <input type="checkbox"/> waygood |
| 28 <input type="checkbox"/> vital | 29 <input type="checkbox"/> upward | 30 <input type="checkbox"/> get through |
| 31 <input type="checkbox"/> reference | 32 <input type="checkbox"/> peritonic | 33 <input type="checkbox"/> previous |
| 34 <input type="checkbox"/> manager | 35 <input type="checkbox"/> squeeze | 36 <input type="checkbox"/> muscle |
| 37 <input type="checkbox"/> savery | 38 <input type="checkbox"/> origin | 39 <input type="checkbox"/> final |
| 40 <input type="checkbox"/> leisure | 41 <input type="checkbox"/> border | 42 <input type="checkbox"/> contortal |
| 43 <input type="checkbox"/> wonder | 44 <input type="checkbox"/> cloakroom | 45 <input type="checkbox"/> route |
| 46 <input type="checkbox"/> distinguish | 47 <input type="checkbox"/> court | 48 <input type="checkbox"/> carriage |
| 49 <input type="checkbox"/> landing | 50 <input type="checkbox"/> tailor | 51 <input type="checkbox"/> glue |
| 52 <input type="checkbox"/> microphone | 53 <input type="checkbox"/> lang | 54 <input type="checkbox"/> ashment |
| 55 <input type="checkbox"/> selfish | 56 <input type="checkbox"/> publish | 57 <input type="checkbox"/> deliction |
| 58 <input type="checkbox"/> boobier | 59 <input type="checkbox"/> airmail | 60 <input type="checkbox"/> insult |

Swansea Vocabulary Tests v 1.1 1992 **Test 402:** **H:** **FA:** **Dm:**

Answer Codes Level 4 tests

test code 401

2 15 16 18 20 21 24 28 29 30 36 37 41 45 46 48 53 54 56 60

test code 402

2 4 6 9 11 12 13 16 18 20 21 26 27 32 37 42 53 54 57 58

Appendix Q: Yes/No table to convert Hits and False Alarm Rates to a vocabulary score Meara (2010)

	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	6.0	7.0	8.0	9.0	10.0
40	100	98	95	93	90	88	85	83	80	78	75	70	65	60	55	50
39	98	95	92	90	87	84	82	79	76	74	71	66	60	55	49	44
38	95	92	90	87	84	81	78	76	73	70	67	61	56	50	44	37
37	93	90	87	84	81	78	75	72	69	66	63	57	51	44	38	31
36	90	87	84	81	78	75	72	68	65	62	59	52	46	37	32	24
35	88	84	81	78	74	71	68	65	62	58	55	48	41	34	26	18
34	85	82	78	75	72	68	66	61	59	54	52	43	37	28	20	11
33	83	79	76	72	68	66	61	58	54	50	46	39	31	22	14	4
32	80	76	73	69	65	62	58	54	50	46	42	34	26	17	7	
31	78	74	70	66	62	58	54	50	46	42	38	29	20	11	1	
30	75	71	67	63	59	55	51	46	42	38	33	24	15	5		
29	73	68	64	60	56	51	47	43	38	34	29	19	9			
28	70	66	61	57	52	48	43	39	34	29	24	14	3			
27	68	63	59	54	49	44	40	35	30	25	20	9				
26	65	60	56	51	46	41	36	31	26	20	15	4				
25	63	56	53	48	42	37	32	27	21	16	10					
24	60	55	50	44	39	34	28	23	17	11	5					
23	58	52	47	41	35	30	24	18	12	6						
22	55	49	44	38	32	26	20	14	7	1						
21	53	47	41	34	28	22	16	9	3							
20	50	44	37	31	24	18	11	4								
19	48	41	34	28	21	14	6									
18	45	38	31	24	17	9	2									
17	43	35	28	20	13	5										
16	40	32	24	16	8	2										
15	38	29	21	12	4											
14	35	26	17	8												
13	33	23	13	4												
12	30	20	9													
11	28	17	6													
10	25	13	1													

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