The Use of Inflectional Morphemes by Kuwaiti EFL Learners

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Abstract

This research paper aims to test the extent to which 100 Kuwaiti EFL learners are aware of the correct use of inflectional morphemes in English. It also explores the main causes of the errors that Kuwaiti EFL learners may make. Additionally, it checks whether the English proficiency level of the participants plays a role in their answers on the test. To this end, a multiple-choice test was used to measure the participants' ability to use the correct inflectional morphemesin English. Following data analysis, the results reveal that Kuwaiti EFL learners are aware of the correct use of the inflectional morphemes in English to a certain degree (total mean=65.5%). Additionally, the t-test shows that the participants' English proficiency level plays a central role in their comprehension of these morphemes. In particular, there is a statistically significant difference between the answers of the advanced learners (ALs) (73.5%) and intermediate learners (ILs) (57.5%). The number of correct answers provided by ALs is higher than that provided by ILs. Regarding the types of errors made by the participants, it has been argued that the most noticeable ones are due to first language (L1) negative transfer and the irregularity of some types of inflectional morphemes in English. Finally, the study concludes with some pedagogical implications and recommendations for further research.

Keywords: English inflectional morphology, inflectional morphemes, Second Language Acquisition (SLA), L1 transfer, Kuwaiti EFL learners

1. Introduction

The acquisition of inflectional morphology has received a lot of attention in the last few decades (Bybee, 1995; Clahsen, 1999; Clark, 2003; Clahsen, 2006; Dabrowska, 2008; among others). Specifically, the acquisition of inflectional morphemes has been dominated by two main controversies; namely, dual-route and single-route acquisition models of inflection (see section 2.1). Additionally, linguists have been debating whether Second Language Acquisition (SLA) is more constrained by the phonological or morphosyntactic attributes of first language (L1). Therefore, this research paper aims to shed light on this issue by investigating whether Kuwaiti EFL learners are able to use inflectional morphemes in English correctly. Based on reviewing the previous literature, there are few studies which have investigated the acquisition of inflectional morphemes in English by Arab EFL learners. As a result, this field still requires further research and the current study aims to bridge this gap. In particular, this study will investigate the possible causes of correct/wrong answers which the participants may provide on the test. The ultimate goal of this study is to find out whether the English proficiency level of the participants plays a role in the comprehension of inflectional morphemes.

2. Background and Literature Review

2.1 Theoretical Background

Over the last few decades, there has beenwide debate on the acquisition of inflectional morphemes, specifically concerning dual-route acquisition models versus single-route models (cf. Clahsen, 1999; Clark, 2003, pp. 207-212; Dabrowska, 2008). Dual-route models, and their firm supporters (e.g., Pinker & Ullmann, 2002), assume the computation of regular inflectional forms in grammar by a single rule that productively combines a base with an affix (e.g., English regular weak past tense forms with the affix /d/).

A language uses just one of these affixes in the production of a regular verb form for a particular category (e.g., English gerundive -ing); a characteristic feature of agglutinating languages. Alternatively, as in the case of the English simple past, a language may have a default operation. Non-default forms, or irregulars, are stored and acquired along with the rest of the lexicon. Meanwhile, new irregular verb forms (e.g., E. brung for brought) are

formed via analogy to stored forms (e.g., forms like sung).

This analogy echoes past perspectives on regular vs. irregular inflection, while traditional generative grammar theory outlined a third rule alongside major rules (regulars) and truly irregular forms which are stored in acquisition (such as brought, went) i.e., minor rules (subregulars like sing, sang, sung). Including this third rule, a distinction between subregular and irregular morphology provides an explanation for the production of verb forms such as "brung" by English children; they are over generalising subregular patterns as well as regular patterns. Meanwhile, there is no record of English children over generalising truly irregular forms, e.g., by forming the following past participles:

*sought, *stought to sing, sting on analogy to bring, brought.

On the other hand, less radical alternatives to dual-route models favour more than one default pattern (Clahsen, 2006) or, alternatively, allow a crossover between the domains of rules and of storage (Baayen et al., 1997). It is not apparent, however, how such models are appropriate for inflection systems such as noun inflection in Polish, where there are many competing productive inflection classes and no obvious default (Dressler, 1999; Dressler et al., 2006).

Extreme single-route models are usage based; they deny the existence of rules and abstract patterns, rather assuming that morphological development is a result of lexical analogies within networks. The majority of connectionist proponents are inattentive to morphological theories (e.g., McClelland & Plaut, 1999).

This lack of interest in morphological theory does not apply to schema-based models which assume concrete morphological patterns with a core and gradual boundaries, as in Bybee (1995) and Köpcke (1998), who, in the case of precise and productive schemas, allow the formation of rules as a final stage.

2.2 The Main Factors that Affect the Acquisition of Inflectional Morphemes

When attempting to understand children's relative success in acquiring inflectional patterns, it is fundamental to bear in mind the lexical and syntactic dependence of the emergence and development of these patterns. Firstly, this concerns the type and token frequency of the acquired patterns as dependent on the frequency of input received by children (cf. Naigles & Hoff-Ginsburg, 1998), i.e., in child-directed speech produced by the child's care-givers (but not in corpora of adult-directed adult speech, cf. Ravid et al., 2008).

There are also other factors which affect the order of acquisition of inflectional patterns and the correctness of production (Clark, 2003, pp. 191-194). The first is the formal complexity of an inflectional marker (Clark, 2003, pp. 191-193). Less complexity allows for earlier acquisition. For inflection, this factor can be split up accordingly:

1)   Degree of reliability (in the semiotic sense of Morris 1971): biunique relations between form and meaning are more reliable (Dressler, 2008). For example, the English superlative suffix -*est* is biunique, because it only expresses the superlative and the superlative is expressed morphologically only by the suffix -*est*. Meanwhile, the relative uniqueness of all other English inflectional suffixes is more complex (e.g., the gerund is expressed only by -*ing*, acquired early, but -*ing* also expresses nominalisation), or even ambiguous.

2)   Transparency: e.g., the umlaut used in Germanic languages obscures plural formation, causing delayed acquisition and increased error production.

3)   Iconic affixation is acquired earlier than less iconic ways of marking inflectional categories.

Another factor is the relative salience of an inflectional marker. The bathtub effect (a combination of primacy and recency effects, Demaree et al., 2004) favours the perception of a word's periphery, allowing a child to identify peripheral prefixes and suffixes with greater ease than internal markers.

As a result, case forms appear earlier in agglutinating languages due to the fact that they are expressed in a separate suffix which follows the suffix denoting the plural form (Stephany & Voeiova, 2010). One of the reasons for the preference for suffixing is that the recency effect holds more significance than the primacy effect in young children (Griffin, 2002). Finally, the productivity of a pattern is also a factor. This factor, however, cannot be likened to frequency (Laaha et al., 2006).

2.3 Inflectional Morphemes in English

First of all, it is necessary to define the word *morpheme*, which is one of the most prominent concepts in morphology. As far as English morphology is concerned, the morpheme is the lowest on the rank scale out of the five units that have been identified in English grammar (Berry, 1977; Tomori, 1977; Bauer, 1983; Farinde & Ojo, 2000). Several linguists suggested slightly different definitions of a *morpheme*. For instance, Tomori (1977, p. 16)

defined a morpheme as the minimal linguistic element that carries grammatical and/or semantic meaning and it cannot be divided into smaller grammatical components. Another definition is proposed by Bauer (1983, p. 14), who stated that a morpheme is the minimal unit of grammatical analysis. One last definition is proposed by Farinde & Ojo (2000) who indicated that a morpheme is the smallest meaningful grammatical unit. Although it is the smallest in our rank scale, it exerts a lot of influence on the word, which is the next higher unit of the rank scale.

On the basis of the definitions of a morpheme given above, it is apparent that morphemes can have both grammatical meanings and semantic meanings. The morphemes with grammatical meanings, which are limited in English, are inflectional morphemes, which do not change the word class and/or the meanings of the words to which they are attached, as in the following examples:

1)   the plural -*s* e.g., cat/cats

2)   the possessive 's e.g., the boy's toy
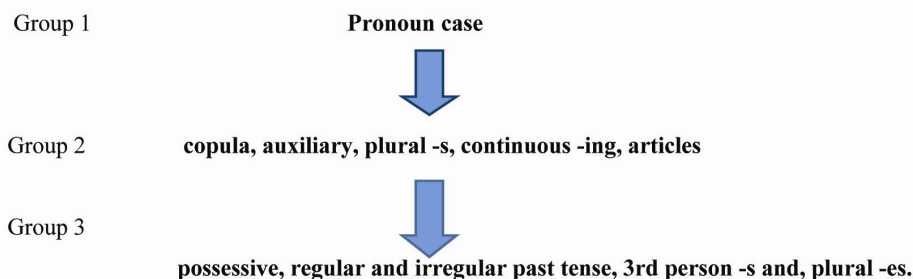
3)   the past tense -*d* e.g., visit/visited

On the other hand, the morphemes with semantic meanings are called derivational morphemes. There are many morphemes of this type in English, which can change the meaning and/or the word class of the words to which they are attached. It is worth pointing out that more than one derivational morpheme can be attached to the same word, while one inflectional morpheme can be attached to the word at a time. When both inflectional and derivational morphemes are attached to the same word, the derivational ones are always closer to the root, at least, in English (Altakhaineh, 2014, p. 32). This is illustrated in the following examples:

4)   agree + ment → agreement (one derivational morpheme)

5)   idea + al + ize → idealize (two derivational morphemes)

6)   write + er + s → writers (one derivational and one inflectional)

7)   lexical + ize + ed → lexicalised (one derivational and one inflectional)

All in all, this study investigates only inflectional morphemes in English, which aredivided into 8 types: (1) past tense morpheme; (2) past participle morpheme; (3) plural morpheme; (4) possessive morpheme; (5) third person singular morpheme; (6) present participle morpheme; (7) superlative morpheme; and (8) comparative morpheme.

2.4 Studies on the Acquisition of Inflectional Morphology

One of the most important studies in SLA is conducted by Dulay & Burt (1974). The sample of the study consisted of bilingual children, whose age range was between eight and eleven. These children's first languages were Spanish or Chinese but they were attending English-speaking schools in America. The aim of the study was to examine the correct usage of eleven grammatical words and endings, which they called "functors" to confirm or reject Brown's (1973) findings. Brown's (1973) findings showed that those functors appeared consistently in a predictable sequence in the language of Native American children after they had reached a certain stage in the process of English language acquisition. Also, it was found that these eleven functors could be divided into three groups, which should also be acquired in a natural hierarchy as follows:

Group 1   **Pronoun case**

Group 2   **copula, auxiliary, plural -s, continuous -ing, articles**

Group 3

          possessive, regular and irregular past tense, 3rd person -s and, plural -es.

Furthermore, the study demonstrated that children cannot acquire the items in group 2 without having acquired the items in group 1 first. The same applies to the items in group 3, which cannot be acquired before the acquisition of the items in group 2 takes place.

In another study, Akande (2001) examined the learners' competence in relation to morphological suitability in another domain; namely, ESL writing. The main objective of the study was to investigate the morphological errors which may be produced in written texts by 150 secondary school pupils studying at 3 different public

schools in Egbedore Government Area of Osun State in Nigeria. Specifically, these written texts were the main data used in the study; they were analysed thoroughly for morphological errors. The data analysis revealed that the three schools included in the study yielded similar patterns of occurrence and derivation. However, the data demonstrated that there was a discrepancy in the acquisition levels of acronym, clipping, conversion and blends. In other words, the participants' results were not encouraging. The most regularly used process was suffixation, whereas compounding and prefixation were found to be less used on average. On the other hand, morphological processes such as acronym, clipping, conversion and blends are rarely used, whereas duplicatives are not used at all (Akande, 2001, p. 42). Therefore, Akande proposed that a re-examination of the grouping of morphological processes into major and minor morphological processes similar to what was suggested by Quirk & Greenbaum (1973) was required. This could be attributed to the fact that the extreme groups may not be considered a correct reflection of the actual performance of learners in second language writing.

Based on the previous literature, it seems that little attention has been given to the acquisition of inflectional morphemes by Arab EFL learners, in general, and Kuwaiti in particular. Thus, this study aims to bridge this gap by investigating the types of errors made by Kuwaiti EFL learners when they use inflectional morphemes in English. Also, this study investigates whether the participants' English proficiency level plays a role in the acquisition of inflectional morphemes. In this study, I aim to show how potential answers to some of the most prominent questions in Second Language Acquisition (SLA) can be supplied. The research questions are as follows:

1)   To what extent are Kuwaiti EFL learners aware of inflectional morphemes in English?

2)   What type of errors, if any, do they make when they use inflectional morphemes and why?

3)   Does the English proficiency level of the participants play arole in their comprehension of the inflectional morphemes on the test?

Through observation, I formulated the following research hypotheses: (1) the English proficiency level of the participants plays a role in Kuwaiti EFL learners' comprehension of inflectional morphemes on the test; and (2) the degree of complexity/irregularity of the types of inflectional morphemes affects the correct answers on the test. That is, the more irregular the type is, the more errors the participants tend to make.

3. Methodology

3.1 Sample

One hundred Kuwaiti EFL learners, who are doing their undergraduate degrees at the Public Authority of Applied Education and Training (PAAET), participated in this study. The participants' mean age was 22 years old. Regarding their gender, the participants were divided into 56 males and 44 females (gender is not an independent variable in this study). To validate the results, the participants, who were randomly chosen out of approximately 8000 students, are currently registered in this college. They were divided into two groups according to their scores on the English Placement Test (EPT): those who scored 50-69 on the EPT were considered Intermediate Learners (ILs), whilst those who scored 70-85 were considered Advanced Learners (ALs). The 100 participants were divided equally into 50 ILs and 50 ALs. Due to the complexity and unpredictability of some English inflectional morphemes, the researcher chose intermediate and advanced learners to participate in the study. The participants of this study have studied English at schools in Kuwait for twelve years and have already completed two main English courses at the CBE, i.e., E 161 and E 261. These courses deal with many complex morphosyntactic structures in English, such as inflectional and derivational morphemes. With regard to ethical issues, the participants were informed that their participation in the test was voluntary; they were informed that they can leave anytime if they feel stressed or uncomfortable. The researcher also thanked the participants for their cooperation and willingness to take part in the study.

3.2 Instrument

3.2.1 The Test

In order to measure the participants' ability to comprehend and use inflectional morphemes in English properly, a multiple-choice test was used as an elicitation instrument (see Appendix A). This test has been used by Josiah & Udoudom (2012) in their study, eliciting fruitful results. This type of test was not only used to measure the participants' ability to use inflectional morphemes correctly, but also helped to discover the causes beyond the errors made by the participants on the test. In the current study, the test included eighteen sentences representing different types of inflectional morphemes as follows:

Table 1. Types of inflectional morphemes on the test

Types of the inflectional morpheme	Examples of regular and irregular forms
Past tense regular form is -d	➤ Walid *played* chess yesterday. (regular form)
	➤ My friend *ate* three apples last night. (irregular form)
Past participle regular form is -d	➤ Khalid has already *finished* eating.(regular form)
	➤ My brother has *broken* my mother's mirror. (irregular form)
Plural regular form is -s	➤ The two *volunteers* have already arrived (regular form).
	➤ Some *men* are still on their way (irregular form).
Possessive regular form is -'s	➤ My *uncle's* car is Mercedes. (regular form)
	➤ *Ali's* favourite hobby is horse riding. (regular form)
Third person singular present tense regular form is -s	➤ Laila *drinks* tea every day. (regular form)
	➤ My sister *watches* a movie every Saturday. (regular form)
Present participle regular form is -ing	➤ Look! She is *running* so fast. (regular form)
	➤ Listen! They are *singing* a nice song. (regular form)
Superlative regular form is -est or most	➤ Mount Everest is the *highest* mountain in the world. (regular form)
	➤ Bashayer is the *most intelligent* woman in the city. (irregular form)
Comparative regular form is -est or more	➤ Mai is *smarter* than Abeer. (regular form)
	➤ Bears are *more dangerous* than lions. (irregular form)

Table 1 shows that every type of inflectional morphemes is represented twice, one in its regular form and one in its irregular form (if there is one). Here, it is worth pointing out that both third person singular -s, the possessive -'s and present participle-*ing* always come in regular forms. Also, the plural -s, comparative -est or more and superlative -est or most seem to have a few irregular cases. For instance, the following words are pluralized irregularly *men, feet* and *oxen*. Finally, on the other hand, the past tense-*d* and past participle regular -*d* have some irregular cases, as will be explained in section 4.

3.3 Statistical Analysis

To check whether Kuwaiti EFL learners are aware of the correct use of the inflectional morphemes in English, the Statistical Package for Social Sciences (SPSS) was used. This analysis includes the calculation of percentages, means and standard deviations of the participants' answers on the test. These calculations were conducted to confirm or refute the hypotheses mentioned above. For instance, a t-test was conducted to check whether the difference between the results of ALs and ILs is statistically significant or not. Also, the percentages of the most problematic types of these morphemes have been calculated to show the possible causes behind these errors.

4. Results and Discussion

The main goal of this study was to measure the competence of Kuwaiti EFL learners in terms of using inflectional morphemes in English, and to account for the errors if found. It also checked whether the participants' English proficiency level affected their answers on the test. Table 2 below shows the results of the t-test.

Table 2. Results of t-test of differences between (ALs) and (ILs)

Proficiency Level	N	M	SD	t	df	Sig.
Advanced Learners (ALs)	50	7.3	1.55	0.97	98	0.0171**
Intermediate Learners (ILs)	50	5.7	2.35			

Note. **Significance level <0.05.

Examining Table 2, the answers of both ALs and ILs is lower than (0.05), which means that the difference between the two groups was statistically significant. Specifically, ALs (m=7.3) performed better than ILs (m=5.7) on the test. The means suggest that ALs obtained a higher number of correct answers as opposed to ILs. As a result, there is a prominent statistical significance between the two groups on the test. The percentage of correct answers obtained by ALs showed that the English proficiency level of the participants contributed to their correct answers on the test as shown in Table 3.

Table 3. Percentage of correct answers by ALs and ILs on the test

Proficiency level	Percentage of correct answers
Advanced Learners (ALs)	73.5%
Intermediate Learners (ILs)	57.5 %
Total mean	65.5%

Table 3 shows that the overall percentage of correct answers by both ALs and ILs (65.5%) may suggest that Kuwaiti EFL learners are fairly aware of the correct use of inflectional morphemes in English. However, the tested groups on the test made a number of errors, showing that they probably have a vague idea about the irregular markers of some types of inflectional morphemes. The number and percentage of correct answers provided by both groups with regard to the eight types used on the test are illustrated in Table 4.

Table 4. Number and percentage of correct answers by ALs and ILs in terms of inflectional morphemes types

Types of inflectional morphemes	Participants		Mean of correct answers
	ALs	ILs	
Past tense	64%	52%	58%
Past participle	58%	34%	46%
Plural	78%	64%	71%
Possessive	88%	70%	79%
Third person singular	86%	68%	77%
Present participle	82%	68%	75%
Superlative	64%	50%	57%
Comparative	68%	54%	61%
Overall percentage of correct answers	73.5%	57.5 %	65.5%

Table 4 suggests that the participants have not encountered problems with certain items in comparison with others on the test. It seems that the participants achieved less on some types, namely, past participle (46%), past tense (58%), comparative (61%), and superlative (57%). The common factor between these types is that all of them have some irregular forms to the regular inflectional morpheme forms. Investigating other types found that the participants achieved good results on these; namely, possessive (79%), present participle (75%), and finally third person singular (77%). These types have one regular form; hence, it may have been easier for the participants to apply the rule correctly. However, one may argue that the participants have achieved good results on the plural type (71%) even though this type of inflectional morphemes has irregular forms. Here, there are two possible reasons to justify this: (1) the word used for the irregular form on the test is *children*, which is very frequent; (2) the participants usually learn how to form the regular / irregular plural forms of nouns at an earlier stage of their life; and (3) the plural morpheme is considered one of the most prominent values of the grammatical category of number in the majority of languages around the world. Other types such as adjectives, verbs and pronouns also have distinct plural forms characterized as being frequent. These are used in agreement with the number of their related nouns.

Finally, looking at their incorrect answers, the participants generally had little awareness of the correct use of the past participle, past tense, superlative and plural inflection as these four had high percentages of error. Some of the noticeable errors in the participants' answers on the test were:

a)   Adding the past tense and past participle markers -*d,* as in **Ali beated his brother last week* and **I have already cuttedthe trees*, instead of *Ali beat his brother last week* and *I have already cut the trees*. The participants have incorrectly used the past tense and past participle forms of the words.

b)   Although the subject is obviously singular in the third person singular example, the incorrect answer was provided by omitting the third person singular marker -*s,* as in**my classmate go to cinema weekly*, instead of *my classmate goes to cinema weekly*. However, the participants did generally well (77%) on the use of this inflectional morpheme.

c)   The use of present participle (-*ing*) where the past participle should be used, as in **By the time we come back, the robbers have taking everything away and…* (instead of "*By the time we came back, the robbers had taken everything away and …*")

d)   The participants misused the irregular form of the superlative inflection -*est* and comparative -*er* as in **Today is the badest day in my life* and **Salam threw the ball farer than Abdel*, instead of *Today is the worst day in my life* and *Salam threw the ball further than Abdel*.

Additionally, it is worth pointing out that English morphology is concatenative, while Arabic exhibits both concatenative and non-concatenative morphology (Altakhaineh, 2014, pp. 12-14). Concatenative morphology is defined as a type of morphological analysis, which involves stringing morphemes together by affixation, whereas non-concatenative morphology is defined as a type of word-formation, in which the root itself is modified and it does not involve stringing morphemes together by affixation (Altakhaineh, ibid). In Arabic, there are some instances of concatenative morphology such as the regular masculine plural suffix -*uun* in the word *muslim* "Muslim"/ *muslim-uun* "Muslims" (Altakhaineh, 2014, p. 13). However, a considerable number of instances in Arabic are non-concatenative e.g., the root /k-t-b/ can have different forms but semantically-related meanings as in *katab* "he wrote", *kitaab* "book" and *kaatib* "writer" (Altakhaineh, 2014, p. 14). The difference in the inflectional systems between Arabic and English is probably another cause for the errors made on the test.

All in all, Kuwaiti ALs performed better than ILs in terms of the use of inflectional morphemes in English. Over generalisation of the regular forms plays a central role in the participants' use of these inflectional forms. Also, since Arabic and English morphology systems are different, this may have yielded little awareness of the irregular forms of some inflectional markers.

5. Conclusion and Suggestions

To conclude, this study investigated the comprehension of inflectional morphemes by Kuwaiti EFL learners by measuring their ability to choose the right word on a multiple-choice test. The overall percentage of correct answers of both ALs and ILs (65.5%) indicates that Kuwaiti EFL learners may be aware of the complex nature of inflectional morphemes in English to a certain degree. The results of the study also revealed that the English proficiency level of the participants affected their use of inflectional morphemes in English. There was a statistically significant difference between the answers of ALs and ILs on the test. In particular, ALs performed better than ILs. In other words, the number of correct answers provided by ALs is higher than that provided by ILs. An analysis of the types of error demonstrated that L1 negative transfer played a central role in the comprehension of inflectional morphemes.

On the basis of these findings, it could be suggested that educational leaders, English teachers and curriculum designers need to design and develop the appropriate materials to acquaint EFL learners with the appropriate use of inflectional morphemes in English, showing them that languages cross-linguistically may differ in their inflectional systems. As a result, Arab EFL learners in general, and Kuwaiti EFL learners in particular, may start producing and comprehending more accurate sentences, especially since English inflectional morphology is different from that of Arabic. Consequently, EFL learners may feel more comfortable and confident when they speak. Lastly, further exploration of the acquisition of morphosyntactic issues e.g., the acquisition of derivational morphemes by EFL learners is needed to shed light on the mechanisms by which words are stored in the mental lexicon.

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Appendix A

1) Please, circle your English proficiency level based on the English Placement Test (EPT):

A) Advanced   B) Intermediate

2) Please, choose the appropriate word in the bracket to complete each of the following sentences.

1. Ali _____ his brother last week. (beat, beating, beated)

2. The two guys _____ chess very well last month. (plays, played, playing)

3. I have already _____ the trees. (cut, cutted, cut)

4. John thinks he has _____ his work. (finish, finishing, finished)

5. Some _____ usually play in that garden. (childs, children, child)

6. Each of the _____ wears a red scarf. (girl, girls, girlen)

7. My _____ toy is expensive. (friend's, friends, friends's)

8. _____ pet is so cute. (Alex, Alex's, Alex'es)

9. The boy _____ football daily. (plays, playing, play)

10. My classmate _____ to cinema weekly. (go, going, goes)

11. Nadia is busy. She is _____ the house. (cleans, cleaning, clean)

12. The children are _____ a nice song now. (singing, sing, sings)

13. The Nile is the _____ river in the world. (long, longest, most long)

14. Walid is the _____ man in the city. (handsome, most handsome, handsomest)

15. Today is the _____ day in my life. (badest, bad, worst)

16. My sister is _____ thanmy mother. (taller, tall, more tall)

17. Salam threw the ball _____ than Abdel. (far, farer, further)

18. English lessons are _____ than maths lessons. (enjoyable, enjoyabler, more enjoyable).

Appendix B

Arabic Sounds

Arabic consonants/vowels	Symbols	Description
ء	ʔ	voiceless glottal stop
ب	b	voiced bilabial stop
ت	t	voiceless dento-alveolar stop
ث	θ	voiceless inter-dental fricative
ج	j	voiced post-alveolar affricate
ح	ḥ	voiceless pharyngeal fricative
خ	x	voiceless uvular fricative
د	d	voiced dento-alveolar stop
ذ	ð	voiced alveolar fricative
ر	r	voiced alveo-palatal trill
ز	z	voiced alveolar fricative
س	s	voiceless alveolar fricative
ش	ʃ	voiceless alveo-palatal fricative
ص	ṣ	voiceless alveolar emphatic fricative
ض	ḍ	voiced alveolar emphatic stop
ط	ṭ	voiceless dento-alveolar emphatic stop
ظ	ð̣	voiced alveolar emphatic fricative
ع	ʕ	voiced pharyngeal fricative
غ	ɣ	voiced uvular fricative
ف	f	voiceless labio-dental fricative
ق	q/g*	voiceless/voiced uvular stop
ك	k	voiceless velar stop
ل	l	voiced alveolar lateral

م	m	voiced bilabial nasal
ن	n	voiced alveolar nasal
ﻪ	h	voiceless glottal fricative
و	w	voiced labio-velar glide
ي	y	voiced palatal glide
/ /	a	low short central unrounded
/ˈ/	u	high short back rounded
/ˌ/	i	high short front unrounded
ﺍ	aa	low long central unrounded
وو	uu	high long back rounded
ﺑﻲ	ii	high long front unrounded
و	o:	mid long back rounded
او	aw	low short front unrounded + labio-velar glide
اي	ay	low short front unrounded + palatal glide
ﺑﻲ	ee	mid long front unrounded

Note. * These symbols represent the voiceless and voiced uvular stop.