

**English Speakers' Common Orthographic
Errors in Arabic as L2 Writing System**

An Analytical Case Study

By

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DECLARATION

I declare that all the material which is not my own, has, to the best of my ability, been acknowledged. The material in this thesis has not been submitted previously by the author for a degree at this or any other university.

Signed: _____

"To my dad's soul"



Alhamdulillah (All Praise and Thanks to Allah)

Arabic Calligraphy, Thuluth Style

Source: freeislamiccalligraphy.com

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ABSTRACT

The research involving Arabic Writing System (WS) is quite limited. Yet, researching writing errors of L2WS Arabic against a certain L1WS seems to be relatively neglected. This study attempts to identify, describe, and explain common orthographic errors in Arabic writing amongst English-speaking learners. First, it outlines the Arabic Writing System's (AWS) characteristics and available empirical studies of L2WS Arabic. This study embraced the Error Analysis approach, utilising a mixed-method design that deployed quantitative and qualitative tools (writing tests, questionnaire, and interview). The data were collected from several institutions around the UK, which collectively accounted for 82 questionnaire responses, 120 different writing samples from 44 intermediate learners, and six teacher interviews. The hypotheses for this research were; a) English-speaking learners of Arabic make common orthographic errors similar to those of Arabic native speakers; b) English-speaking learners share several common orthographic errors with other learners of Arabic as a second/foreign language (AFL); and c) English-speaking learners of Arabic produce their own common orthographic errors which are specifically related to the differences between the two WSs. The results confirmed all three hypotheses. Specifically, English-speaking learners of L2WS Arabic commonly made six error types: letter ductus (letter shape), orthography (spelling), phonology, letter dots, allographemes (i.e. letterform), and direction. Gemination and L1WS transfer error rates were not found to be major.

Another important result showed that five letter groups in addition to two letters are particularly challenging to English-speaking learners. Study results indicated that error causes were likely to be from one of four factors: script confusion, orthographic difficulties, phonological realisation, and teaching/learning strategies. These results are generalizable as the data were collected from several institutions in different parts of the UK. Suggestions and implications as well as recommendations for further research are outlined accordingly in the conclusion chapter.

TABLE OF CONTENT

DECLARATION.....	I
ACKNOWLEDGEMENT	IV
ABSTRACT	V
TABLE OF CONTENT	VI
LIST OF FIGURES.....	XI
LIST OF TABLES	XII
LIST OF ABBREVIATIONS	XIII
Conventions	XIII
LIST OF TERMS	XIV
Chapter 1: Introduction.....	2
1.1 Introduction	2
1.2 Thesis Statement.....	2
1.3 Research Gap	4
1.4 The Study Hypothesis.....	5
1.5 The Study Aims	5
1.6 Thesis Question and Structure	6
1.7 Summary	7
Chapter 2: Arabic Writing System.....	10
2.1 Introduction	10
2.2 A Glance at Writing Systems.....	10
2.2.1 What is Writing System?	11
2.2.2 Typology of Writing Systems.....	15
2.3 Arabic on the Writing System's Map	21
2.3.1 The Roots of the Arabic Writing System.....	22
2.3.2 AWS: The Most Accurate Classification.....	23
2.3.3 Languages That Use the Arabic Script.....	26
2.4 Characteristics of the Arabic Writing System	27
2.4.1 Characteristics of Arabic Script.....	28
2.4.2 The Arabic Letters.....	31
2.4.2.1 Letterforms	33
2.4.2.2 Letter connectivity	34
2.4.2.3 Letter dots.....	34
2.4.3 Arabic Sound System	35
2.4.4 Diacritics and Their Roles	38
2.4.5 Orthographic Characteristics	40
2.4.5.1 Writing Movements and Direction	41
2.4.5.2 Arabic Calligraphy and its Styles	42

2.4.5.3	Spelling Rules and Issues	43
▪	Alhamza	44
▪	The open and closed <i>ta'</i>	45
▪	<i>AL AShamsiyyah</i> and <i>AlQamariyah</i>	45
▪	The Alif maqsourah.....	46
2.5	Concluding Notes	46
Chapter 3:	Arabic as L2WS.....	50
3.1	Introduction	50
3.2	Second Language Writing Systems	50
3.2.1	L2WS Studies	51
3.2.2	Researching L2WS: Issues and Approaches	55
3.2.3	Writing Arabic as a Second/Foreign Language.....	62
3.3	English-Speaking Learners of Arabic writing	65
3.3.1	Learning/Teaching Arabic as L2 in the UK.....	66
3.3.2	Why Do People Learn Arabic?.....	70
3.3.3	Textbooks and Arabic Writing in the UK.....	72
3.4	Empirical Studies on L2 Arabic Writing Errors	74
3.5	Summary	83
Chapter 4:	Methodology.....	87
4.1	Introduction	87
4.2	Research Questions.....	87
4.3	What is 'Error' and What is 'Common'?	88
4.4	The Research Approach	90
4.5	Piloting the Research	91
4.6	Research Participants.....	93
4.7	Data Collection	95
4.7.1	Writing Tests.....	96
4.7.1.1	Open-Ended Essay Test (OEET)	96
4.7.1.2	Multiple-Choice Test (MCT)	98
4.7.1.3	Dictation	99
4.7.2	Questionnaire	101
4.7.2.1	Overview	102
4.7.2.2	The Questionnaire Structure	103
4.7.2.3	The Questionnaire Administration.....	106
4.7.3	Interview	106
4.7.3.1	The Research Interview	107
4.7.3.2	Interview Design	108
4.7.3.3	The Structure	109

4.7.3.4	Interview Sections.....	111
4.7.3.5	Setting and Conducting the Interview	112
4.8	Data Analysis	114
4.8.1	Writing Tests.....	114
4.8.2	Questionnaire	117
4.8.3	Interviews.....	118
4.9	Validity and Reliability	119
4.9.1	Writing Test Validity and Reliability	119
4.9.2	Questionnaire Validity and Reliability	120
4.9.3	Interview Validity and Reliability	122
4.10	The Study Ethics.....	123
4.11	Summary	124
Chapter 5:	Test and Questionnaire Results	127
5.1	Introduction	127
5.2	Writing Test Results	127
5.2.1	Open-Ended Essay Test	128
5.2.2	Dictation.....	135
5.2.3	Multiple-Choice Test.....	138
5.2.4	A Performance Comparison between L1WS and L2WS Users	141
5.3	Questionnaire Results	146
5.3.1	Factual Information	147
5.3.2	Learners' Language History	148
5.3.3	Student Language Proficiency	149
5.3.4	Learners' Perspective on Arabic as L2W	151
5.3.4.1	Arabic Letters: Easy or Difficult?.....	151
5.3.4.2	Letter Joining and Letter Positioning	155
5.3.4.3	Direction: Right to Left or Left to Right?	156
5.3.4.4	Common Writing Issues	157
5.3.4.5	Causes of Writing Difficulty	160
5.3.4.6	Checking Spelling.....	163
5.3.5	Other Student Opinions.....	164
5.3.5.1	General Feedback and Comments	165
5.3.5.2	Other Dimensions - Overall Themes	166
5.4	Summary	170
Chapter 6:	Interview Results	172
6.1	Introduction	172
6.2	The Interviewees.....	173
6.3	Recurrent Themes.....	173

6.3.1	Methods of Teaching Writing.....	174
6.3.2	Teaching/Learning Issues	176
6.3.3	Crosslinguistic Writing Systems	176
6.3.4	Long Lasting Arabic Writing Phenomena	178
6.3.5	What Errors are Common?	179
	• Letter shapes	179
	• Direction.....	180
	• Dots	181
	• Phonological issues	181
	• Orthographic issues	182
	• Connecting letters.....	183
	• <i>Alqamar lam</i> and <i>Ashams lam</i>	183
	• Other errors	184
6.3.6	Why These Errors are Common	184
	• Phonological differences.....	184
	• Orthographic differences.....	185
	• Spelling error causes	186
	• Other reasons	187
6.4	Summary	187
Chapter 7:	Discussion	190
7.1	Introduction	190
7.2	English-speaking Learners' Common Errors.....	191
7.2.1	What Types of Orthographic Errors are Common?	191
7.2.2	Most Difficult Letters to Write	195
7.2.3	English Orthographic Influence on L2WS Arabic	196
7.3	Why Do These Errors Occur?	196
7.3.1	Most Common Errors.....	197
7.3.1.1	Letter-Ductus Errors	198
7.3.1.2	Orthographic (Spelling) Errors	199
7.3.1.3	Phonological Errors	200
7.3.2	Common Errors	201
7.3.2.1	Graphemic (Letterform) Errors.....	201
7.3.2.2	Dot Errors.....	202
7.3.3	Less Common Errors.....	203
7.3.3.1	Missing Letter, Insertion, and Substitution Errors.....	203
7.3.3.2	Letter-Doubling (and Shadda) Errors	204
7.3.3.3	Other Less Common Errors.....	205
7.4	Natives and Other speakers' Common Errors	206

7.4.1	Are Natives Known to Make Such Errors?.....	207
7.4.2	Do Speakers of Other Languages Make These Errors?	208
7.5	Solutions of Common Orthographic Errors	210
7.6	Summary	211
Chapter 8:	Conclusion	214
8.1	Introduction	214
8.2	Empirical Findings.....	215
8.3	Impact of Research and its Limitations	217
8.4	Implications.....	218
8.4.1	Theoretical Implication	218
8.4.2	Teaching Methods of L2WS Arabic	219
8.5	Further Research and Recommendations	221
8.6	Conclusion.....	223
REFERENCES	224
APPENDICES	257
Appendix 1	(Consent Form - 2 pages)	258
Appendix 2	OEET	260
Appendix 3	(MCT - 5 pages).....	261
Appendix 4	(Dictation - 3 pages)	266
Appendix 5	(Questionnaire – 9 pages).....	269
Appendix 6	(Interview – 5 pages)	277
Appendix 6	(Interview Transcript Example – 6 pages)	286
Appendix 7	(Learners' Writing Samples).....	292

LIST OF FIGURES

Figure 2.1 Sproat's (2000) Classification of Writing Systems.....	20
Figure 2.2 Cook and Bassetti's (2005) Writing System Typology	21
Figure 2.3 The Arabic Script Within The Semitic Family (Coulmas, 1996, p. 460).....	23
Figure 2.4 Common letterforms of Alhamza (Fayyād, 1998)	32
Figure 2.5 A Line of Poetry with and without Vowelisation (Brustad <i>et al.</i> , 1995).....	40
Figure 2.6 Quranic Verse in Different Calligraphic Styles (Holes, 2004, p. 396)	43
Figure 3.1 Conceptual L2WS Research Design (i)	59
Figure 3.2 Conceptual L2WS Research Design (ii)	59
Figure 3.3 Conceptual L2WS Research Design (iii)	60
Figure 3.4 Conceptual L2WS Research Design (iv)	60
Figure 3.5 Countries of the Arabic World (Watson 2002, p7)	71
Figure 4.1 Frequencies of Orthographical Error Types (in pilot study)	93
Figure 5.1 Error Type by All Learners Combined in OEET	129
Figure 5.2 Mean of Error Categories in OEET	130
Figure 5.3 Grapheme Errors in the beginning (GB), middle (GM), and end (GE) of words	132
Figure 5.4 Letter Composition Errors	133
Figure 5.5 Alteration	134
Figure 5.6 L1 Influences	135
Figure 5.7 Error Type by All Learners in Dictation.....	137
Figure 5.8 Mean of Error Categories in Dictation.....	138
Figure 5.9 MCT Results: Individual Students 1-44 Scores Out of 30	139
Figure 5.10 MCT Sum of All Participant Errors per Question	140
Figure 5.11 Errors per Category in MCT.....	141
Figure 5.12 Mean Occurrence of Each Error Type for Both Groups in OEET	144
Figure 5.13 Mean Occurrence of Each Error Type for Both Groups in Dictation	145
Figure 5.14 Mean Occurrence of Each Error Type for Both Groups in MCT	145
Figure 5.15 Mean Score of MCT for Both Groups Out of 30	145
Figure 5.16 Arabic Language Proficiency	151
Figure 5.17 Reasons for Selecting 'Most Difficult Letters to Write'	154
Figure 5.18 Common Writing Issues (1/2)	160
Figure 5.19 Common Writing Issues (2/2)	160
Figure 5.20 Causes of Writing Difficulties.....	161
Figure 5.21 The Respondents' Attitudes towards Writing Issues	163
Figure 6.1 Interview Results Skeleton	174

LIST OF TABLES

Table 2.1 Examples of Arabic Word-Roots with Several Derivatives	30
Table 2.2 The Arabic letterforms by position in the word (Rogers 2005, p. 136).....	32
Table 2.3 Consonantal System of MSA (Embarki, 2013, p. 27).....	37
Table 3-1 Examples of Research on L2WS Arabic	64
Table 3-2 Specimens of Arabic Courses and Institutes in the UK.....	68
Table 3-3 Examples of Orthographic and Phonological Errors in Literature.....	77
Table 3-4 Linguistic Studies in Arabic L2WS Errors	81
Table 4-1 Error Categories in Piloting Study	92
Table 5.1 Orthographic Error Types	128
Table 5.2 Open-Ended Essay Test Result.....	131
Table 5.3 Dictation Test Result	136
Table 5.4 MCT Result.....	139
Table 5.5 Mean Errors for Both Groups in OEET & Dictation	143
Table 5.6 Mean Errors of Category for Both Groups in MCT	143
Table 5.7 Respondents' Country of Origin.....	147
Table 5.8 Respondents' Level of Arabic Study.....	148
Table 5.9 Respondents' Methods of Arabic Learning	149
Table 5.10 Respondents' Age of Learning Arabic.....	149
Table 5.11 Difficulty of Arabic Script	152
Table 5.12 Most Difficult Arabic Letters to Write.....	153
Table 5.13 Common Writing Issues.....	159
Table 5.14 Spelling-Check While Writing	164
Table 5.15 Overall Themes.....	167
Table 7-1 Error Commonness in Writing Tests	192

LIST OF ABBREVIATIONS

L1	First Language
L2	Second Language
SLA	Second Language Acquisition
SLW	Second Language Writing
WS	Writing System
L1WS	First Language Writing System
L2WS	Second Language Writing System
CWS	Cross-Writing-Systems
AWS	Arabic Writing System
AOS	Arabic Orthographic System
EWS	English Writing System
CA	Classical Arabic
SA	Standard Arabic
MSA	Modern Standard Arabic
AFL	Arabic as Foreign Language
T AFL	Teaching Arabic as Foreign Language
EA	Error Analysis
CAH	Contrastive Analysis Hypothesis
ODH	Orthographic Depth Hypothesis
GSH	Grain Size Hypothesis

Conventions

- The examples of English language are presented in italics e.g. *the book*. Arabic examples are presented normally e.g. الكتاب
- Graphemes, letters, and signs are used between angle brackets <ه>.
- Letter names are based on Rogers, (2005) as in Table 2.2.
- Translations are given in brackets e.g. الكتاب (The book).
- IPA transcription is enclosed between slashes. The IPA symbols are based on Pederson, (2008) as follows:
 - The MSA consonant sounds: /ʔ, b, t, θ, dʒ, ħ, ʁ, d, ð, r, z, s, ʃ, sʕ, dʕ, tʕ, ðʕ, ʕ, ʁ, f, q, k, l, m, n, h, w, j/
 - Long vowels: a:, u:, i:
 - Extra long vowel: /a::/
 - Short vowels:(fāṭḥah) /a/, kasrah /i/, dʕammah /u/)
 - Semi-vowels: /aw/ and /aj/

LIST OF TERMS

Term	Description
Abjad	AKA consonantal writing; a system in which vowels are not minimally represented, whereas consonant symbols only provide a partial key to pronunciation.
Abugida	AKA syllabic alphabet, and alphasyllabary, is a system in which every consonant symbol carries an inherent following vowel.
Allograph	A variant of a grapheme, which can also be considered as equivalent to allophone in phonology.
Alphabetic writing	Provides a character/letter for almost each sound.
Diacritic	AKA bound grapheme which modifies the value of the basic symbol to which it is attached. In Arabic, these are optimally used for marking vowels.
Dialect	A language variety, mostly a regional variety.
Diglossia	A sociolinguistic situation in which two (very) different varieties of a language are both used for different purposes.
Digraph	AKA ligature, a combination of two letters which together represent a distinct sound. The Arabic LaamAlif <ﻻ> is considered by some researchers as a digraph.
Ductus	A writing movement which comprises the way a letter is written, the writing direction, speed of writing, the prescription of the point of entry and where the pen would be lifted off the page etc.
Glottic writing	Glottographic systems in which elements of speech are represented in writing by graphemes (see also graphemic system).
Glyph	A symbolic figure carefully carved, such as the glyphs of Mayan or Egyptian WSs. Sometimes used to describe units of unknown WSs.
Graph	A symbol representing a sound unit along with other features (e.g. punctuation marks).
Grapheme	A minimal unit in a writing system equivalent to the phoneme in phonology. Also called free-grapheme to differentiate it from bound-grapheme (diacritic).
Graphemic systems	Offer graphemes to represent language units, as opposed to pictographic systems which represent concepts.

Term	Description
Ideographic writing	Graphic symbols serve only as conventional representations of concepts – symbols for ideas.
Interlanguage	The interlanguage (IL) theory refers to the linguistic system in the L2 learners' mind which is neither the L1 nor the L2, but influenced by both
Logography	Script that depends on signs where a whole meaningful word is conveyed by a single sign. An obvious example is Chinese WS.
Moraic writing system	A type of syllabary which has a distinctive vowel sequence.
Morphemic writing	Used as alternative to 'logographic writing' (see logography). 'A morpheme is defined as the smallest meaningful unit of language' (Coulmas, 1996, p. 348).
Morpho-syllabic writing	Systems exploiting both morphemes for meaning and syllables for sounds
Phonographic writing	As opposed to logographic systems, phonographic writing offers graphemes to represent sound units of language (e.g. a syllable or a phoneme).
Pictography	AKA concept signs, pictograms, or semasiographic systems. They are not language-dependent in which graphic symbols represent concepts directly. Some linguists do not recognise it as a proper writing system because they are irrelevant to linguistic structures.
Rasm	The Arabic word الرسم (drawing) for the linear framework which constitutes writing cursively from right to left on a single baseline with no capital letters (see also ductus).
Script	A writing system generally, or the set of language-based symbols used in a certain WS to represent the language specifically.
Syllabary	A system in which every character represents a different syllable, usually consonant+vowel or a vowel alone.
Syllabic writing	A form of writing where characters denote syllables.
Writing direction	The orientation in which writing flows according to its WS whether horizontally or vertically, and whether right-to-left or vice versa.

Chapter 1: Introduction

English Speakers' Common Orthographic Errors in Arabic as L2WS

'Everywhere in the ancient world, writing was the invariable accompaniment of certain sociocultural conditions that led to higher forms of civilisation. Outstanding among these conditions are: the development of government; the division of labor, the appearance of specialized professions in agriculture, industry, commerce, and transportation; the domestication of animals; the production of goods for a market; the growth of cities and empires. Wherever these conditions develop writing is always present.' (Coulmas, 1989, p. 15)

Chapter 1: Introduction

1.1 Introduction

While writing an essay for the module English Writing System (EWS), during my study for my master's degree, I wondered whether the focus on English as a target language in the field of Second Language Writing (SLW) was matched in quantity by research in other languages. The answer was clearly negative. Writing as a linguistic skill has not received the same interest as other skills. Certainly, Writing Systems is an interesting topic amongst other topics in Applied Linguistics, yet it has not grabbed the attention like other linguistic domains. Second Language Writing Systems (L2WS) as well as Cross-Writing-Systems (CWS), for example still require more research to enrich emerging disciplines. Hence, I decided to explore this area.

Unlike SLW, which generally deals with all writing-related topics in a L2 context, L2WS precisely discusses scripts and orthographic matters within non-native writing systems. Chiefly, this study looks at the differences between the Arabic and English Writing Systems. Specifically, it investigates English speakers' common orthographic errors in writing Arabic as L2WS. By exploring these differences from an English speakers' point of view, it allowed for an insightful look at what and how learners adapt to the Arabic Writing System (AWS). In the introduction to come, I will identify this study's rationale, purpose, and its thesis statement. Afterwards, I will outline the research gap overviewing the most relevant research in this areas, and reveal the thesis question.

1.2 Thesis Statement

Two of the most significant differences between the Arabic writing system (AWS) and English writing system (EWS) are the script, the graphic form of a writing system (Coulmas, 1996, p. 454), and the writing direction. English-speaking learners of Arabic writing first start with learning the Arabic letters. These differ completely from the Roman alphabet used in English. Learning each letter of the AWS involves acquiring a large amount of linguistic information orthographically, phonologically, and probably morphologically. While doing this, learners need to reverse their usual writing direction

to cope. These two differences among many others form the difficulty that emerges from cross-writing-system differences.

English is described as alphabetical, whereas Arabic is considered a consonantal writing system. As the categories imply, the phonological differences and difficulties are observed when English-speaking learners are composing in Arabic, shifting from their L1WS to their L2WS. Arabic is less complicated than English in its correspondence between its orthographic and phonological systems. However, learning the AWS has never been easy for English speakers. The foreignness of the script (which entails the letter shape, direction, and the way of writing), the variations of Arabic writing styles (calligraphic differences), and the diglossic situation are factors that burdening English-speaking learners of AWS. Arabic language has two forms: the high formal standard language, and the low dialects. Modern Standard Arabic (MSA) refers to the language that Arabs use in writing as well as in formal interactions, while they speak and consequently write several different dialects informally. This diglossic difference alone may tangle the learning process (Watson, 2002). As Abu-Rabia (2000) mentioned, diglossia delays the acquisition of basic academic skills including writing during early stages of L1 learning. The differences between literary Arabic and spoken Arabic(s) entail implications of nearly every linguistic aspect (expounded in section 2.4).

Several possible obstacles can play a significant role in learning AWS. For example, Alqasemi (1991) identified that one obstacle is the difference between the Arabic sound and writing systems in which we find silent letters as well as unwritten sounds. Besides the dialect variations, the Arabic orthographic system is not actually unified throughout the Arabic world. It is probably the same as in English, where there are several differences between British and American spelling. Arabic, on the other hand, has a number of language authorities (Arabic councils) in different parts of the Arabic world (e.g. Cairo, Damascus, Baghdad, Rabat etc.) that regulate the MSA's written form. These authorities sometimes disregard previous council's orthographic regulations. Obviously, native Arabic writers are affected by these variations, too. All of these aspects of AWS will be illustrated in the next chapter.

In case of L2WS learners in general, continuous switching back and forth between the writer's L1 and L2 during the L2 writing process is challenging (Wang, 2003). Numerous studies (e.g. Abu Al-Rub, 2007) have shown that the writing difficulties exhibited by

L2WS Arabic learners entail numerous linguistic elements. Abu-Rabia and Taha (2004, p. 652) state that ‘different writing systems show different and unique linguistic characteristics that affect the reading and spelling process in different languages’. Masry (1994) and Zayed (2006) point out that the difficulties that learners of AWS encounter can be grouped into a number of categories which mainly include phonological and orthographic issues.

To date, most of these studies have not yet investigated the Arabic L2WS in contrast with another writing system. Apart from contexts in which English is the target language/WS, Cross-Linguistic-Writing-Systems research relatively overlooks Arabic. As a result, this research sought to examine the orthographic errors made specifically by English-speaking learners of Arabic as L2WS. I argue here that these errors are, at least in part, due to the differences between the two WSs. Exploring L2WS Arabic students in the UK seemed a valid population through which to investigate and describe learner writing. As Corder (1967) established, by exploring learner error, learner competence can be assessed while simultaneously identifying their learning strategies, difficulties, or procedures. Collecting data in the UK was suitable since learning Arabic has recently received greater attention here. Learning, teaching, and researching Arabic has flourished in the UK. Although there have been several institutions that orient their research focus towards Arabic, L2WS Arabic research does not appear to be well accommodated. This problem will be further explained in the research gap section below.

1.3 Research Gap

Research on Second Language Writing (SLW) is sparse, while it is even sparser on cross-linguistic writing systems (August and Shanahan, 2008). However, most research done in both areas has been directed towards English from different backgrounds. The phonological aspects, in terms of cross-linguistic differences, have been examined by numerous studies especially in the context of L1-English learners of L2-Arabic (e.g. Aziz, 1974; Clumeck, 1976; Yeni-Komshian *et al.*, 1977; Port and Mitleb, 1980; Flege and Port, 1981; Ryan and Meara, 1991; Ryan and Meara, 1996; Abu-Rabia and Sammour, 2013). By contrast, orthographic issues have not had the same attention that phonological aspects have had in work on writing L2 Arabic (Abu Al-Rub, 2007).

Nonetheless, the measurement of the scope of research specifically on AWS and L2WS Arabic is limited (Abu-Rabia, 1997; EL-Aswad, 2002; Alhawary, 2009). No surprise then that, meanwhile, the literature on comparing Arabic writing to other writing systems is narrow. (Alhawary, 2009). In spite of our appreciation, some of these efforts gathered different sorts of linguistic errors from grammatical errors to phonological to morphological to orthographic etc. Another research gap is in the attempts to determine the size/rate of the existing writing problems and whether they can be reported as common errors. This study strives to fill these gaps in L2WS Arabic research. In particular, the purpose is to investigate the effect of orthographic differences between the Arabic and English WSs on L1WS-English users who are learners of L2WS Arabic.

1.4 The Study Hypothesis

Based on the current literature, it is hypothesised that:

- a) English-speaking learners of Arabic make almost the same *common orthographic errors* that native speakers make in writing Arabic.
- b) English-speaking learners of L2WS Arabic might also share certain *orthographic errors* which are considered *common* amongst learners of Arabic as a second/foreign language (AFL) from different backgrounds (L1WSs).
- c) English-speaking learners of Arabic have their own *common orthographic errors* which relate specifically to the differences between the two writing systems.

Definitions for the words *common* and *error* will be presented in the methodology chapter (section4.3).

1.5 The Study Aims

Most writing error studies conducted with respect to Arabic as L2WS have not taken into consideration the learners' L1WS. Hence, they have not been taken for granted due to generality, broadness, and relativity of their results. On the contrary, this study fills in by employing the variables of the two WSs, the native and the target. Further, it is interested

only in common orthographic errors. It takes this focus for two reasons; 1) to avoid other well-investigated aspects (e.g. L2 writing process, styles, or functions) and; 2) to explore a specific area that seems to be relatively ignored.

As a result, the main aim of the study is to identify the common orthographic errors committed by English speakers/writers in writing Arabic as L2WS. Once identified, these errors will be critically and statistically analysed in an attempt to reveal the underlying causes. Exploiting other research tools, the suggested error-making reasons will be linked to learners' perceptions and teachers' opinions towards this phenomenon. This is intended to afford a clearer picture of the writing difficulties that English writers encounter while learning a completely different writing system. In the process of looking at all sources of influence for orthographic errors, one aspect will also be investigated, which is the methods of teaching Arabic as second/foreign language (TAFL). Current teaching methods have not been updated to assist learners in overcoming writing difficulties. With reference to the Arabic writing, the orthographic rules, the alphabetic set, and calligraphic types (e.g. Naskh, Riq'a, etc.), teaching methods need to be updated with a more focused approach. It is hoped that the results of this study may contribute, first, to the theoretically poor literature in L2WS Arabic and, secondly, to the improvement of the current methods used by TAFL.

1.6 Thesis Question and Structure

Since this study intended to investigate English speakers' orthographic errors in writing Arabic as L2WS, the thesis questions to be explored were: what are the common orthographic errors that English speaking learners make in Arabic as L2WS? And why are these errors being made? These questions have several sub-questions which are outlined in the methodology chapter (section 4.2). The explanation of the thesis terminology of both *common* and *error* will also be defined as well in the same chapter (section 4.3).

In order to answer these questions, the thesis is structured accordingly. Chapter 1, this chapter, provides an introductory background to the research problem. Chapter 2 briefly presents the research literature on writing systems and sketches the most pertinent characteristics of the Arabic writing system. Chapter 3 links the topic of WSs and AWS

to the application of a L2 context. In other words, it establishes the debate on L2WS and more specifically on L2WS Arabic highlighting the importance of the topic and its research trends. Next, the methodology chapter describes the approach of this study, its participants, and how the data were collected and analysed. This chapter (Chapter 4) also summarises the pilot study, illustrates the specific ethical considerations, and overviews the steps taken to ensure the validity and reliability of the results. Next, the results of the study are detailed (Chapters 5 and 6). Chapter 5 specifies the learners' results whilst Chapter 6 presents teacher responses. The discussion of the results will be presented in chapter 7, in which I will argue the results of the study in the light of the available literature. Lastly, Chapter 8 summarises the results, demonstrates the study's contribution to research, and overviews its potential impact, limitations, and applied implications. It then concludes with recommendations for further research.

1.7 Summary

Growth in WS studies in the L2 field has only occurred rather recently. In fact, the genre of writing has not received the attention of other competences in second language studies (Matsuda, 2006). The literature volume on SLW and CWS, as it will be demonstrated in Chapter 3, has been increasing, though most studies done within this theoretical framework were aimed towards English as L2WS. Other target languages are overlooked. The balance between phonological investigations and other inquiries is still too one-sided. Examinations of Arabic as L2WS in particular have really suffered from a lack of attention. A quick look at literature reveals that relatively few studies have investigated writing errors or attitudes of English learners towards learning Arabic writing as L2, compared to those which have been done on learning in the opposite direction.

Since L2WS Arabic studies along with orthographic issues are fairly neglected, this study, utilising EA analysis in a WS approach, seeks to investigate common orthographic errors made by English-speaking learners of L2WS Arabic. It asks, what are the common orthographic errors that English speaking learners make in Arabic as L2WS? And why are these errors being made? It has been hypothesised that English-speaking learners of Arabic make similar common orthographic errors to those of Arabic native speakers. While English-speaking learners might also make orthographic errors similar to those of other learners of AFL, English-speaking learners of Arabic may have their own common

orthographic errors which relate to the differences between the AWS and EWS. The writing samples analysed for this research were collected from various institutions in the UK and supported by learners' beliefs and teachers' interviews as explained in Chapter 4. This study presents statistical as well as descriptive results on what errors are made and how and why English-speaking learners make them in L2WS Arabic classes. The results are detailed in Chapters 5 and 6, discussed in Chapter 7, and summarized in Chapter 8, the conclusion. It should be noted that parts of this thesis have been presented by the author at different international and local conferences.

Chapter 2: Arabic Writing System

English Speakers' Common Orthographic Errors in Arabic as L2WS

'There is...nothing approaching a coherent theory about the relations between reading and writing, or between written and spoken language, or about the place of written language in society and the purposes it serves.'(Stubbs, 1980, p. 126)

Chapter 2: Arabic Writing System

2.1 Introduction

Since this study is about to discuss writing differences along with their implications between Arabic and English writing systems, the researcher ought to introduce the subject of Writing Systems first. Afterwards, the Arabic Writing system (AWS henceforth) will be explained with key characteristics. This will help to understand the system structure more clearly and how it differs from other writing systems. In the next chapter, the researcher will link Second Language Writing Systems to this chapter in an attempt to investigate the applications of the AWS in L2 contexts.

In this chapter, attention will be drawn to the definition of Writing System, highlighting the differences amongst linguists. Writing Systems' terminologies, classifications, and how they compare characteristically will be looked at. This will frame a suitable prologue to introduce the AWS. As we are looking at the classification of Writing Systems, the researcher will also examine the most suitable classification for the AWS according to its historical roots and the branch of the Semitic Languages that it belongs to. Furthermore, sample languages that currently use the same script or more accurately use variations of the script will be profiled. In addition, the 'transparency' within Writing Systems will be investigated and discussed, including the transparency of AWS. A number of main characteristics of AWS which chiefly relate to this study will also be explained. Issues such as writing direction, letterforms, diacritics, letter dots, the Arabic Sound System, and variations of the Arabic Calligraphy in respect to learning/teaching the AWS will be briefly described. Finally, specific orthographic rules of the AWS will be overviewed.

2.2 A Glance at Writing Systems

In spite of the importance of writing as a language skill (or skills) in the linguistic field and as a means to encode knowledge, the interest in writing and in 'Writing Systems' seemed to be neglected until about fifty years ago (Penn and Choma, 2006). Works by Gelb (1963), Smalley (1964), Albrow (1972), and Sampson (1985) initiated the research allowing for a new linguistic branch to emerge. Many later linguists promoted the topic with modified approaches. Coulmas, Matsuda, DeFrancis, Rogers, Daniels, Bright, Cook,

and others brought the field under a spotlight and emphasised the importance of writing within both Applied Linguistics and Second Language Acquisition (SLA).

Clearly, knowing how to speak/understand languages differs from knowing their scripts or texts (how to read/write the language). WS researchers, though, have long debated the WS definitions and classifications. In this section the main theories and opinions in the field of WS including definitions, terminologies, and types and categories are briefly demonstrated.

2.2.1 What is Writing System?

Over time, linguists have presented different definitions for what constitutes a writing system. In WS terminology, there are different words to describe writing as well as its units. At the character level, there are letters, graphemes, glyphs, characters and symbols. Here, the WS definitions will be examined followed by a demonstration of the meanings of other WS terms.

First of all, writing should be distinguished from language. ‘Writing is not language, but merely a way of recording language by visible marks’ (Bloomfield, 1935, p. 21). It is ‘the use of graphic marks to represent specific linguistic utterances’ (Rogers, 2005, p. 2). According to Rogers, ‘writing is systematic in two ways: it has a systematic relationship to language, and it has a systematic internal organization of its own’. This systematic organization generally determines how written units correspond to units of language and so what could be called ‘writing system’ (Perfetti, 1999). Perfetti (1999: 168), explains that a writing system ‘determines in a general way how written units connect with units of language’. Although Perfetti’s definition seems imperfect as it ultimately excludes meaning-based systems (e.g. Chinese), WS researchers (e.g. Sampson, 1985; Coulmas, 1989; and DeFrancis, 1989) generally agree with Gelb (1963, p. 12) that ‘writing is clearly a system of human intercommunication by means of conventional visible marks’. After all however, I tend to concur with Coulmas (2014) that WSs are more than just neutral devices which use different marks for recoding speech. In fact, they are loaded with social and sociolinguistic elements. The description of the marks/signs in these definitions is however, where the debate has started off.

Signs may signify *icons* –a tiny picture representing an idea <☺>, *marks* –punctuation marks, *symbols* such as musical notes, the Pound sign <£>, a Chinese *character* <没> or the symbols used in sign languages of deaf people. In other words, and as far as Gelb's definition is concerned, it is rather unclear what kind of visible marks are implicated and more importantly to what extent languages are involved (Coulmas, 2003). Glottic writing is not the only kind of symbols/writing humans have devised as Harris (2000) says. Hence, when Coulmas (1996) defined WS he endeavored to make a distinction between different signs/marks used in order to represent ideas/words and those which are language-based signs.

'a set of visible or tactile signs used to represent units of language in a systematic way, with the purpose of recording messages which can be retrieved by everyone who knows the language in question and the rules by virtue of which its units are encoded in the writing system'. (Coulmas, 1996, p. 560)

Clearly, Coulmas, amongst many others who followed Bloomfield's (1935) definition of writing, referred to the *visible signs* which have to do specifically with language units. Although, DeFrancis for example said it simply in his book title, *Visible Speech*, this distinction had long ago initiated the argument of what is so called 'full writing systems' as opposed to the 'forerunners' which are considered as limited WSs (Gelb, 1963)¹. This also led to the discussion of what kind of characteristics make a good writing system, which will be examined later.

That said, there are different units and terms or levels that should be introduced before embarking on the differences between WSs. Even though it is used interchangeably, 'writing system' is neither a script nor orthography. In conjunction with the last definitions, writing can be described as:

'a system of more or less permanent marks used to represent an utterance in such a way that it can be recovered more or less exactly without the intervention of the utterer (Daniels, 1996c, p. 3)'

A script by contrast, is 'a set of distinct marks conventionally used to represent the written form of one or more languages (Sproat, 2000, p. 23). In other words, it is the set of

¹ This view is now considered Western-centric, based on the alphabetic scripts that Western linguists taught to write with and not with other scripts! (Harris, 1986; Aronoff, 1992; Daniels, 1992).

language-based symbols that a certain WS uses to represent a language and so, the script is only ‘a device for making examples of a language visible’ (Sampson, 1985, p. 21). It is crucial to make this distinction between the two terms in the WS field. One reason is that linguists, or more specifically several WS researchers, have interchangeably used both terms to signify one meaning. Further, people may become confused because of the script names which tend to match the language names (Sampson, 1985). Although Chinese, the language, for example is written using the Chinese script, English along with numerous European languages have adopted the Roman script. Another example, Arabic, the language, is written using the Arabic script which is in turn adopted by numerous languages such as Urdu and Persian. The script though is used here in a broad sense, whereas the set of conventions slightly or considerably differ from one language to another that use the same (or similar) script (Sampson, 1985).

Orthography on the other hand, could be defined as the ‘[c]orrect spelling and that part of grammar that deals with the rules of correct spelling’ (Coulmas, 1996, p. 379). It is the regulation of spelling which correlates between sounds and letters (Harris, 2000). Hence, *orthography* regulates the sound-letter correspondence using a distinctive *script* (a set of conventional marks) which mutually compose a particular *writing system* that is ultimately used to represent the written form of a given language. It is fitting to quote Coulmas (2003, p. 31) on the distinction between orthography and transcription:

Writing systems are conventionalized techniques of segmenting linguistic utterances in such a way that the resulting units can be interpreted as linguistic constructs such as words, morphemes, syllables, phonemes, as well as higher-level units such as clauses and sentences. In contrast, transcription, ideally, focusses on sound alone disregarding grammar. Transcription is a scientific procedure based on the insights of phonetics and phonology, which, in contradistinction to conventional orthographies, does not assume that the reader knows the language. While orthographies provide information about grammar and meaning by means of word spacing, capitalization, hyphenation, homophone differentiation and so on, it relies on phonetic information alone.

In spite of the fact that there are a large number of writing systems and that their diversity is enormous, ‘they can all be interpreted semantically and phonetically’ (Coulmas, 2003, p. 18). Under its script surface, each writing system holds several components which build and maintain both the outer and inner structure. Direction, grapheme, diacritics, and other components at different levels collectively shape the characteristics of a given WS to

appear and work as it is received in its language. For example, the connection of letters cursively as found in the Arabic written form, is one of the characteristics of the Arabic WS. Clearly *direction* indicates where the writing starts and flows. English, for example, starts from the top left corner of the page continuing from left to right, making rows one by one to the bottom of the page. Even though modern Chinese script is written similar to the English's direction (Rogers, 2005), Traditional Chinese, in contrast to English, flows in columns from the top right of the page to bottom. It is supposed that most of the world's writing systems were written horizontally from right to left, or vertically in columns beginning from the right (Fischer, 2001; Sassoon, 2004).

There is a slight difference between glyph and grapheme. *Glyph* is derived from Hieroglyph and used occasionally to describe units of compound or partially understood systems such as the Mayan² writing system (Coulmas, 1996). A *grapheme*, in one sense, is generally the orthographic counterpart of the phoneme in phonology while it is, in another sense, the smallest abstract unit in a writing system (ibid), or shortly - the minimal written symbol. Although Daniels (1991b, cited in Sproat, 2000) objects to considering a grapheme as the implicit parallel of phoneme, arguing that there is no systematic grapheme equivalent to a systematic phoneme, it is still used by researchers as a convenient way to indicate the basic symbol of a writing system (Cook and Bassetti, 2005). The set of elementary signs in an alphabetic writing system (e.g. English) and, extendedly in consonant scripts (e.g. Arabic), is referred to as the *alphabet* (Coulmas, 1996). This inventory is arranged in a specific order where each letter has its own name (ibid). It should be noted that one grapheme/ligature can correspond to different phonemes depending on the writing system. For example, the grapheme <c>, may be interpreted as /s/ in *city*, or /k/ in *car*. Similarly, several graphemes could be linked to one sound, such as the graphemes <k>, <q>, and <c> in the EWS, which correspond to the sound /k/ in *kite*, *queen*, and *car* (Siok, 2004).

Allograph is simply the variant of a given grapheme, and can be considered as equivalent to allophone in phonology. An example of an allograph is <G>, <g>, and <g> for the grapheme <g> in English, or the letter forms <ف>, <ف>, and <ف> for the grapheme <ف>

² Mayan writing system dates from the third century BC by the Maya people. The language is actually a family of thirty languages spoken by about five million people in Central America. Although it groups various writing systems, it is thought to be incompletely deciphered (England, 2003; Rogers, 2005; Campbell and Moseley, 2012)

in Arabic. Allographs can also be defined as the ‘graphical variants which have developed in the history of writing, for instance, the interchangeable use of <i> and <j> or of <u> and <v>, or the writing of <ÿ> for Dutch <ij>’ (Coulmas, 1996, p. 9).

Sign and *mark* are general terms used to represent language objects. As explained previously, signs could indicate different types of icons, indexes, notes and symbols. However, the meaning of *symbol* is mainly conventional. Rogers (2005, p. 298) defines it as a ‘general term for a graphic mark without regard to its graphemic status’. *Character* and *letter* are widely used to denote a written language symbol. The latter is commonly used to indicate a single grapheme of an alphabet (Rogers, 2005) although in practical use they all seem to be interchangeable. One more linguistic term should be introduced here for its relation to this study, that is *diacritics*. The concept is called *bound grapheme*, meaning a dependant grapheme which works with another independent/free grapheme (Rogers, 2005). Diacritics sometimes take the form of signs or symbols above or under letters/free graphemes, corresponding to specific sounds such as <é> in *attaché* or <i> in *naïve*.

Although WS researchers offer no solid consensus on the use of these terms (Cook and Bassetti, 2005), they do seem to agree that the primary purpose of most writing is conveying the meaning with some ways of conventional relationships between graphic and phonic units (Coulmas, 2003).

2.2.2 Typology of Writing Systems

From the discussion above, we described what to regard as writing and, more importantly, how writing relates to languages, which is seemingly the only door to understanding how writing systems function and therefore how they could be categorised (Joyce, 2013). It can be inferred that the phonetic element is a key factor in which the link between a language sound and its written representation (e.g. symbol) is studied and accordingly classified. This relationship may generally explain the classification differences in which most researchers established their categorisation: sound-based and meaning-based writing systems, even though their wordings may vary to a lesser, or greater, extent.

While it has been thought that writing is an imperfect misleading representation of speech, Coulmas (2003, p. 16) rejects this notion. He proceeds to also reject de Saussure’s claim

that the sole purpose of writing is representing speech. If we acknowledged that ‘no writing duplicates speech’, we would understand the differences between writing and speech as special characteristics of writing, rather than imperfection (Coulmas, 2003). This discussion, however, seems lengthy and as of yet, unsettled.

Orthographies vary with respect to transparency of the relation between spelling and phonology (Coulmas, 1996). The recognition of differences between a spoken language and its written representation determines, within the WS field, how transparent a writing system is. L1 users of a WS are aware of specific units of language with different degrees of phonological transparency as they decode and encode differently from L1 users of other WSs (Cook and Bassetti, 2005). The variation of phonological transparency in particular led to the Orthographic Depth Hypothesis (ODH) which has been theorized by Katz and Frost (1992) to describe the differences and the degree of *transparency* of writing systems. Phonographic WSs can therefore be classified according to the consistency between their sounds and symbols (Katz and Frost, 1992). Depending on the nature of their sound-symbol correspondence, writing systems can be described as transparent or opaque. Writing systems which employ similar graphemes to denote same syllables/phonemes in different contexts are recognised as opaque, whereas transparent WSs operate with less polyvalent and more consistent systems (Coulmas, 1996). The greater the inconsistency between symbols and sounds, the less transparent the WS. In other words, an orthographically transparent WS consistently maps its graphemes to phonemes transparently, whilst an opaque writing system tends to offer a weak relationship, which requires heavy orthographic decoding (Cook, 2004). The concept applies to types of WSs as well as to WSs within the same type (Cook and Bassetti, 2005). At the type level, alphabetic WSs are considered more phonologically transparent than morphemic WSs (see the list of terms), for instance (ibid). Moreover, Arabic and Hebrew (i.e. Abjads) are considered less transparent than English (i.e. alphabetic). English however is less transparent than Finnish or Spanish, though they are all alphabetic WSs (Birch, 2007; Bassetti, 2012; Ibrahim, 2013). Albeit they are considered transparent, these systems are not necessarily based on the one-sound/one-symbol principle (Coulmas, 1996).

The characteristics of the AWS, implicates consistency in mapping its consonant sounds to consonant letters. The correspondence between the letters and their sounds in Arabic is predictable (Abu-Rabia, 2001). If Arabic text is fully vowelised such as in children

books or in the Quran, then orthographically, Arabic is considered transparent (Asaad and Eviatar, 2013). Unvowelised Arabic texts, however, which are the mainstream, are considered opaque. Because of this consistency of the consonant-sound-consonant-letters correspondence, and for its regularity (Abu-Rabia and Siegel, 2002), it has been claimed that AWS is transparent. However, the fact that Arabic does not denote vowels transparently as do all Abjad systems, this claim is therefore refuted (Ibrahim, 2013). Transparent writing systems are supposed to provide a relatively predictable symbol-sound correspondence. If consonants were the only consideration, AWS would be highly transparent. However, because AWS lacks representation of specifically short vowels it is regarded as opaque (Cook, 2004; Dai *et al.*, 2013; Levin *et al.*, 2013). In general, alphabetic writing systems are considered more transparent than Abjads for this reason (Bassetti, 2012).

Given that reading differs from recognition in general (Cook and Bassetti, 2005), inconsistent correspondences in less transparent WSs drive readers into implementing additional strategies to the recognition of the grapheme-phoneme convention. These strategies acknowledge larger orthographic units such as syllable correspondence, onset-rime representation, and whole word recognition (Ziegler and Goswami, 2005, p. 19). Several effects may result from the degree of transparency. One effect is the word familiarity and frequency which is increased with less transparent systems (e.g. Italian words) for the phonological decoding that readers employ at the expense of the whole-word recognition (Cook and Bassetti, 2005). Another obvious effect is spelling where phonological and morphological transparency play their roles in applying the orthographic information according to the type of the WS (*ibid*).

In terms of Arabic, as we will see in section 2.4.1, reading Arabic is found to be challenging due to linguistic and visual factors which affirm the cognitive complexity of written Arabic (Ibrahim, 2013). The inclusion of diacritics (section 2.4.4) in AWS which marks vowels comprehensively renders it in a transparent WS (*ibid*); but that, as said, is typically the unusual mode of written Arabic. It has been suggested that nations have adopted orthographies in favour of either assisting beginners or operating with experienced readers (Venezky, 2004). Though Arabic is ‘a highly regular writing system that is mostly phonetic’ (Al-Jayousi, 2011, p. 10), it works well for experienced readers despite lacking short vowel representation.

This particular notion of the tight/loose link between a language's sound and its written representation, was the basis for developing the hypothesis of full and forerunner writing systems. Despite that, WS classification based on other grounds is still being discussed (e.g. Hill, 1967; Mountford, 1996), the majority of WS literature focuses on the relationship between spoken language and their written symbols as the approach to a proper typography (Burnaby, 1998). It has been claimed that in the WS world there has to be a 'great divide' between alphabetic and non-alphabetic WSs which marked the transit into a 'Modern Writing' era (Gelb, 1963). Naturally, this has opened wide the door to further disputes leading to questions on what a good writing system might be, and what makes it good (Smalley, 1964; Coulmas, 1989; Daniels and Bright, 1996; Burnaby, 1998). This has also triggered an enormous number of empirical investigations on the effect that types of Writing Systems have on learning to read and write, and how words are conceived in both the L1 and L2 contexts (e.g. Olson, 1977; Stubbs, 1980; Ryan and Meara, 1991; Taylor and Olson, 1995; Abu-Rabia, 1997 ; Vaid and Gupta, 2002; Cook, 2004; Sassoon, 2004; Cook and Bassetti, 2005; Mei *et al.*, 2013). What we are interested in here, however, is highlighting the key issue: the symbol-sound link upon which typology and all the various lengthy discussions involved.

Nonetheless, the establishment of the general classification - meaning-based and sound-based; or logographic and phonographic writing systems - was not actually founded upon a general consensus. Reviewing literature, it seems the earliest typology was done by Taylor, (1883, cited in Daniels, 1996c) who introduced the tripartite: logographic (or pictorial), syllabic, and alphabetic writing systems. Gelb (1963) however, was the first to present a solid linguistic classification which is now known as the Gelb teleology (Sproat, 2000; Penn and Choma, 2006). According to him, writing has evolved from pictography (concept signs or pictograms) to logography (whole meaningful word conveyed by a single sign), to syllabic writing (characters denoting syllables), and eventually to alphabetic writing (character/letter for almost every sound). His approach, however, has been criticised recently for being over-systematic, teleological, and very ordinal³ (Mattingly, 1985; Daniels, 1996c).

³ In Gelb's *Grammatology*, the study of writing structure and history, he suggests that writing evolution started very early with narrative art to symbol to pictographic system. The rebus symbol came later leading to sound conversion (phonetization) which allows for the advent of syllabic systems and then to the developed alphabet. As he considered semasiography or pictography which is not writing but rather a

Undoubtedly, Gelb's remarkable work was the basis that researchers have developed in WS taxonomy. Employing Gelb's classification, but disagreeing with his unidirectional theory, Sampson (1985), lists the types of WSs under the so-called 'glottographic' category as a counterpart to the semasiographic type splitting between linguistic symbols and concept symbols. One of the significant additions in Sampson's classification is the featural writing system in which symbols correspond to phonemic features. An example of this is Hangeul—the Korean WS.

Although Sampson questions the existence of semasiography under writing (Sampson, 1985, p. 32), DeFrancis (1989) totally rejects even the possibility of semasiographic writing. His classification places pictures at the top with two branches: writing, and non-writing. Within the writing branch, he lays 'rebus symbols' leading to 'syllabic systems' to either 'pure syllabic' or 'consonantal' systems (indicating mostly consonants and not vowels), which in turn lead to other types including 'alphabetic systems'. Given that DeFrancis's typology seems sophisticated, his addition and description of consonantal systems has been prominent. In his view, consonantal systems include 'pure' consonantal scripts (e.g. Arabic) and 'meaning plus sound' scripts (e.g. Egyptian), where Abjads (as in some terminology), the pure consonantal scripts, are not syllabic and not yet alphabetic. We will expand the discussion on consonantal systems when we talk about the Arabic WS classification (section 2.3.2).

Sproat (2000) decides to abandon the traditional 'arboreal classification' proposing an interesting two-dimensional taxonomy. The first dimension in his proposal is the type of 'phonography', which has been solely used in classifying WS previously, and the second is what he calls 'the *amount* of logography' which he thinks that, to some extent, *all* writing systems would contain (Sproat, 2000, p. 137). As exemplified in Figure 2.1, he classifies the WSs according to both their phonographic, as well as logographic, features. He also believes that it is possible to add other dimensions to the classification, though it would be complicated. It is thought that Sproat's classification is the first multi-dimension classification of WSs (Penn and Choma, 2006). It was similarly approached by Rogers (2005), who recognizes and distinguishes between Abjad, alphabetic, abugida, moraic, and syllabic as under the type of phonography. Moreover, he replaces Sproat's second

forerunner writing forming the origin of all developed writing, his theory states that writing 'always' evolves from logography following the stages of writing evolution in that order he described. This has been proven to be inaccurate (Mattingly, 1985; DeFrancis, 1989; Daniels and Bright, 1996).

dimension with the amount of morphography indicating the orthographic depth of the writing system (Borgwaldt and Joyce, 2013).

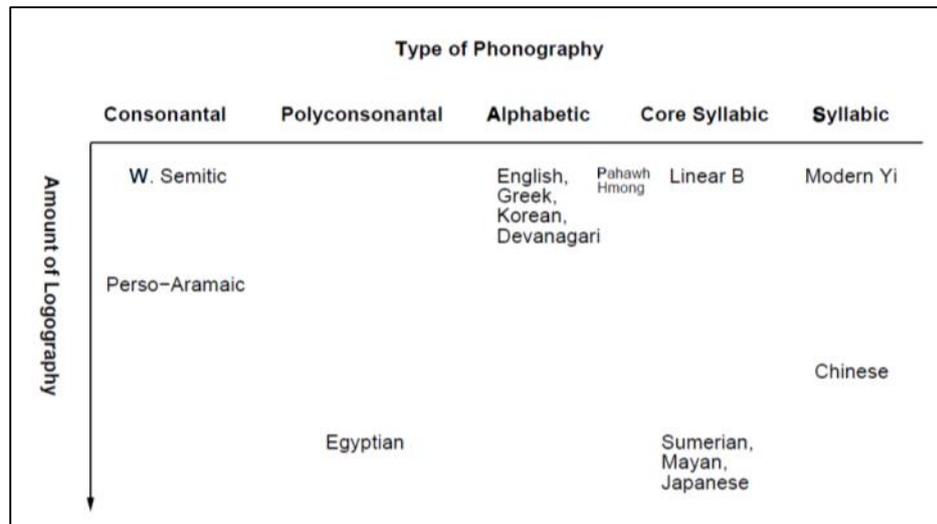


Figure 2.1 Sproat's (2000) Classification of Writing Systems

Despite Sproat's proposal sounding innovative and more accurate, it seems (by the only two-dimension classification) complicated in comparison with the previous basic classifications. Measuring the amount of logography is also not as easy as it seems (Penn and Choma, 2006). This might explain why WS researchers, such as Cook and Bassetti (2005), have kept the classic tree-format typology, opting for simplicity. Ignoring Sproat's (2000) suggestion, they embrace the fundamental division: meaning-based and sound-based systems, from which all types branch out. In their simple categorization, the meaning-based type encompasses all the systems which deliver meaningful symbols, without exploiting sound elements, including ideographic (symbols for ideas), logographic, and morpho-syllabic (exploiting both morphemes for meaning and syllables for sounds). They, like Rogers (2005), prefer the term 'morphemic' as the equivalent to the 'graphemic' sound-based systems. The sound-based on the other hand entails consonantal, syllable, and alphabetic systems as shown in Figure 2.2 (Cook and Bassetti, 2005, p. 5). A further quantitative attempt has been made by Kohler (2008) who employs the same basic division but with the addition of a third main type called 'mixed systems' in order to accommodate other 'problematic' systems.

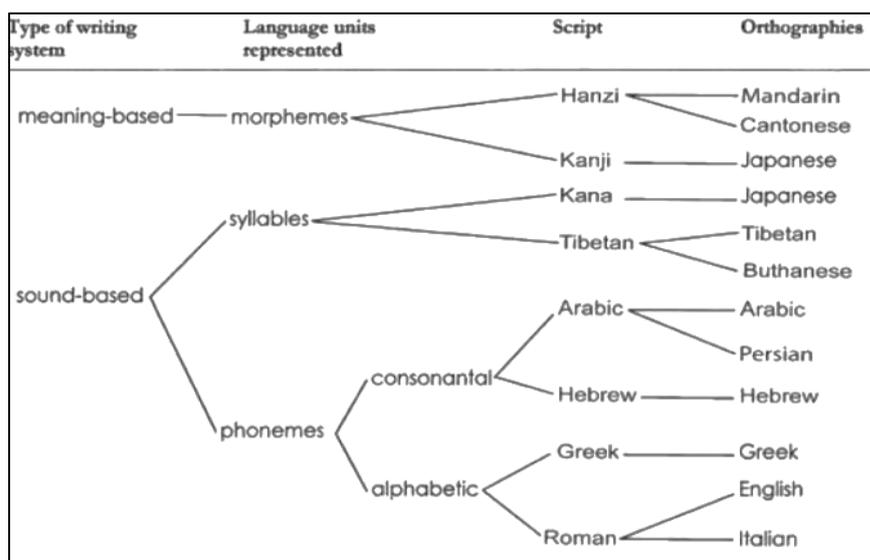


Figure 2.2 Cook and Bassetti’s (2005) Writing System Typology

Even the basic classification has been over-simplified, going back to Taylor’s (1883, cited in Daniels, 1996c) by the work of Dickinson *et al.* (2013), who confine the types to three categories: alphabetic, syllabic, and logographic systems. Although this tripartite seems to be the popular classification amongst researchers (Daniels, 1996c), it does not highlight a large set of Semitic scripts (i.e. consonantal systems).

Even though they group all systems to the meaning/sound division, in my opinion, the classic updated typology embraced by Cook and Bassetti’s (2005) seems quite convincing, simple, and detailed. In addition to retaining simplicity, it uses clear labels, and acknowledges script features, like the Semitic, a practice which was neglected in a number of previous classifications, placing them in the category of ‘consonantal systems’. However, there is a need for an inclusive typology which, in addition to the aforementioned characteristics, accommodates undeciphered or *other* systems, such as the Linear A script, and embraces featural (e.g. Hangeul) as well as mixed or compound systems (not easily classified due to either lack of understanding or inadequate typological theory (Coulmas, 1996b) admitting their morphographic features).

2.3 Arabic on the Writing System’s Map

In a cross-writing-system study which deals with writing errors, it is probably important to draw on the AWS roots and their implications. Currently, Arabic ranks the fourth most common language in the world. It, or more precisely the Modern Standard Arabic (MSA),

is the official language of 27 countries. Along with its numerous dialects, it is spoken by nearly half a billion people in the world (UNESCO, 2013). Looking at the world map, Arabic has the largest area over any native language (Owens, 2013b). It is thus unsurprising that the ‘Arabic script is the second most widely used segmental script after Roman’ (Eviatar and Share, 2013, p. 132; Encyclopædia-Britannica, 2015).

This section briefly looks at the history of AWS and its contemporary status; it investigates the most accurate classification of AWS; and highlights languages that use the Arabic script which will later enables us to understand the variations amongst learners of Arabic WS from different backgrounds.

2.3.1 The Roots of the Arabic Writing System

It is probably well-known that Arabic is a Semitic language. The group of Semitic languages goes far into history, nearly four thousand years back, in fact (Eviatar and Share, 2013). Historically, it is believed that writing was fairly limited in the third millennium B.C. to three systems used by: Sumerians, Akkadians and Egyptians, whereas in the second millennium B.C., writing flourished particularly in the eastern Mediterranean areas (DeFrancis, 1989). The Akkadians, who were Semitic, specifically extended the use of writing phonographically in which the sounds and the graphs have become much complicated (Sampson, 1985). Although probably *all* alphabetic scripts derive from the Semitic alphabet, which has been suggested to have originated within the late second millennium B.C. in the Palestine/Syria region, Sampson (1985) argues that there is no evidence that Semitic languages are *all* written in the Semitic script.

The Arabic script is derived from the Nabataean script which was in use between the second century B.C and the second century A.D. within the Nabataean kingdom covering parts of what are today Syria, Saudi Arabia, Jordan and Egypt (Healey, 1990; Holes, 2004). Although Syriac ancestry was assumed, it is believed, based on discovery of inscriptions, that Nabatean is most likely the ancestor of the Arabic script (Daniels, 2013). The Nabataean is a derivative of the Aramaic, which is a North Semitic script (as demonstrated in Figure 2.3), and one of the two main Semitic language branches.

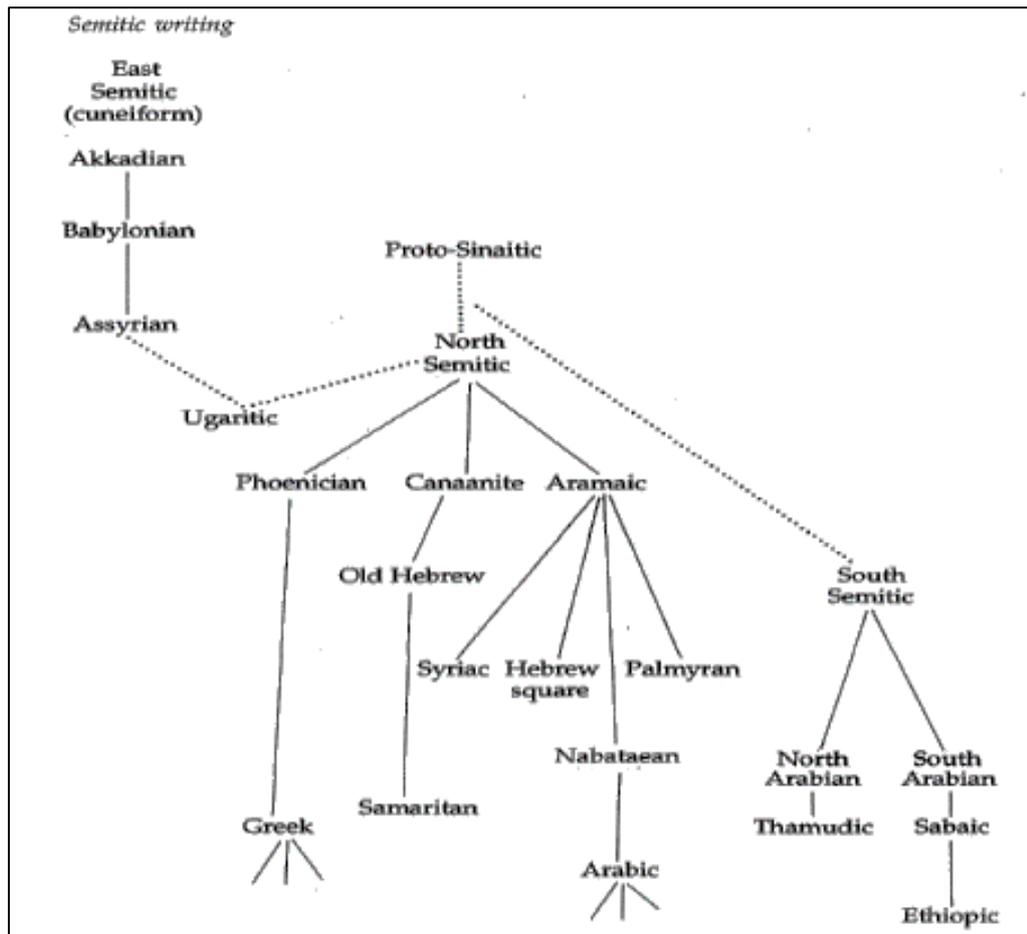


Figure 2.3 The Arabic Script Within The Semitic Family (Coulmas, 1996, p. 460)

After Akkadian and Aramaic, the Arabic script has been the main script in the region as a result of the dramatic spread of Islam (Healey, 1990). The Quran (the Islamic scripture), written in Arabic, was carried to the world's farthest corners. Today, the Arabic script ranks second after the Roman alphabet as the most used script in the world (Coulmas, 1996; Eviatar and Share, 2013). In addition to the 27 Arabic speaking countries, stretching from Bahrain on the eastern Arabic Gulf through Middle and North Africa to Morocco on North West Africa, the Arabic script is also widely used in non-Arabic countries, such as Malaysia and China, a point which will be discussed in section 2.3.3.

2.3.2 AWS: The Most Accurate Classification

It has been discussed that writing systems are mainly distinguished by the type of linguistic unit represented. Hence, if the linguistic units represented were consonants, syllables, or phonemes, for example, they would be categorized as consonantal, syllabic,

or alphabetic systems, respectively. It has been also mentioned that Arabic is a Semitic script inherent from the Nabataean and Aramaic systems leading to the Akkadian script. However, it is more related to the Nabataean and Aramaic for the typological differences between them and the Akkadian (the latter encompassing cuneiform tradition) (Coulmas, 1996). The Semitic script, specifically the North Semitic languages' script, marks the beginning of sound-based systems which produced the writing systems Abjads, alphabets and alphasyllabaries (Eviatar and Share, 2013). A number of North and West Semitic scripts have been widely categorised as consonantal systems (i.e. Abjads) because they mainly represent consonants and not vowels (cf. DeFrancis, 1989; Daniels, 1996c; Coulmas, 2003; Cook and Bassetti, 2005). The term *Abjad*⁴ is used side by side with *consonantal* or *consonantary* to describe these systems in general. Following Daniels (1996c), as well as Rogers (2005), we tend to prefer the term Abjads for its close relation to its wide-spread examples—Arabic and Hebrew.

This classification of Arabic and its kind as Abjads, apparently, has not been based upon complete agreement. In fact, there is a great deal of dispute among the scholars in the field on classifying this sort of script (DeFrancis, 1989). Resulting from his theory, Gelb (1963) insisted on labelling it as syllabic to meet his proposition that writing cannot skip the stage of syllabary going directly from logography to Abjads. He argued that these scripts are not true alphabets and should be regarded as syllabic, in which each character corresponds to a consonant plus a vowel. Suffice it to say that, unlike Gelb, numerous researchers (e.g. Edgerton, 1952 cited in DeFrancis, 1989; Sampson, 1985; Rogers, 2005; Cook and Bassetti, 2005) disagree with his treatment, though they vary in their consideration. Barr (1976) and Naveh (1982) (both cited in DeFrancis, 1989) for example, suggest that Arabic and Hebrew should be considered alphabetic.

The role of vowels becomes more obvious when one considers investigations of Arabic phonology which highlight the role of the mora as a syllable timing unit, and which give equal importance to short vowels and coda consonants in terms of the weight that they add to the syllable (cf. McCarthy, 1981; Watson, 2002; Kiparsky, 2003; Hagberg, 2006; Hellmuth, 2013). Though he wrongly claimed that research of Arabic phonology did not recognise mora as a linguistic unit, Ratcliffe (2001) pointed to a further aspect of

⁴ The name *Abjad* comes from the historical order of the Arabic alphabet which is currently the most wide-spread example of the consonantal systems (Daniels, 1996; Joyce and Borgwaldt, 2011).

representation for these vowels which highlights importance of syllable position in phonological and orthographic representations of Arabic: short vowels in final position acquire a full letter status rather than a diacritic. Despite this phenomenon, the predominant view seems to remain that of the Arabic script being referred to as Abjad (Daniels, 2013).

As Coulmas (2003) points out, the Semitic consonantal alphabets, including Arabic, are all focusing on consonants and optionally indicating vowels. Based on the fact that these scripts omit vowels from the baseline, Coulmas (2003) remarks that some researchers concluded that the consonantal alphabets are defective or incomplete alphabets (cf. Bauer (1996); (Coulmas, 2003). Most researchers however, including Coulmas himself, reject this view. Coulmas (2003, p. 113) argues that ‘Semitic alphabets can only be called ‘defective’ when Greek or Latin is considered the yardstick of supposedly ‘full’ alphabetic writing’. Given the assumption that the script should represent consonants only, it should not be considered as defective, as Ratcliffe (2001) remarks. On the other hand, Bauer (1996) accepts the defectiveness of Arabic, but questions its size and impact. In fact, he demonstrates its additional benefits as it allows for quick writing and reading, and makes Modern Standard Arabic more readable, while avoiding the artificial effects of the Standard Arabic as he claims. It seems problematic that Arabic optionally requires vowel indication in which كتب without the diacritics could be ‘he wrote’, ‘it has been written’, or even ‘books’, for example. However, Coulmas (2003) asserts that all phonographic writing systems neglect a large number of phonetic elements, hence it is a matter of degree of omitting, not of defectiveness, which suggests redefining the defectiveness idea (Ratcliffe, 2001). ‘Evidently, therefore, what is commonly and misleadingly called ‘defective’ writing was never felt to be defective by the Arab scribes’ Coulmas (2003, p. 126) argues.

Apart from merely representing consonants, Semitic languages feature word roots which are mostly only three consonants. Vowels are expressed using marks or diacritics which also entail a grammatical system (section 2.4.4). It should be noted here that, though Ratcliffe (2001) objects, these scripts distinguish long from short vowels in which the former is represented on the baseline, whereas the latter is not. In addition, Semitic languages exploit letter dots and their words always begin with consonants only. Evidently, the use of diacritics is thought to be very common in the Semitic world (DeFrancis, 1989; Daniels, 1996b). Further, Healey (1990) notes that all Semitic

languages entail sounds which are neither existent in English nor in other European languages. These are only some of the consonantal/Abjads characteristics which Arabic writing system belongs to, and shares with, Semitic scripts, but we will expand the discussion on AWS specifically in section 2.4.

2.3.3 Languages That Use the Arabic Script

As previously clarified, *script* is the set of language-based signs which is used by a certain WS in order to represent its language. This means that script is just a device which can be shared among several languages, obviously with some modifications, and probably different orthographic systems; Arabic script is no exception. It is used by its native language, Arabic, and has been (or had been) adopted by numerous languages such as Turkish, Urdu, Chechen, Hausa, Kashmiri, Kazakh, Kurdish, Malay, Pashto, Persian/Farsi, Serbo-Croatian, Sindhi, Somali, and Uzbek (Coulmas, 1996; Daniels, 2013). More interestingly, the Summer Institute of Linguistics lists 169 WSs that use the Arabic script (SIL-International, 2014).

It is well known that this wide-spread adoption has been the result of the expansion of Islam, which began in the Arabic peninsula, and the fact that the Qur'an is written in Arabic. Despite having been previously written in the Arabic script, several languages have abandoned it in favour of other scripts for different reasons. Indonesian (Malay), Hausa, Somali, Sundanese (spoken in western Java), Swahili, and Turkish, for example, have all changed to the Roman script, whereas Cyrillic was imposed on a handful of Caucasian languages which had used Arabic as well (Campbell and Moseley, 2012). However, some of these languages which have given up the Arabic script may still occasionally be written in Arabic (Kaye, 1996). Because a number of languages face difficulties to represent vowels and consonants using the Arabic script, several linguists have voiced objections against using this script probably due to impossible representation (Lüpke, 2011). Lüpke (2011) further argues that since the beginning of writing, scripts have been tailored to match the structure of very different languages and that the tailoring sometimes changed the type of writing system.

Abulhab (2006) proposed to call the Arabic-based scripts *Arabetic* as opposed to, or as a substitute for, Arabic in order to differentiate between the Arabic script and other languages' derived scripts. In his justification, he claims that there is no single clear word

to address them all, even though he deems the need for a unifying term. If Latin has relatively faded away, however, what should we do with Chinese, Bengali, and Tamil scripts for example? They all are being used by their languages, which share identical names, in conjunction with many others. If we to apply the same approach, the derived scripts would be trivial terms: Chinesetic, Bengaletic, and Tamiletic. The justification seems a bit senseless. Arabic itself, as Daniels (1996a) mentions, has once been written in Syriac script called Karshuni, and it is neither practical nor methodological to name this script Karshunetic. Languages use, adopt, change, and borrow scripts since the dawn of history, whereas the distinction between the script and the languages does not seem to be really problematic.

2.4 Characteristics of the Arabic Writing System

There have been many published studies describing Arabic scripts and its features by Arab and non-Arab linguists since Ibn Jinni⁵ and Sibawayh⁶. This study attempts to focus only on recent literature, which appears to be relatively focused and more relevant. It is well-known by now that Arabic is a Semitic language that uses its own Semitic script which is in turn shared by other languages in accordance with different orthographic systems. Given that each script is governed by a certain orthographic system which differentiates each writing system, the Arabic letters along with the Arabic Orthographic System (AOS) will be investigated.

For a better understanding, it is essential that we sketch the characteristics of the Arabic Script as it is used specifically by MSA. Arabic can be divided in terms of its variations into three levels: the Qur'anic Classical Arabic (CA); the MSA; and the spoken dialects (Watson, 2002; Owens, 2013b). MSA is the modern form of the CA, whereas the Arabic dialects differ slightly, and sometimes hugely, from the MSA as they have changed and transformed over time (Holes, 2004). Arabic dialects, which stretch over a vast area, are

5 AbulFateh Othman Ibn Jinni, a former Arab linguist died at Baghdad in 1002. He composed a number of instructive linguistic works on syntax, semantics and phonetics. *Kitab al-Khasa'is* (Specifications) is one of his splendid works (Ibn Khallikan 1972).

6 Sibawayh سيبويه, is a foremost influential Arab grammarian linguist from a Persian background. His real name is Abu Bishr 'Amr ibn 'Uthman died at the age of 36 in 796. His great work 'Al-Kitab' (The book) was the first of its kind dealing with the Arabic language grammar (Al-eman.com 2013).

mainly used for everyday conversation along with a number of T.V. shows. Within the Arabic societies, the MSA is recognised as *الفصحى* *ʔalfusʕha*: (the eloquent), whereas the colloquial variety is called *العامية* *ʔalʕammijjeh* (the common) (Almusa, 2003; Holes, 2004). The difference between the MSA and Arabic vernaculars is semantically, phonologically, and syntactically substantial to the extent that they function as two separate languages, whereby a literate Arabic speaker is basically bilingual (Abdelhadi et al., 2011). Although there is a huge history gap between the MSA and its origin (CA), it seems that the MSA has not essentially changed in sense of syntax but it has changed substantially in the sense of vocabulary (Holes, 2004). The co-existing language levels among Arabic countries have created the sociolinguistic situation of diglossia (Coulmas, 2003) (the term diglossia indicates the presence of a high and low language style, one for formal use and one for colloquial use (Ferguson, 1959)) and sometimes a situation of triglossia or even quadriglossia (Ennaji, 2005).

The MSA is the language, the high variety, that is being used in Arab countries for education, literature, and simply for all formal discourse including the media (Owens, 2001; Holes, 2004). While it is no-one's mother tongue, as Bauer (1996) remarks, it is learnt through education formally or informally. Without learning the MSA, Arabs would not be able to read, write, and formally communicate. Since it is the formal written language, it is crucially the only variety that is being considered here.

This section exemplifies Arabic script and its typography listing the Arabic letters, reviewing several important orthographic characteristics and highlighting some features of the Arabic Sound System.

2.4.1 Characteristics of Arabic Script

One important characteristic of the AWS is direction. Although it is well known that Arabic is written from right to left, there seems to be a slight confusion with regards to numerals in Arabic. There is a widespread misunderstanding that Arabic numerals go in the opposite direction of their script—left to right (cf. Karan, 2006). While this is partially true as they can be read left-to-right, they are also read and written right-to-left even in schools. Number 21 is read and written *واحد وعشرون* (literally: one and twenty), for example. In fact, that was the standard of Arabic numbers where they begin with units, tens, hundreds, thousands, and so forth (Abdolhaleem, 2006; Al-Hamlawi, 2013). Still

the units as well as the tens are read and written right-to-left as in the CA, whereas the hundreds onward have been influenced, presumably, by the Europeans so they are written left-to-right (Vitale, 2012). In the MSA for instance, the number 1234 is read and written as ‘one thousand and two hundred and four and thirty’⁷.

Arabic writing is cursive whether in handwriting or computer-typing with no other styles, thus letters within a word have to be joined wherever possible (Sampson, 1985; Mahmoud, 1994; Bauer, 1996). In other words, each letter in Arabic is connected and formed right-to-left, meaning that a writer forms letters in a right-to-left movement continuously for each word. Apart from six letters, which are illustrated in section 2.4.2, each letter has to join the following letter in every single word. Spaces would then set words apart (Bauer, 1996) allowing each word to stand alone. It has been said that people whose systems do not employ spaces may have initial difficulty with word spacing (Sassoon, 2004). The use of punctuation is fairly limited and slightly different in Arabic compared to Western languages. Arabic script consists of 29 letters⁸. Besides being consonants, three letters function as long vowels. Short vowels, however, are represented by optional diacritics. It should be noted that, apart from the three letters denoting the long vowels, each letter of the 29 corresponds to exactly one consonant, and equally each consonant is represented by exactly one letter (Bauer, 1996). The form of letters varies depending on the position in the word. Each letter has mainly four forms which are demonstrated and discussed in section 2.4.2.

Like other Semitic languages, words in Arabic have a distinctive fundamental form-meaning relationship (Alhawary, 2009). It is supposed that so-called Semitic ‘word-roots’ may have been behind the invention of the alphabet (Katz and Frost, 1992). So in Arabic, words are derived from their root consisting mostly of three (sometimes four, but rarely two, or five) consonants (DeFrancis, 1989; Beesley, 1998; Abu-Rabia, 2002). Examples given in Table 2.1 show how Arabic derives words depending on the word-root. The key

⁷ According to Al-Hamlawi (2013), The Arabic numeral system was invented by the Arab scientist Al-Khawarizmi in 820 who influenced both the Indians first and the Europeans later on. His System comprises three elements: only 10 number shapes, unit system (tens, hundreds...etc.), and increasing the value in the same direction of the Arabic writing.

⁸ There is a debate on whether to regard <ء> *Alhamza*, the representation of the glottal stop, /ʔ/ as a dependent letter or as a diacritic (Levin et al., 2008). The majority of the Arab linguists tend to group *Alhamza* to the letters so they count the Arabic alphabet as 29, whereas others say they are 28 eliminating *Alhamza* (Bauer, 1996; Alfusha.net, 2010; Alfaseeh.com, 2010; Khateb et al., 2013)

point here is that a large number of structurally and semantically related words can stem from a single word root (Holes, 2004). Alhawary (2009, p. 1) demonstrates that the derivation takes place ‘by different types of affixation, including prefixes, suffixes, and infixes or circumfixes’.

Table 2.1 Examples of Arabic Word-Roots with Several Derivatives

Word root	علم (ʿlm)	كتب (ktb)	درس (drs)	دق (dq)
Number of consonants	3	3	3	2
Derivative 1	علم /ʿilm/ (Science)	كتب /kataba/ (He wrote)	درس /darasa/ (He studied)	دقيق /daqi:q/ (Fine/thin)
Derivative 2	تعليم /taʿli:m/ (Education)	كتاب /kita:b/ (Book)	مدرسة /madrasah/ (School)	دقيق /daqi:q/ (Flower)
Derivative 3	علم /ʿalam/ (Flag)	مكتبة /maktabah/ (Library)	دراسة /dira:sah/ (Study)	دق /daqqa/ (Knocked)
Derivative 4	تعلم /taʿallum/ (Learning)	كُتِّبَ /kutta:b/ (Writers)	مُدَّرِّسَ /mudrris/ (Teacher)	دِقَّة /diqqah/ (accuracy)
Derivative 5	إعلام /ʔiʿla:m/ (Media)	اكتتاب /ʔiktita:b/ (Registration)	دَّرَسَ /dars/ (Lesson)	دقيقة /daqi:qah/ (Minute)

The morphological qualities of Arabic are quite different from English, primarily due to the homograph phenomenon resulting from its trilateral roots (Abu-Rabia, 1997). If they are written without vowels, words produced from their roots can be identical although they can have different meanings (see درس (drs) and علم (ʿlm) in Table 2.1 as examples). Context is the key to determine the meaning of unvowelised homographs in order to choose the correct lexical item. (Abu-Rabia, 1997). Ibrahim (2013) tested how native children (8th graders) speakers reacted towards the effect of vowelisation on reading Arabic orthography. The results showed that children read unvowelised words aloud more quickly and more accurately than the shallow fully vowelised words. Ibrahim subsequently suggested that Arab children used a different decoding strategy according to the nature of the stimuli (i.e. whether word or pseudoword, and whether vowelised or unvowelised). This indeed is new evidence affirming the cognitive complexity of Arabic reading.

Further, as Arabic words are arranged according to their roots (DeFrancis, 1989), they require unskilled readers to cognitively analyse them in order to find them in the dictionary (Al-Abdan and Addweesh, 1998). Though this is the case in classical dictionaries, it is no longer an issue for modern dictionaries which are arranged by the Arabic alphabetical order.

2.4.2 The Arabic Letters

The Arabic script consists of 29 letters (refer to footnote 10 in the previous section), as illustrated in Table 2.2 and Figure 2.4 below, all consonants but one – ‘alif <ا>. A number of WS researchers count the digraph LaamAlif which consists of two letters (lam and ‘alif) as an additional letter to the alphabet because it is formed as a ligature on its own (Coulmas, 1996; Rogers, 2005). This appears to be a classic mistake which is related to the ‘alif being the only non-consonant letter in the Arabic system. Ibn Jinni remarks that this mistake emerged from past teaching methods. He explains that ‘alif as a vowel cannot be pronounced unless there is a preceding consonant, and so linguists, at that time, used to describe ‘alif as preceded by either Alhamza (the glottal stop) or Lam. Teachers used to pronounce the latter combination as LaamAlif (Ibn-Jinni, 1985; Nabulsi, 2009).

Table 2.2 The Arabic letterforms by position in the word (Rogers 2005, p. 136)

<i>Isolated</i>	<i>Final</i>	<i>Medial</i>	<i>Initial</i>	<i>Name</i>	<i>Value</i>
ا	ا			ʔalif	ʔ, a:
ب	ب	ب	ب	baʔ	b
ت	ت	ت	ت	ta:ʔ	t
ث	ث	ث	ث	θa:ʔ	θ
ج	ج	ج	ج	dʒi:m	dʒ
ح	ح	ح	ح	ħa:ʔ	ħ
خ	خ	خ	خ	xa:ʔ	x
د	د			da:l	d
ذ	ذ			ða:l	ð
ر	ر			ra:ʔ	r
ز	ز			zajn, za:ʔ	z
س	س	س	س	si:n	s
ش	ش	ش	ش	ʃi:n	ʃ
ص	ص	ص	ص	ʂād	ʂ
ض	ض	ض	ض	ɖa:d	ɖ
ط	ط	ط	ط	ɬa:ʔ	ɬ
ظ	ظ	ظ	ظ	ð̣a:ʔ	ð̣
ع	ع	ع	ع	ʕajn	ʕ
غ	غ	غ	غ	ɣajn	ɣ
ف	ف	ف	ف	fa:ʔ	f
ق	ق	ق	ق	qa:f	q
ك	ك	ك	ك	ka:f	k
ل	ل	ل	ل	la:m	l
م	م	م	م	mi:m	m
ن	ن	ن	ن	nu:n	n
ه	ه	ه	ه	ha:ʔ	h
و	و			wa:w	w (u:)
ي	ي	ي	ي	ya:y, ya:ʔ	y (IPA [j])/(i)



Figure 2.4 Common letterforms of Alhamza (Fayyād, 1998)

Coulmas (2003) was one of the researchers who excluded *Alhamza* <ء> /ʔ/ from the alphabet. Disregarding the old lengthy debate amongst Arab linguists on whether Alhamza belongs to letters or diacritics, it is arguable that it should be regarded as a letter because in the MSA it is obligatory to write Alhamza in most of its word-positions. Diacritics, expounded later, are employed only in non-normal texts such as schoolbooks, Arabic classes' textbooks and essentially the Quran (Holes, 2004). Although Coulmas (2003) ignores Alhamza as a letter, he wrongly considered 'alif as the glottal stop /ʔ/. This is a common mistake found in several works (cf. Rogers, 2005; Ancientscripts.com, 2012). In fact, 'alif, the first letter in the alphabet, has no consonantal value in itself (Holes, 2004; Dai *et al.*, 2013) as it only denotes the long vowel <ا> /a:/. However, two letters, <و> and <ي>, have dual function serving either as consonants (/w/ and /j/), or long vowels (/i:/ and /u:/) (Bellamy, 1989).

Since its origins, the Arabic alphabet has been repeatedly rearranged in different orders by numerous Arab linguists. The rearrangements has occurred according to various factors such as letter sounds, letter similarity, and letter dots (Fayyād, 1998). The *Abjad* order was one of the rearrangements that Eastern Arabs adopted (Fayyād, 1998). In it, the alphabet started with ا, ب, ج, د etc. instead of the current order (ا, ب, ت, ث etc.).

It is worth noting that some letters are used more often than others. The letters <ل>, <م>, <ن>, and <ر> are most frequent, whereas letters such as <ذ>, <ص>, <غ>, <ط>, <ظ>, and <ض> are less used in Arabic (Fakhri, 1994; Embarki, 2013). The following subsections examine letterforms, letter connectivity, and letter dots in more detail.

2.4.2.1 Letterforms

As noted, the Arabic script has unique features called letterforms. Letterforms are when the writing of each letter varies depending on its position in the word. It has been suggested that the evolution of a cursive hand has caused these letterforms as it is not found in the script from which Arabic descends (Bellamy, 1989). There are four letterforms: initial, medial, final, and isolated forms. Different rules apply to the use of each form. Table 2.2 exhibits the letterforms for 22 letters of the 29 alphabet. Alhamza which is considered here as 29th letter is represented by the grapheme <ء>. It has way more than just three or four letterforms/allographs. It is said to have about 10 forms, of which one is the isolated form while the rest are when it joins ا, و, or ي together,

demonstrated in Figure 2.4 (Fayyād, 1998). However, Bauer (1996) alerts that since its graphemic forms differentiate words, they must be considered as distinct graphemes and not allographs.

2.4.2.2 Letter connectivity

As Arabic is written cursively, letters in every word of the Arabic script have to be joined together in a right-to-left movement (Bauer, 1996). This starts with the first letter in the word, required to be in the word-initial form, then continues on to connect with the following letters, taking the medial form until the final letter is joined which in turn creates the word-final form. All the letters must be joined except the six non-connecting letters. These only join the preceding letters. The six letters are <ا>, <د>, <ذ>, <ر>, <ز>, and <و>, all of which have only two letterforms (see Table 2.2 above). Because they are not joined to the following letter, the other positional forms are needless. Since they do not connect to the following letters, they may also leave a minimal space within the word (Bauer, 1996). Although the variation among the positional forms is mostly minor, some letterforms change significantly (Dai *et al.*, 2013). Moreover, Dai *et al.* (2013) observe that the isolated forms may be perceived as separated or distinct to the reader when they are required to fill in the end (instead of a final form) after a non-connecting letter such as يخرج.

2.4.2.3 Letter dots

Dots are not diacritics, at least in Arabic. They are obligatorily adhered to the letters, whereas marking diacritics are usually optional in normal texts. While this is not the place for an in-depth discussion on these characteristics, Kurzon (2013) debates the function of diacritics and concludes, along with Daniels (2006), that dots are not to be considered diacritics.

Looking at the Arabic Abjad, there are 15 letters which have dots. Unlike Hebrew, dots themselves in Arabic writing do not entail phonemic values (Abdelhadi *et al.*, 2011). Their role is to differentiate identical letter shapes such as <ب>, <ت>, and <ث> which would not be possible to tell apart without the dots. Employing dots to differentiate letters is based on the existence, location, and number of dots (Abdelhadi *et al.*, 2011). Beside this, letters could have one, two, three, or no dots at all. They may also have them positioned above, under, or inside the letter.

The Arabic script is a descendant from Nabataean which had fewer consonants. Arabs, therefore, had to solve the problem of the identical additional letters representing other consonant sounds by the use of dots (Bellamy, 1989; Dai *et al.*, 2013). Bellamy (1989) points out that the use of dots was often overlooked in the Middle Ages, proving that although this practice is quite old, even before the advent of Islam, it could be ignored. Yet, this is still controversial as there is a wide disagreement whether the dots were referred to as diacritics (vowelisation) in which the marked text is said to be ‘pointed’ (cf. DeFrancis, 1989; Jones, 1998).

2.4.3 Arabic Sound System

Although Arabic was influenced by older Semitic languages such as Nabataean, there is a considerable difference between Arabic and its Semitic relatives. Arabic, for example, has a richer phonological system with six more consonantal sounds. This system required six additional representing letters to be generated over those found in its predecessors (Bellamy, 1989; DeFrancis, 1989). These sounds, /θ/, /χ/, /dʕ/, /ðʕ/, /f/, and /ʁ/, are not found even in Hebrew, the closest living relative to Arabic (cf. Coulmas, 1996; Daniels and Bright, 1996). It is also said that Arabic is one of the few Semitic languages which have retained the sound /dʕ/ (voiced pharyngealized dento-alveolar plosive) over this long period of time (Owens, 2009). The pharyngealized sounds in particular are most associated with Arabic which has raised the statement that Arabic is *lughatuAddhad* (the language of dʕa:d <ض> /dʕ/) – is unique (Newman, 2002). It was mentioned that Arabic would be considered a fairly shallow system in terms of only representing consonants for its obvious simple and direct letter-to-sound correspondence. Thus, some researchers such as El-Imam (2004), likes to consider Arabic as somewhere between Spanish, Finish and Swahili. These are considered to be simple whereas English and French are more complex. As early as the eighth century, Arab scholars were able to describe and distinguish between vowel and consonant components, or as they put it between Saakin (C) and Mutaharrik (C+V) (Al-Naasir, 1985). Alfozan (1989) as well as Baothman (2002) attest that the current agreed International Phonetic Alphabet (IPA) symbols of Arabic is in fact not too different from that of old Arab phoneticians’ views.

The MSA’s sound system has ‘relatively large consonantal inventory and small vocalic one’ (Holes, 2004, p. 57). Orthographically, as far as this study is concerned, the numbers

of vowels is limited to eight vowels: three short vowels (faḥah) /a/, kasrah /i/, dʿammah /u/); three long vowels (ʿalif /a:/, wa:w /u:/, and ya:ʾ /i:/; and two diphthongs /aw/ and /aj/ (Bellamy, 1989; Watson, 2002; Holes, 2004). The difference between short and long vowels lies in the length of time where a long vowel is approximately double the duration of a short vowel (Ryding, 2005; Elmahdy *et al.*, 2009). It should be noted that the over-length vowel /a:./ was not orthographically represented in CA (Alfozan, 1989). The words هذا /ha:./ (this), and الرحمن /arRaḥma:n/ (the merciful) are only examples of a number of words containing this sound. However, it is seldom marked by the diacritic <'> as shown over the word الله /ʔallʿa:h/ (The God).

Conversely, the Arabic consonant system appears to be complicated comprising pharyngeal sounds, which are absent from most languages (Baothman, 2002). To some extent, linguists do not agree on the number or the description of these consonants as Baothman (2002) indicates. This is due to the different pronunciations of the Arabic consonants (Sabir and Alsaeed, 2014), in addition to the fact that the MSA is no-one's mother tongue (Bauer, 1996; Holes, 2004). In general, Arabic has a large number of 28 phonologically distinct consonants, though some phoneticians identify 29 or even 30 (cf. Alfozan, 1989; Watson, 2002; Newman, 2006). The MSA consonantal inventory is exemplified in Table 2.3. The MSA consonant sounds are transcribed as follows: /ʔ, b, t, θ, dʒ, ħ, ʁ, d, ð, r, z, s, ʃ, sʕ, dʕ, tʕ, ðʕ, ʕ, ʁ, f, q, k, l, m, n, h, w, j/ (Pedersen, 2008). The allophone /lʕ/ is rare as it only appears in the word Allah /ʔallʿa:h/ (The God) along with its derivatives (Newman, 2006).

Table 2.3 Consonantal System of MSA (Embarki, 2013, p. 27)

	Bilabial	Labio-dental	Dental	Dento-alveolar	Post-alveolar	Palatal	Velar	Uvular	Pharyngeal	Glottal
Plosive	b		t, d				k	q		ʔ
Nasal	m			n						
Trill				r						
Fricative		f	θ ð	s z	ʃ ʒ			x ɣ	ħ ʕ	h
Approximant						j	w			
Lateral approximant				l						
Pharyngealized plosive			tˤ dˤ							
Pharyngealized fricative			ðˤ	sˤ						

If we compared this to the English Sound System, we would find that English has nearly three times as many vowel sounds as Arabic. Newman (2006), for instance, draws the attention to the large difference in which the Standard British English has 24 consonant phonemes and 20 basic vowel phonemes which means that Arabic has four more consonants and 14 fewer vowel phonemes. Still, this situates Arabic within the average range of sounds in the world’s languages as in the UCLA Phonological Segment Inventory Database (UPSID) (Maddieson, 1984 cited in Newman, 2002b).

Numbers aside, the essential difference between the two sound systems lies in the missing phonemes. Emphatic or pharyngealized sounds, /sˤ, dˤ, tˤ, ðˤ/, (Embarki, 2013) in addition to /χ/ in some variation, only exist in Semitic languages but have substantial effect on the whole word they are part of (Elmahdy *et al.*, 2009). Hence, they would be difficult for English speakers to master as well as for people who use Latin script for writing (Healey, 1990; Huthaily, 2008; Saadah, 2011). For example, it can puzzle them to differentiate between /t/ and /tˤ/ where they have <t> for /t/ as in تمر /tamr/ (dates) but have no phoneme/grapheme for /tˤ/ in طعام /tˤaʕa:m/ (food). Even though Arabic and Semitic languages are said to operate along the principle ‘What You See Is What You Get’ (Newman, 2006), to English speakers, differentiating between certain Arabic pair of sounds seems to be problematic (Abdallah, 2005).

2.4.4 Diacritics and Their Roles

It has been mentioned that the use of diacritics is not an unusual phenomenon. Apparently, it is believed to be very common among the writing systems of the Semitic languages (DeFrancis, 1989). Diacritics are regarded as bound graphemes which depend on free/independent graphemes (Rogers, 2005). Daniels (2006) emphasises that, in a writing system, a diacritic should play a consistent phonological role. This is the diacritics reality in the MSA. Here, we distinguish between two sorts of diacritics. One is optional diacritics, such as the ones used for vowelisation and nunation. These have consistent phonological function. The other is ‘obligatory diacritics’ (i.e. letter dots, see page 34) that, in the MSA, as Daniels (2013) remarks, form integral parts of the letters and have ‘very little consistency in phonological functioning’ (Kurzon, 2013, p. 238). Some researchers make no distinction between them and regard them all as generally diacritics (cf. Coulmas, 1996). Because the CA script was probably exploiting similar signs (i.e. dots or points) both to distinguish letters as well as to vowelise the text at the same time (Bellamy, 1989; DeFrancis, 1989), it was probably not intuitive or easy to differentiate between them based on their purposes. Presently however, the MSA script has obviously used different signs for each purpose.

The invention of diacritics, or *حركات* /*haraka:t/* as they are called in Arabic, to mark the short vowels and to point other phonetic Arabic features actually began in the sixth century, the last phase of the development of the Arabic alphabet (Bellamy, 1989). We deal here with vowelisation, nunation, and shadda as indicated by diacritics, eliminating the glottal stop which is more of a letter (consonant) than it is a diacritic. Diacritics appear across six phonological categories (Dai *et al.*, 2013), which include four primary vocalizations and two trivial functions (Bauer, 1996). One of the four is denoting three short vowels: (the diacritics are shown here either above or below the circle which resembles the letter) *Fathah* <◌َ◌> /a/, *dʿammah* <◌ُ◌> /u/, and *kasrah* <◌ِ◌> /i/. *Fathah* and *dʿammah* are normally placed over the letters whereas the *kasrah* is put below. Being Abjad, each Arabic letter essentially represents the consonant sound C, but with the diacritics present they indicate the sequence CV (Kurzon, 2013), so the consonant <ت> /t/ could be <تَ> /ta/, <تُ> /tu/, or <تِ> /ti/, for instance.

Marking *Suku:n*, or using Bauer’s term ‘vowellessness’, which is simply the absence of vowel, is the Arabic diacritics’ second role. It is a superscript circle which identifies that the letter is just a C (vowelless consonant) and not a CV (Coulmas, 2003). Tanween,

including the primary ones, are not used in normal writing, as explained, except where it could result in ambiguity. Figure 2.5 shows how one line of Arabic poetry would look like with and without vowelisation (the line of the poem reads ‘Let’s halt! And on the abode of loved ones weep. Where, between “Dukhool” and “Hawmal”, sands pile deep’).

قفا نبك من ذكرى حبيب ومنزل بسقط اللوى بين الدخول فحومل
 قفا نَبِكِ مِنْ ذِكْرَى حَبِيبٍ وَمَنْزِلٍ بِسِقْطِ اللَّوَى بَيْنَ الدَّخُولِ فَحَوْمَلِ
 من معلقة امرئ القيس

Figure 2.5 A Line of Poetry with and without Vowelisation (Brustad *et al.*, 1995)

2.4.5 Orthographic Characteristics

Several of the script characteristics were discussed in section 2.4.1 including direction, letter forms and connectivity, as well as the grapheme-phoneme correspondence along with the orthographic depth, and the transparency of AWS. Next, light will be shed on orthography, defined as the rules that govern spelling. Seifart (2006, p. 277) wrote that ‘an orthography is defined as the conjunction of a set of graphemes, such as an alphabet, and a set of accompanying rules regulating their use’.

It was mentioned that Arabic enjoys a relatively predictable set of grapheme-phoneme correspondence rules compared to English. Arabic does have a one-to-one relation between consonant graphemes and consonant phonemes, and consonants are chiefly pronounced as they are spelled with few irregularities (Bauer, 1996; Abu-Rabia and Siegel, 2002). Asaad and Eviatar (2013) draw the attention to three factors that affect the complexity of Arabic orthography: diacritics, the letters themselves, and their shapes. A number of Arabic letters have a small stroke or strokes, called in Arabic tooth or teeth (depending on their number). <س> /s/, for instance, and <ش> /ʃ/ have three teeth each. Meanwhile, <ص> /sˤ/, and <ض> /dˤ/ have one tooth each. However, this is totally calligraphy-dependent. In other words, some calligraphic variations (e.g. Riq'a) almost completely disregard these teeth (Abandah and Khedher, 2009), which could add some difficulty in recognising letters.

Although dots may be confusing (as explained in p34), the 29 letters and all their forms suffice for all the graphemes needed to read/write Arabic in the default mode of orthographic representation (Saiegh-Haddad, 2013). Interestingly, Asaad and Eviatar (2013) found that, though speed was affected, there was no effect of altering letter shapes on readability. As a result, this section outlines the characteristics of Arabic writing *ductus* (movements) as it is handwritten. This will be followed by an introduction to the types of the Arabic Calligraphy. Finally, this section will conclude by referring to several important spelling rules.

2.4.5.1 Writing Movements and Direction

Most WSs dictate certain rules on how a character/letter should be handwritten in terms of direction, movement and strokes or dots. AWS is no exception. These rules ensure that writing maintains legibility regardless of speed and handwriting differences (Sassoon, 2004). Writing movement, which encompasses the way a letter is written, the direction, writing speed, the prescription of the point of entry, and where the pen would be lifted off the page, is called *ductus* (Brown, 1990; Roberts, 2005). In general, Arabic script runs in a right-to-left movement, cursively forming the letters top to bottom vertically and right to left horizontally (Abdul Sattar and Shah, 2012). Sassoon (2004) objects with applying the term ‘cursive’ out of its Latin roots and especially on Arabic, arguing that the norm of Arabic script is to be joined-up in a distinct way which appears to be complicated because it involves non-connecting letters and several letterforms. Sassoon’s reasoning is convincing as she stated that cursive is meant to optionally alter the writing method in order to convey speed as it does in Latin. Hence, the term *ductus* is used throughout this study instead of the more Latin-specific *cursive* writing.

Moreover, the script is aligned on a single baseline where the height of letters varies according to the calligraphic type used (Sassoon, 2004), elaborated upon later. Notably, AWS has no capital letters, which means that all letters should be at the same height and normally use the same size. The *ductus*, or more adequately and traditionally the *Rasm* الرسم as it is called in Arabic, prescribes a linear framework. This means that the words are written as units without lifting the pen in each unit (Daniels, 2013), apart from

pointing the dots and the diacritics if any. Systematic empty spaces are left among these words/units to allow for easy decipherment (Sassoon, 2004).

2.4.5.2 Arabic Calligraphy and its Styles

Calligraphy, or beautiful writing, has been an essential art form of Asian culture both traditionally and currently (Stevens, 1996). The importance and variety of Arabic calligraphy in the Islamic world, not just the Arabic world, is often compared to calligraphy art in other cultures (Bauer, 1996). Amongst writing historians there are different underlying assumptions and even impressions about the emergence of the Arabic calligraphy⁹. Whatever the reasons behind the rise of the Arabic Calligraphy might be, it has acquired the characteristics of profound beauty (Calderhead, 2011). Since the seventh century, it has spread out with Muslims from India to Spain (Stevens, 1996). The history of Arabic calligraphy, its development and its variations, is rich. It is now widely used on architecture, coins, signs, book titles, and especially the Holy Qur'an, amongst other literary works (Coulmas, 1996). Furthermore, the Arabic letters calligraphically allow for flexibility in which, according to Coulmas (1996) they involve three basic strokes: horizontal, vertical, and diagonal.

Among numerous styles, six classical variants, or pens as they called, had become commonly known and popularly used: Thuluth, Naskhi, Muḥaqqaq, Rayḥan, Tawqic and Riqac (Afifi, 1988). Some of these styles became canonized and used solely for decorative purposes which made the script appear peculiarly hard to read in text (Coulmas, 1996). The birth of regional calligraphic schools and styles beyond Arab calligraphists then, endorsed more legible script (e.g. Deewani, Naskh, and Riq'a) which was needed as a calligraphy reform (IAAO, 2004). However, today only three are recognised as the most daily used styles in Arabic writing both in handwriting and print writing. These include Naskh, which is considered the ultimate script for nearly all Muslims around the world;

⁹ It has been extensively claimed that this wide-spread of Arabic calligraphy was a result of the prohibition of pictorial representation in the Islamic world (cf. Stevens, 1996). Although the banning idea is not entirely accurate from a religiously historical Islamic point of view, it seems a rather superficial finding as Daniels (2013) describes it remarking that (if the prohibition of representational art was totally true in Islam) Judaism has had the same criticism, and yet no such art emerged. It is ludicrous that this idea has dominated research and academic articles, let alone online resources. Other researchers think it was designed for clarity as well as aesthetic impact, (Daniels, 2013) which really does not explain the reason as much as it describes its status.

Riq'a, which, throughout the Arab world, seems to be the preferred handwriting pen; and Ta'liq or Farsi which is the native calligraphic style among the Persian as well as the Indian Muslims (who write in the Arabic script) (IAAO, 2004; Campbell and Moseley, 2012). Figure 2.6 shows the first verse of the Quran written in a number of calligraphic styles. Brustad *et al.* (1995) also demonstrate other examples and variations, especially the ones seen and practised in handwriting as well as printed newspapers and advertisement.

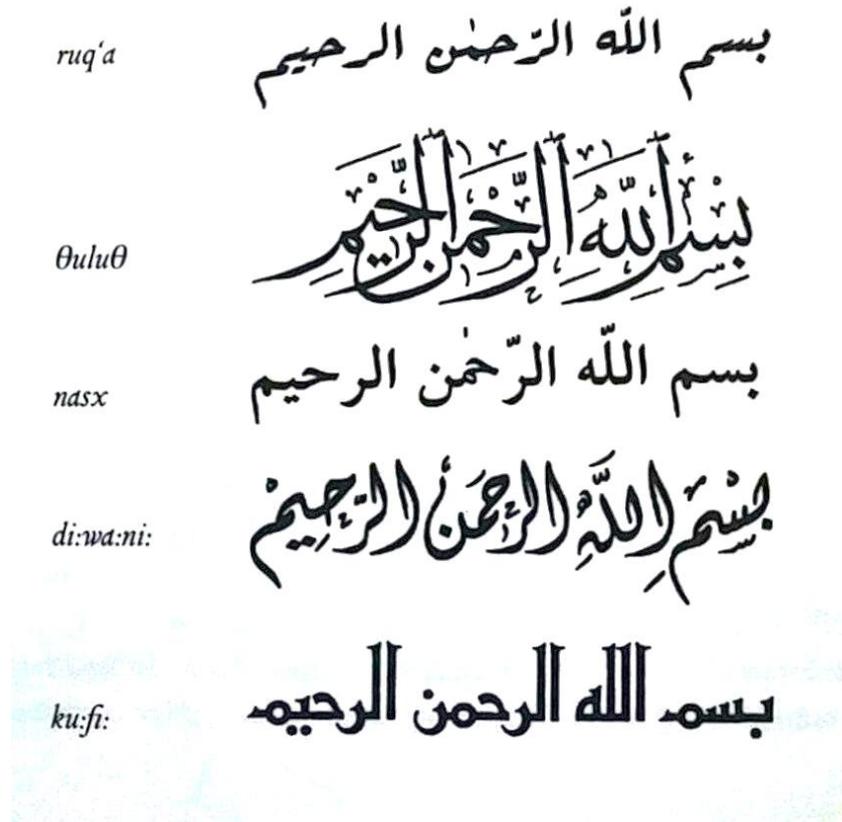


Figure 2.6 Quranic Verse in Different Calligraphic Styles (Holes, 2004, p. 396)

‘ In the name of Allah, the Beneficent, the Merciful’ (Quran, 1:1).

2.4.5.3 Spelling Rules and Issues

Some spelling issues are normally encountered by native Arabic speakers (see section 3.4 at p. 74 for more details). These occur for a variety of reasons including the difficulty of the rules and teaching methods (Gaad, 2003). In the literature, four spelling issues are particularly noted: Alhamza <ء>, the closed <ة> and open ta' <ت>, the sun and moon

Laams <ل>, and Al'alif Almaqsora <ع> (Al-Majed, 1996; Arrajhi, 2000; Alhamad, 2004; Zayed, 2006; Shalabi, 2008). These will be quickly reviewed below.

- Alhamza

Earlier, the 29th letter, *Alhamza* (2.4.2), was introduced. *Alhamza* represents the sound of a glottal stop /ʔ/ and corresponds to the grapheme <ء> along with its many letterforms or allographs. The several variations of its letterforms is a result of how Alhamza has been debated by Arab linguists on whether to regard it as a diacritic or as a letter (Brustad *et al.*, 1995). The rules for writing Alhamza are quite obscure (Rogers, 2005). This explains the difficulty that native speakers encounter when they try to cope with these laborious rules. Basically there are two types of Alhamza: /hamzatulwasʔl/ which occurs in initialising speech and isolated words, and /hamzatulQatʔ/ which is always pronounced as the glottal stop (Ibrahim, 1975). Although the former is important, it is not regarded as a real consonant (Daniels, 2013). This is due to two reasons, 1) it is not marked in unvowelised text (Holes, 2004) and, 2) it relates more to phonological realization than to orthographic rules. Hence, /hamzatulQatʔ/ is the one of particular interest and the one referred to as Alhamza throughout this study.

According to its position, its preceding letter, and sometimes to its following letter as well, Alhamza takes a specific letterform (Ibrahim, 1975; AsShallaal *et al.*, 2009; Stark, 2010). Thus, when it is a word-initial it is always either placed above 'alif <أ> when the following vowel is (fathah) /a/ or dʔammah /u/ such as أَكَلَ /ʔakala/ (he ate) and أُكِلَ /ʔukila/ (eaten) respectively, or positioned underneath the 'alif <إ> if the short vowel after the glottal stop is kasrah /i/ as in إِمَامٌ /ʔima:m/ (leader) (Coulmas, 2003; Holes, 2004).

Medially, the rules become more vigorously complicated. It should be placed above <ي>, <و>, or <ا> according to its preceding letter (Ibrahim, 1975) or rather the surrounding vowels (Brustad *et al.*, 1995), which in turn is governed by grammar. Amongst several irregularities, if Alhamza was in the middle but the preceding letter was <ا>, it should then be placed on the script line as in the word تَسَاءَلَ /tasa:ʔala/ (he wondered). In addition, if it was in the middle and preceded by <ي>, then it should be written on a seat on the baseline of the word شَيْئاً /ʔayʔan/ (a thing) (Fayyād, 1998). Al-Quraadi (2002) highlights clearer ruling conventions: Alhamza is written medially based on the strength of its Harakat or the Harakat of the letter before (the preceding or following vowel) and so it

takes the form of the corresponding letter. According to Al-Quraadi, the vowel strength takes this order from powerful to weak: *kasrah* <◌ِ> /i/, *dammah* <◌ُ> /u/, *Fathah* <◌َ> /a/, and *Suku:n* (vowellessness). In the medial position, Alhamza is governed by nearly 15 possibilities (Al-Quraadi, 2002).

Whenever it is word-final, Alhamza is placed on the baseline of the script (Campbell and Moseley, 2012). The word *سما* /sama:ʔ/ (sky) is one example. Ibrahim (1975), however, stacks other rules in which Alhamza is followed by <◌ِ> as in *جزاء* /dʒaza:ʔan/ (reward) so it is written on the line followed by <◌ِ>, or if Alhamza is vowelless as in *نبأ* /Nabaʔ/ (news) then it is placed over <◌ِ>. Nonetheless, it should be noted that the conventions mentioned are broadly agreed, while some differences exist amongst current Arabic schools and councils (Mahbak, 2008; Fayed, 2014).

- The open and closed *ta*'

Both are called *ta*' and positioned at the end of the noun/verb (Tuaimah, 1987; Beesley, 1998). However, one is pronounced /t/ only in continuous speech and represented by the grapheme <ة>, whereas the open *ta*' <ت> is always pronounced /t/ (Ibrahim, 1975). Mistaking one for another is a common spelling error. The *ta*' *marbu:ta* (closed *ta*'), as it is called in Arabic, is the feminine ending for nouns and adjectives (Bauer, 1996; Al-Quraadi, 2002; Daniels, 2013); *حُرّة* /ḥurrah/ (*ḥurratun* in continuous speech) in one example. On the other hand, the *ta*' *Maftu:ḥah* (open *ta*') indicates females in verbs (Al-Quraadi, 2002) like *ذهبت* /ḏahabat/ (she went), and *أكلت* /ʔakalat/ (she ate), for instance.

- *AL* *A*Shamsiyyah and *AL*Qamariyah

This is one of the most problematic issues that native speakers experience. It is the case of the definite article <ال> *AL* (the), which consists of two letters 'alif and lam. The latter, is to be written as it is pronounced sometimes and to be only written, not pronounced other times. It is called the *AL* of the Sun and the Moon because *الشمس* 'Al-shams'* (the sun) is pronounced in Arabic *Ash-Shams* with the lam assimilated (not pronounced) but written, whereas the <ال> in *القمر* 'Al-Qamar' (the moon) is clearly articulated and written.

The rule here states that whenever AL, the article, is followed by one of the thirteen letters <ن، ظ، ط، ض، ص، ر، ز، د، ذ، ث، ت> /t, θ, d, ð, s, ʃ, sʕ, dʕ, tʕ, ðʕ, r, z, n/ then this is the Sun lam. This is phonologically assimilated with the sounds of the front of the mouth but it is still written (Ali, 2012). التطوير /attatʕwi:r/ (the development), الطب /atʕʕibb/ (the medicine), and النور /annu:r/ (the light) are some examples of the assimilated represented Laam. Conversely, if the AL is followed by a letter other than the thirteen mentioned then it is the Moon lam. This is pronounced as it is written. It also involves understanding the shadda, which was discussed in section 2.4.4, how to pronounce and to practise/write it correctly (Tuaimah, 1987).

- The Alif maqsourah

Researchers may use other terms for Alif maqsourah such as ‘Alalif Allayyenah’ and ‘Alalif Almutatarrifah’ (the ending Alif) (AsShallaal *et al.*, 2009). This is a vowelless ‘alif preceded by the short vowel *Fathah* <َ> /a/ (Ibrahim, 1975) which comes at the end of words. It could take either the shortened form <ى> or the stretched form <ا> , such as قضايا /qadʕa:ja:/ (issues) and اشترى /ʔiʃtara:/ (he bought). The difficulty with these two forms stems from the fact that the first Alif is written /mamdu:dah/ (stretched as any ordinary ‘alif) whereas the Alif in the second word is written /maqsʕu:rah/ (shortened in the shape of <ي> without dots). So the question then is how to differentiate between them given that both have the same pronunciation so as to determine whether it is stretched <ا> or shortened <ى>. Brustad *et al.* (1995, p. 156) simply say ‘when the long vowel <ا> occurs at the end of a word, it is often spelled with Alif maqsuura, unless the word is a proper noun, in which case it is usually written with a regular ‘alif’ (mamdoudah). However, Ibrahim (1975) and Fakhri (1994) provide nearly endless rules that exceed simplicity. The whole issue was created by different ancient dialectical pronunciations as Holes (2004) comments.

2.5 Concluding Notes

This chapter described the AWS. It began with the field of WSs and included both terminology and typology. It has explained and focused more on the characteristics of the

AWS: the script, the letter shapes and forms, the sound system, the superscript diacritics and their functions, ending with explaining important orthographic features.

In sum, Arabic WS belongs to the Semitic ancient scripts. The Semitic scripts share distinct features such as the word-roots as well as being consonantal considering their rich inventory of consonants as opposed to their vowel representation methods. The word *Abjad* was preferred to describe the type of AWS because it is more relevant to the languages themselves (derived from their alphabets), supported by the practices of several WS researchers. Currently, Arabic, the MSA language, is regarded as the fourth most common language, whereas its script stands the second after Roman. The numerous variations of spoken Arabic though differ from the MSA, sometimes massively, which is considered to be a literary language only as it is no one's mother tongue. This has created what is called a diglossic situation (Taha, 2013).

The Arabic script has been used by more than 168 languages (SIL-International, 2014). Some of these are well known, including Urdu, Kurdish, Malay, and Persian/Farsi. It is written cursively (joined) from right to left in both machine and handwritten text on a single baseline with no capital letters. Arabic *Rasm* (ductus or more broadly drawing) specifies that words are written as units without lifting the pen in each word with organised spaces between these units, allowing for legibility. Arabic script is also well-known for its calligraphic variations where three styles are daily practised: Naskh for nearly all Muslims; Riq'a especially for the Arab world; and Farsi for Persians.

Further, the AWS consists of 29 letters, all consonants but one. However, two letters also operate as long vowels. Three short vowels are represented by optional diacritics. The correspondence between the letters and their sounds is known to be predictable. Arabic provides one-to-one consonant-grapheme-consonant-phoneme correspondence, thus consonants are predominantly pronounced as they are spelled. But because the language is based on word-roots, numerous unvowelised words may seem identical while at the same time, offering different meanings, in which instance the script is considered deep. Each letter mainly has four letterforms depending on its position in the word. All the letters are obligatorily joined except for the six non-connecting letters which join only the preceding letters. The letter dots form an integrated part of the dotted letter in which they are not considered optional diacritics. Diacritics on the other hand, are optional

superscript bound graphemes which denote short vowels, tanween (nunation), and shadda amongst other trivial functions.

Furthermore, Arabic vowel system encompasses six vowels: three short and three long vowels in addition to two semi-vowels. Vowel harmony may occur with Hamzat al-wasl <أ>, which is only pronounced as a glottal stop at the beginning of utterance not in continuous speech. The two kinds of the definite article ‘Al’ followed by nouns are sometimes problematic with their complicated orthographic system. Vowellessness (Sukun), as well as nunation play crucial roles in Arabic both grammatically and orthographically. Geminated consonants (doubled consonants) change the meaning of the words involved.

However, despite the complexity of the MSA consonantal system, which entails pharyngeal sounds and geminates, it is broadly agreed that it has 28 consonants. Even though Arabic is thought to be orthographically transparent (at least consonantly), distinguishing several letter sounds from others can still be quite difficult for Europeans. Among very few irregularities, it is worth noting that some sounds are not represented and some letters are silent. Lastly, the chapter summarised several known spelling issues, supported by the literature, which are normally encountered by native Arabic speakers. It highlighted four spelling issues: Alhamza, the closed and open ta’, the sun and moon Laams, and Al’alif Almaqsora.

Chapter 3: Arabic as L2WS

English Speakers' Common Orthographic Errors in Arabic as L2WS

'Arabic should have a privileged place within historical linguistics. It is one of the few languages in the world for which a wealth of data exists both in the far-flung contemporary Arabic-speaking world and in a rich Classical tradition attested beginning 1400 years ago' (Owens, 2013a, p. 469).

Chapter 3: Arabic as L2WS

3.1 Introduction

The previous chapter introduced WSs and discussed the key characteristics of the Arabic Writing system (AWS). This chapter brings the topic of Second Language Writing Systems (L2WS) to the table, in order to investigate the application of the AWS in L2 contexts, and more specifically and importantly, the AWS in L2WS classrooms. L2WS is a linguistic field that examines the acquisition and use of WSs, which represent any language other than the L1 (Cook and Bassetti, 2005). In this study, it is the investigation of the acquisition and use of the AWS which represents Arabic as L2. In terms of effects and cognitive realization, knowing another spoken form of a language is one matter whereas knowing a new L2WS is a totally different matter.

This chapter addresses the field of L2WS, its main research trends, and its position within its parent SLA. It also contains an investigation of writing Arabic as a second/foreign language, with close focus on English speakers who learn Arabic as a second language. The author describes how Arabic is learnt in the UK, and mentions the main reasons why people learn the language and its WS in this country. This should pave a pathway to talk about research and studies on Arabic as L2WS, in which common errors in Arabic writing, both by its native speakers and by other speakers are under focus. The chapter ends with an examination of empirical studies which have been done in the same area of this research, underlining their methodology and their results. Few, as these studies seem to be.

3.2 Second Language Writing Systems

The study of writing was neglected until the 1960s. The negligence, according to Matsuda (2006) goes further back to the rise of Applied Linguistics when linguists tried to apply scientific findings that focused chiefly on the spoken aspect of languages in the domain of language teaching/learning. The discipline of Second Language Writing, however, has emerged and flourished since the 1990s (Matsuda, 2006). The acquisition of a L2WS entails knowledge of more than one WS and sometimes more than one script. According to Cook and Bassetti (2005), this affects three different aspects: it may change reading

and writing in both WSs; it modifies metalinguistic awareness such as phonemic and word awareness; and it touches on other non-linguistic factors such as directionality whether the two WSs share the same directionality characterisation or vary, whereby biliterates read signs or scan objects differently from monoliterates. The last one, in particular, has in fact proven to be true by several studies (e.g. Eviatar, 1995; Al-Rasheed *et al.*, 2014) that discuss about cognitive variations amongst biliterates and monoliterates. Cook (2007) has gone further to theorise the idea of ‘multi-competence’.

The research on SLA has led to substantial results which have helped in investigation of how second/foreign languages are learned. In a more distinctive description, which is concerned with foreign language teaching, SLA has helped to investigate ‘the learner’s developing language or what is referred to as the Inter-language (IL) system’ as Alhawary (2009, p. 22) puts it. Cross-linguistic studies, on the other hand, have shown that within the process of acquiring a SL/FL writing, learners tend to transfer features of their L1 writing to the second (cf. Flege and Port, 1981; Schwartz, 1998; Cook, 2004; Kobayashi, 2005; Chen, 2006; Alhawary, 2009) or even the other way around—from L2 to L1 (Berman, 1994; Brown, 2000; Cook, 2003; Rinnert and Kobayashi, 2009). It seems well documented that not only the L1 phonological or orthographic system, but also other linguistic characteristics of their L1 are being transferred (DeAngelis and Dewaele, 2011).

Language as a linguistic term has occasionally been used and defined in different meaning and concepts (cf. Cook, 2011, p. 55). Although SLA broadly looks into language acquisition, including all skills, it would be better to focus on the writing aspects, which transcend acquiring the language in general to specifically acquiring the knowledge of its WS. That is the link that this study is concerned with and is intended to address. This section sheds light on L2WS research, before giving a detailed discussion of Arabic as a L2WS, including the case of learning/teaching AWS in the UK – the context of this study.

3.2.1 L2WS Studies

While SLA primarily discusses how languages, other than the L1, are learned, L2 writing concentrates on the process of acquiring competence in writing second/foreign languages. This indeed entails studying quite a wide range of topics, such as writing skills, learning strategies, teaching methods, pedagogical planning and development, L2 writers’ needs, writing process at different levels (e.g. word, sentence, and discourse levels), writing

use/purposes, differences between L1 and L2 writing along with cross-linguistic writing, amongst many other topics in which literature seem to be greatly rich (e.g. Atkinson, 2003; Hyland, 2003; Kroll, 2003; O'Brien, 2004; Matsuda, 2006). In comparison with L2 writing, L2WS is quite different and more specific. It is therefore probably sensible to introduce L2 writing before embarking on L2WS.

Even though they might have been used interchangeably, the context of learning an SL writing is relatively different from that of learning an FL writing. As a broad guideline, the difference is that an SL is spoken/written in the learner's immediate environment (arguably for historical, political, or socio-cultural reasons), whereas the FL is mainly written inside classrooms, with no or little existence outside (Reichelt, 2001; O'Brien, 2004; Reichelt *et al.*, 2012; Punchihetti, 2013). The purposes of learning/teaching an SL or FL also differ accordingly. While it is easy to list reasons for learning an SL writing, it is probably difficult to find purposes for learning an FL writing given that the latter is very limited outside classrooms (Ortega, 2009). Moreover, SL learners are generally expected to show higher proficiency and more developed competencies than FL learners (Kasper, 1997; Bardovi-Harlig and Dörnyei, 1998; Ortega, 2003). After all, however, both terms have been used interchangeably disregarding of these specific differences, which is what this study embraces. In section 3.2.3 I will focus on Arabic writing as an SL or FL, and in section 3.3.2 I mention some purposes to learning/teaching Arabic in the West.

Knowledge of a language, whether first, second or foreign, is never stable as linguists assert (e.g. deBot *et al.*, 2005 ; Kroll and Sunderman, 2008; Cook, 2011). One's knowledge of a particular language keeps changing, growing and declining, depending on a set of factors such as influence of other language(s), amount of use, age, motivation, learning purposes etc. which is inevitably applicable to writing skills. Indeed, language development cognitively shows more of complex, dynamic, and sometimes chaotic systems than static or linear ones (deBot *et al.*, 2007; Lowie, 2013). L2 writers may have different grasp of knowledge, but they are regarded as unique for their bilingual, bicultural, and biliterate experiences (Hyland, 2003). English writers, for example, rely mainly on word order using same forms for various functions, whereas Arabic writers use morphological processes with minimal word order, for such functions (Umar, 2013). The sentence 'Ahmed thanked John' could be written in Arabic as 'جون شكر أحمد' (SVO), 'شكر

‘أحمدُ جونُ’ (VSO), or ‘شكر أحمدَ جونُ’ (VOS) for instance; L2 writers would have to switch and adapt to these linguistic differences at various levels.

Since this research is specifically interested in L2WS and not the broad L2 writing, there should be a clear distinction between the two disciplines. Cook and Bassetti (2005, p. 25) state that ‘the term ‘Second Language Writing System’ (L2WS) can be applied to any writing system other than the system that the person learnt to read and write for their first language’. In other words, L2 writing deals with all writing-related topics which could include different linguistic and non-linguistic matters (e.g. syntax, morphology, phonology, cognition, psychology etc.) in a second language context, whereas L2WS deals closely with everything that involves script/orthography issues in all but the native writing system. According to Cook and Bassetti (2005), ‘it is important to separate what is cross-linguistic and what is cross-orthographic’. A further distinction should also be made between a Second Language Writing System (L2WS) and a Second Writing System, where the latter can be another convention to represent the same language, as Cook and Bassetti (2005) point out.

We have mentioned that language elements and knowledge can transfer across L1 writing and other acquired languages in both directions, which seem well-documented as discussed. Transfer between writing systems, however, is arguably different from language transfer. Cook and Bassetti (2005, p. 29) affirm that it ‘is not so much aspects of the language itself that may be carried over as the attributes of a particular writing system’. While this is relatively true, it can be argued that most of the research done with respect to writing system transfer was not concentrated on orthographic transferability across WSs; rather, it was focused on its effect on reading (e.g. Ryan and Meara, 1991; Durgunoğlu and Hancin, 1992; Cisero and Royer, 1995; Taylor and Olson, 1995; Abu-Rabia, 1997; Abu-Rabia, 1997; Abu-Rabia, 2000; Gottardo *et al.*, 2001; Abu-Rabia, 2001; Abu-Rabia and Siegel, 2002; Sasaki, 2005; Abu-Rabia and Taha, 2006; Schuhmann, 2012; Levin *et al.*, 2013). Although orthographic transfer across WSs still appears controversial (Bassetti, 2008), it seems crucial to emphasise phonological and orthographic influence, particularly for the significant role they play, in which either could affect the other, or in short, the role of phonology-orthography correspondence in WSs.

In their book, Jarvis and Pavlenko (2008) argue that important sound-letter correspondences of one's L1WS can later be transferred to the acquisition and use of a L2WS. Transfer, if any, would considerably affect how sounds map to letters in either system, L1WS and L2WS, especially if the scripts were similar but the orthographic systems were very different. In fact, there is some evidence that even the L2 *orthographic input*, if it interferes with the L1WS's set of phonemes, may affect the L2 phonological realisation (Bassetti, 2008; Simona *et al.*, 2010; Showalter and Hayes-Harb, 2013). In case of Arabic as L1WS and English as L2WS, for example, Arabs will have difficulty in reading /p/ in *pat* because /p/ and /b/ are seen as <پ> which for them is one and the same sound. In their experiment with Saudi Arabian production of Voice-Onset Time, Flege and Port (1981) report that /p/ was actually perceived as /b/ and that sometimes, the participants read /b/, which exists in the Arabic sound inventory, as /p/, which does not. Another example is that, unless they learn that <l> is silent, both Arabs and Italians would pronounce the English word <walk> with an /l/. In any case, Bassetti's (2008) conclusion appears to agree with the argument of Jarvis and Pavlenko (2008).

Hence, whenever both languages, those of L1WS and L2WS, appear more related to each other typologically and orthographically, such as Arabic and Farsi, or English and Dutch, then the effect of transferability, borrowing, and influence becomes higher; and conversely, the more unrelated WSs are, the less the transfer effect (Anderson, 1983; Kellerman, 1983; Kellerman, 1995; Murphy, 2003). Moreover, it tends to be the case that, if both L1WS and L2WS are quite similar, say Dutch and Frisian, L2WS users can relatively exploit their knowledge of their L1WS, which makes it fairly easy to acquire. If the L2WS was unrelated to L1WS, however, Arabic and Japanese for instance, the task on L2WS users/learners becomes difficult as they need to acquire a completely new system (Cook, 2002).

Furthermore, it has been reported that direction differences interfere with two different WSs such as English and Arabic or Japanese and English, whereby bilingual children have been affected (Cook, 2008). The three experiments with different WSs in the study of Chan and Bergen (2005) suggest that the WS orientation is deeply implanted in the WS user's cognitive system as it takes control in performing spatial tasks. Therefore, if the L2WS has different writing direction, the L2WS user/learner would have to acquire a totally different system of direction. It is the same issue with letter shapes, letter-sound

correspondence, spelling rules, punctuation and so on. Cook and Bassetti (2005, p. 2) write:

'When L2 learners become fully-fledged L2WS users, they still differ from native users of the target writing system. From one perspective, they are less efficient than first language writing system (L1WS) users; they are slower at reading the second language than people who read only one writing system and often have problems with comprehension and memorising due to inefficient decoding. From a more positive perspective, they are simply different from L1WS reader-writers of the target writing system, with different reading and writing processes that result from the interaction of previously developed reading and writing processes with the characteristics of the new writing system.'

That said, this is not limited to one linguistic aspect (e.g. grammar) as explained previously, but it changes the mind of the L2 user, not just as L1/L2 or IL user, but rather as a L1+IL multi-competent user who combines their L1 and their knowledge of the L2 or more languages and may consequently interact with the world differently, as Cook (2007; 2010; 2011; 2012; 2013) has often stated. Going back to L2 writing in general, it affects phonological encoding, vocabulary selection, and orthographic perception and production, for example. On top of generating, formulating, spelling, transcribing or typing, regenerating or reformulating in a cyclical process, an L2 writer has to represent and convey a message graphemically based on both cognitive and metacognitive processes, using their knowledge of their L2 (Schoonen *et al.*, 2009). This cannot be ultimately described as a simple task.

3.2.2 Researching L2WS: Issues and Approaches

In the introduction to this chapter, it has been mentioned that acquiring another WS would affect reading and writing in both WSs, as well as changing the way a biliterate or a multi-literate would process words or even the way they would basically think. To a L2WS user, phonemic and orthographic realisation would not be the same as it would be to a L1WS user. A large scope of the relevant literature has been particularly addressing the issue of these changes on reading and word recognition. Other topics such as WS typology, orthographic analysis, spelling issues in L1WS as well as in L2WS, WS quality, sociolinguistic approaches to WSs, and directionality, amongst many matters, have also been well discussed (see the *Writing Systems Research Journal* for the current trends of

this field). However, topics such as WS transferability effect on writing, the connection between orthographic differences amongst WSs and erroneousness, typographical and handwriting studies, Cross-Writing-System (CWS) comparative analysis, L2WS proficiency and its correlation to similarities/differences between WSs' orthographies, scripts, and phonological systems, are yet to be properly addressed. Here, I quickly review the main research topics and approaches in L2WS.

Researching L2WS seems to first focus on the definitions and characterisations in which, Cook and Bassetti (2005) for example, define and differentiate writing from language, L2WS from L1WS, and L2WS from second writing system, and then a first writing system of an L2. They also highlight the difference between CWS research and L2WS research, remarking that they are not the same in terms of L2WS acquisition, because acquiring different orthographies differs from acquiring different languages. These definitions and differences seem crucial to determine the topics of the discipline. Then, there are a variety of topics which generally involve teaching, learning, reading, and writing a L2WS from linguistic, sociolinguistic, and psycholinguistic perspectives. Indeed, cross-linguistic transfer remains one of the appealing research interests in the L2WS field. Spelling or orthographic transferability in particular, however, seems to lack attention, especially towards its effect on writing.

Employing the Orthographic Depth Hypothesis (ODH) for instance, which has been briefly reviewed in the previous chapter (section 2.2.2), numerous studies have investigated the effect that knowledge of more than one WSs with different orthographic depth levels has on reading speed, word recognition, and learning difficulty, studies that seem to constitute a large volume of the L2WS literature (e.g. Akamatsu, 2005; Bassetti, 2005; Sasaki, 2005; Scholfield and Chwo, 2005). Particularly, since 2005 (Bassetti *et al.*, 2012), this trend appears to have abundantly verified the thesis that L2WS would alter views of first as well as second languages (e.g. Bassetti, 2005; Lau and Liow, 2005), which in turn confirms the theory of multi-competence that was discussed earlier herein.

Moreover, there have been several discussions with regard to the orthographic variation and reading processes, or what is called the 'Psycholinguistic Grain Size Hypothesis' (e.g. Goswami *et al.*, 2001; Goswami *et al.*, 2005; Ziegler and Goswami, 2005). This theory has been built on the ODH, which refers to the level of transparency in any given orthography, yet it is more concerned with the orthography and phonology discrepancy

in terms of reading acquisition (Sun-Alperin, 2008). Goswami (2006) explains that languages differ in the ways that sounds are mapped to graphemes (minimal written symbols) and hence, the acquisition of literacy differs accordingly. Psycholinguistically, phonological awareness of a particular language at different grain sizes such as syllables, onsets, and phonemes ultimately affect the acquisition of its written form (Goswami *et al.*, 2005). In detail, ‘the grain size varies from ‘small’, such as the link between graphemes and phonemes, to ‘large’, such as the link between word bodies and phonological rhymes or that between spelling and sound at whole-word level’ (Sasaki, 2005, p. 291). Accordingly, the more consistent the smaller grain-size-unit orthographies are, the easier they are to acquire, and conversely the more inconsistent the larger grain-size-unit (e.g. syllables and rhymes) orthographies are, the more difficult they are to acquire (Sun-Alperin, 2008). Phonological input of L1 or L2 affects L2 orthography, and likewise, L2 orthographic input may affect L2WS learners’ realisation of L2 phonological system. Studies have shown that L2 orthographic input can affect L2 phonological production both positively and negatively at different learning stages (Bassetti, 2008; Showalter and Hayes-Harb, 2013). More interestingly, L2 orthographic input has been reported to affect L2 orthographic spelling too (Bassetti, 2008). This distinction between phonological and orthographic input of L2 needs to be paid more attention by SLA researchers, as Bassetti (2008) notes.

Above all, we find studies that have recently investigated issues such as neurolinguistic matters with links to reading and writing disorder (e.g. dyslexia), metalinguistic awareness, creative uses of L2WS, and pedagogical aspects along with writing and spelling issues (Bassetti *et al.*, 2012). One important note is that in the last few years, research in L2WS has focused on studying these contexts and issues within or towards other languages besides English, the language that dominated research for a very long time. Nonetheless, the topics discussed above presumably are the substantial issues being discussed in the field of L2WS. As they seem vastly scattered over areas involving various disciplines, the studies have also exploited different methods and approaches, ranging from experiments, descriptions, comparisons, and simulation studies, to quantitative and qualitative approaches (Cook and Bassetti, 2005).

L2WS methodology seems both developing and flourishing. Although its theoretical contribution may still be vague, the embracing of new approaches (e.g. neurocognitive approaches) are evidently promising methodologically (Bassetti *et al.*, 2012). Empirical

studies using sophisticated methods like eye tracking or fMRI¹⁰ have also often been used lately (e.g. Tagamets *et al.*, 2000 ; Tan *et al.*, 2003; Dussias, 2010; Siyanova-Chanturia *et al.*, 2011; Roberts and Siyanova-Chanturia, 2013; Winke *et al.*, 2013; Yokoyama, 2013). ERP or event-related potentials approach was used in different studies to analyse visual word recognition in different orthographies (e.g. Comesaña *et al.*, 2012; Taha and Khateb, 2013). It really sounds promising that L2WS studies can go even further such as the study by Meuter and Ehrich (2012), in which they used an artificial logographic orthography created solely to explore transferability of L1-orthographic processing skills in working memory amongst logographic-L1 as well as alphabetic-L1 speakers. Fully experimental studies like the one by Meuter and Ehrich, however, would not otherwise be possible because, as Cook and Bassetti (2005, p. 29) state, ‘when the variable is the L1WS, participants cannot be randomly (disregarding of their L1WSs) assigned to groups’ and hence, L2WS researches are mostly quasi-experimental. Cook and Bassetti (2005) list numerous tasks as examples of tasks that are used in experiments, including word naming, visual word matching, spelling tests, and dictation.

Based both on the fact that L2WS research would typically be quasi-experimental, as well as on the fact that a fully experimental method using an artificial WS may be attained, conceptualisation of L2WS research designs could be illustrated as in Figure 3.1, Figure 3.2, Figure 3.3, and Figure 3.4. Accordingly, L2WS research designs may include four contexts:

- i) Learners of L2WS (e.g. English>Arabic) compared with L1WS users (Arabic);
- ii) A comparison between L2WS learners (e.g. Arabic) from different L1WS backgrounds (e.g. English, Hebrew, Chinese, Kana, etc.);
- iii) L2WS learners (e.g. English>Arabic) vs. other L2WS learners (e.g. Kana>Arabic) vs. users of L1WS (e.g. Arabic); and
- iv) Users of L1WS (e.g. English) against other L1WS users (e.g. Arabic) in contrast with their perceptions towards an artificial WS.

¹⁰ ‘Functional magnetic resonance imaging, or fMRI, is a technique used to measure brain activity. It works by detecting the changes in blood oxygenation and flow, which occur in response to neural activity – when a brain area is more active, it consumes more oxygen and to meet this increased demand, blood flow increases to the active area. fMRI can be used to produce activation maps that show which parts of the brain are involved in a particular mental process’ (Devlin, 2007).

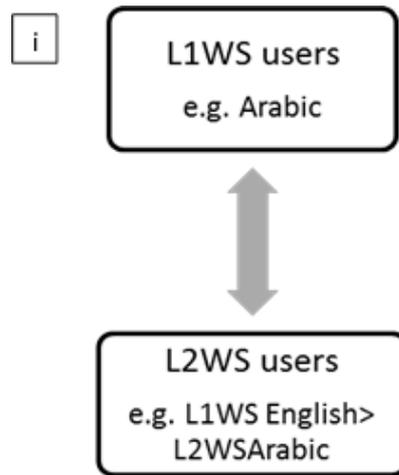


Figure 3.1 Conceptual L2WS Research Design (i)

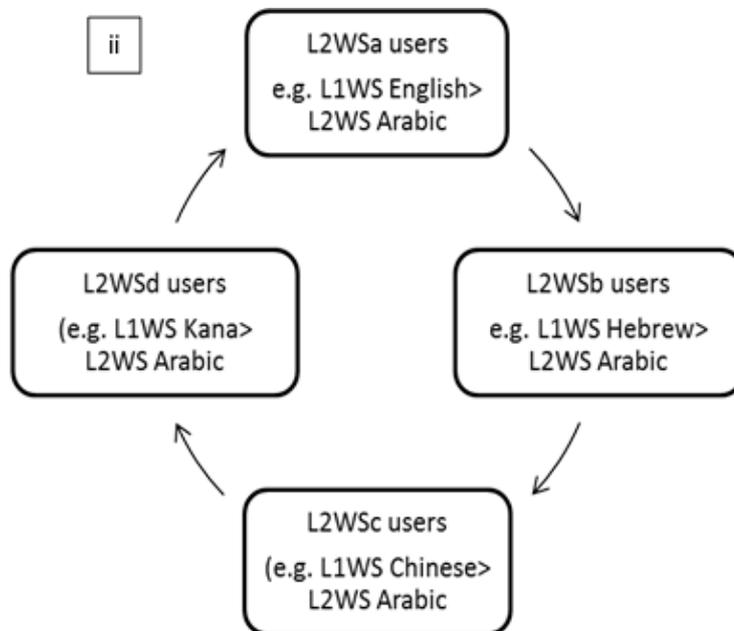


Figure 3.2 Conceptual L2WS Research Design (ii)

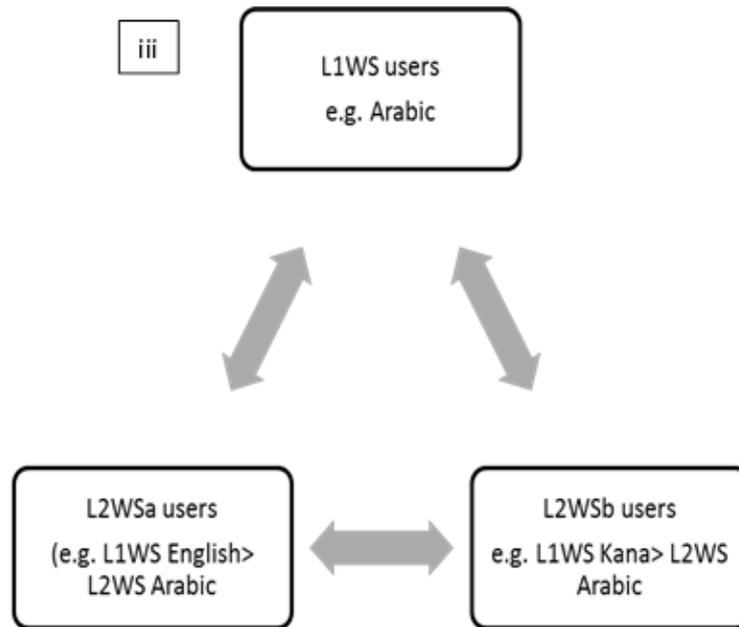


Figure 3.3 Conceptual L2WS Research Design (iii)

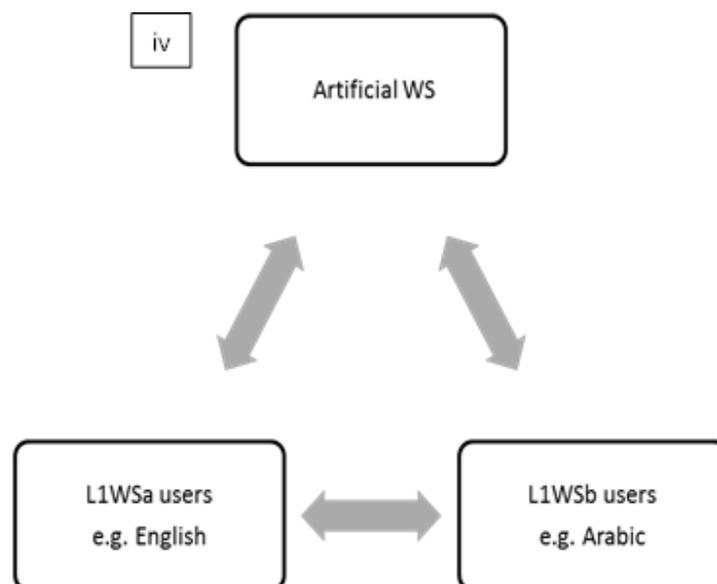


Figure 3.4 Conceptual L2WS Research Design (iv)

It has been said that, while there are several studies that exploit qualitative research methods, most of the existing research on L2WS is quantitative (Cook and Bassetti, 2005). Skimming the available literature, still it tends to be the same, though mixed-method studies seem to be also popular in the field. Whether the approach is quantitative, qualitative, or mixed-method, and whether the methodology is descriptive, comparative,

or experimental, empirical research should always be verifiable and objective (Blom and Unsworth, 2010). In her valuable chapter, Polio (2012) methodologically classifies research in L2 writing into eight methods or techniques: surveys, interviews, observation, meta-analysis, ethnography, content analysis, text analysis, and process research. Obviously, more than one technique could be used in one study as she states. This study focuses on the descriptive approach in which *text analysis* is employed due to its close relation to this study's methodology, which will be carefully discussed in the next chapter.

A descriptive empirical research examines a single condition or conditions and describes differences or similarities based on different research tools (e.g. interview and observation) that are used, in order to provide a holistic picture that is supported by evidence of these conditions, practices, cases etc. Studies that follow such an approach are supposed to describe and explain linguistic phenomena using a collection of techniques as the descriptive approach 'shares characteristics with both qualitative and experimental research designs' (Seliger and Shohamy, 1989, p. 124). Since it exploits a range of analytical as well as statistical tools such as tests and questionnaires, it may also be regarded as quantitative (Seliger and Shohamy, 1989; Richards *et al.*, 2012). For the sake of inquiry, the approach may adopt different designs like case study, ethnography, and text analysis to answer the research questions which normally start with *what* (descriptive), *how*, or *why* (explanatory) or a combination of these (Duff, 2008). The purpose of the inquiry widely varies from description, comparison, contrast, classification, to analysis and interpretation (Tavakoli, 2012). The key characteristic though is that the descriptive approach does not manipulate the environments; instead, it examines and describes it (Silva, 2005).

Analysing L2 writing or writers' text has been always crucial for L2 writing research (Atkinson and Connor, 2008; Jun, 2008). Examining a variety of written texts at different levels (e.g. words, structures, and genre) can provide research that contributes to L2 purposeful writing (Myles, 2002). One technique of text analysis is the Contrastive Analysis (CA) which was predominant during 1960s. It investigates differences and similarities between a pair of languages or amongst units of language systems in order to aid foreign language teaching and translation. The theory was developed by Lado (1957), who hypothesised that predictions based on studying the two languages could facilitate L2 learning. Lado devoted the whole fifth chapter of his book to talk on 'how to compare two writing systems', in which he anticipates that when the two writing systems are

similar, mistakes would be more common because of L1 transfer. However, what is so called the strong version of the Contrastive Analysis Hypothesis (CAH) had predicted the contrary, in which more difficulties would face learners who have to acquire a new writing system. A major flaw though is its exaggeration of the L1 interference, in which it could not prove that all errors made in learning the L2 are attributed to the L1 transfer, in addition to the inconsistency between its versions. The fall of the CAH, especially its strong version, nonetheless does not negate its basic theory along with its effect as no one denies the existence of L1 influences. In fact, it had led to another influential technique, the Error Analysis (See Lado, 1957; Fisiak, 1981; James 1981; Brown, 2000).

Another influential text analysis approach, which seems to have been widespread and regularly used for quite a long time now, is the Error Analysis (EA) approach. In the 70s, the paradigm Error Analysis had become the acceptable alternative to the Contrastive Analysis (James, 1998). Generally, it entails collecting, examining, and describing L2WS learners' writing, or in Corder (1981) wording: recognition, description, and explanation. Since this research adopts this approach, it has been thoroughly discussed in the methodology chapter. The main difference between the two approaches, however, seems to rely in direction; CA predicts errors from the analysis of two languages, whereas EA analyses errors to discover sources in the two languages.

Other approaches, such as computer-based and corpus approaches, are also developing. However, since the corpora of L2 learners' writings appear to be limited in number (Cook and Bassetti, 2005), especially for languages other than English, the studies seem to be limited accordingly. All in all, the L2WS research appears to be thriving with numerous issues and various approaches which shall help and develop both the theoretical and applied sides. Much of the research has been discussed in different contexts, trends, and approaches. Since this study is particularly concerned with AWS, specific emphasis has been put on studies and research on Arabic as a L2WS as well.

3.2.3 Writing Arabic as a Second/Foreign Language

In her valuable chapter, Ryding (2013) remarks that even after the 9/11 event which put Arabic on the spotlight, the number of Arabic-specific SLA studies is still low compared to the work published about other foreign languages. The reasons vary, as she believes, from lack of both Arabic language skills and analytical tools to pursue such studies, which

the contemporary SLA research requires, to favouring Arabic teaching over researching as a response to the sudden vast demand to learn Arabic. Moreover, Alhawary (2009) draws attention to the limited number of data-driven Arabic SLA studies which until recently seemed ‘parsimonious and sporadic’ as he describes it. Even though there has been some effort paid into discussing discourse variations, native speaker perception, teaching Arabic as a second or a foreign language, and investigating the diglossic situation of Arabic within a SLA perspective (e.g. Ryding, 1991; Nielsen, 1996; Mohamed, 2000; Owens, 2001; Watson, 2002; Holes, 2004; Wahba *et al.*, 2006a; Mughazy, 2007; Palmer, 2008; Al-Wer and de Jong, 2009; Hashem-Aramouni, 2011), very little work has been done towards L2 Arabic writing in general, and L2WS Arabic in particular.

Indeed, uncountable studies have discussed Arabic learners of English writing using Contrastive Analysis as well as Error Analysis amongst different methods (e.g. Aziz, 1974; Port and Mitleb, 1980; Flege and Port, 1981; Ryan and Meara, 1991; Ryan and Meara, 1996; Al-Buainain, 2006; Dweik and AbuAl-Hommos, 2007; Abu-Rass, 2011; Crompton, 2011; Ismail and Alsheikh, 2012). The context of L2WS Arabic, however, appears to have far less publication. Chronologically, it is believed that the earliest L2WS Arabic studies were by Al-Ani (1972-1973) and Rammuny (1976), in which both used EA (Alhawary, 2009). Those studies were noticeably limited compared to recent research as will be shown.

Although it is still a bit ‘sporadic’, research in L2WS Arabic has been growing, especially in the past few years. L2WS Arabic-published studies entail different topics theoretically as well as methodologically, and both from linguistic and pedagogical perspectives (Ryding, 2013). In detail, L2WS Arabic research can be best seen in Table 3-1, which shows that research has touched on various issues using different methods. At the pedagogical level, we find that several studies addressed writing within Teaching Arabic as a Foreign Language (TAFL) (e.g. Nielsen, 1996; Al-Batal, 2008; Katbi, 2012), along with others that investigated writing performance (e.g. Keatley *et al.*, 2004; Rammuny *et al.*, 2011), writing process and strategy (e.g. Mohamed, 2000; Al-Humidi, 2003), reading strategies (e.g. Alhaqbani and Riazi, 2012), and learner attitudes (e.g. Obeidat, 2005; Ruhman, 2011; Mamat *et al.*, 2013).

Linguistically, there are a number of issues, such as word recognition (e.g. Hansen, 2010; Taha and Khateb, 2013), writing/spelling errors (e.g. Al-Ani, 1972-1973; Abu Al-Rub, 2007), script difficulty (e.g. Abdelhadi *et al.*, 2011; Showalter, 2012), and orthographic complexity, which deal with the orthographic depth in conjunction with the visual complexity of the letters themselves (e.g. Asaad and Eviatar, 2013; Taha, 2013). There is also the issue of internal orthographic connectivity, which addresses letterforms and cursive writing (e.g. Khateb *et al.*, 2013), while orthographic input influence discusses the effects of Arabic orthographic system on the mental representations of L2 phonology (e.g. Bassetti, 2008; Bassetti and Atkinson, 2013; Showalter, 2013). Computational and corpus linguistic studies discuss topics such as error corpus (Alfaifi and Atwell, 2013), Arabic learner corpus for errors (Abuhakema *et al.*, 2008), character recognition (Abdul Sattar and Shah, 2012), and handwriting recognition (Mahmoud, 1994). These studies are just examples of a developing research trend involving different contexts, discussing various issues, and exploiting numerous approaches. In general though, Alhawary (2009) remarks that studies such as developmental, cognitive, and theoretical accounts remain very few.

Table 3-1 Examples of Research on L2WS Arabic

Research Area	Method(s)	Source(s)
Writing process and strategy	CA	Mohamed, (2000)
	Longitudinal study	Khaldieh (2000)
	Observational study	Al-Humidi, (2003)
Writing style	Contrastive rhetoric analysis	El-Seidi (2000)
Spelling errors	EA	Al-Ani (1972-1973); Rammuny (1976); Abu Al-Rub (2007)
Children spelling errors	EA	Oladosu (1997)
Word recognition	Experimental	Hansen (2010)
	ERP analysis	Taha and Khateb (2013)
Orthographic complexity and Script difficulty	Experimental	Showalter (2012)
	psycholinguistic approach	Taha (2013)
	developmental study	Asaad and Eviatar (2013)

Research Area	Method(s)	Source(s)
Internal orthographic connectivity	Experimental	Khateb <i>et al.</i> , (2013)
Acoustic-orthographic interface	Longitudinal study	(Bassetti <i>et al.</i> , 2013)
Orthographic input influence	Content analysis	Bassetti (2008)
	Experimental	Bassetti and Atkinson (2013); Showalter (2013)
TAFL issues	Experimental study	Al-Qufaan and Al-Faouri (2012)
	Descriptive Research	Al-Faouri and Abu-Amshah (2005)
Learner attitudes and motivation	Exploratory Research	Obeidat (2005)
	Case study	Mamat <i>et al.</i> , (2013)
Writing performance	Exploratory Research	Rammuny <i>et al.</i> (2011)
Reading comprehension	Post-hoc study	Abu-Rabia (2000)
	Experimental	Mughazy (2005-2006)
Reading strategy	Descriptive approach	Alhaqbani and Riazi (2012)
Diacritics	Comparative study	Kurzon (2013)
Error corpus	Corpus Analysis	Alfaifi and Atwell (2013)
Arabic Learner Corpus	Computer-aided Error Analysis	Abuhakema <i>et al.</i> (2008)
Character recognition	Survey research	Abdul Sattar and Shah (2012)
Handwriting recognition	Computational approach	Mahmoud (1994)

3.3 English-Speaking Learners of Arabic writing

In the previous chapter, AWS characteristics were carefully discussed, which obviously differ greatly from those of EWS. Arabic letters, diacritics and sounds, along with its writing direction, orthographic system and word-roots, which may cause homographic words, are all new to European speakers and sometimes difficult to master. It is known, for example, that L1WS Arabic users think that English-written vowels have ‘far too much information’ because Arabic does not represent short vowels (Ryan and Meara, 1991, p. 533). Conversely, English speaking learners of Arabic are most likely to face

psycholinguistic problems with word processing for the same reason, besides the qualitative difference of the AWS's lexical and orthographic structure – being consonantal (Perfetti and Dunlap, 2008; Hansen, 2010).

Given that MSA is no-one's mother tongue, and that the literacy language is not normally spoken in everyday conversation, where numerous dialects take place in different countries instead¹¹, the difficulty of learning AWS may increase. Despite the differences in the two languages' WSs, however, bilingual Arabic-English speakers do not appear to have such problems (Abu-Rabia and Siegel, 2002). That said, it is thought that disregarding its lack of full vowel representation, AWS seems relatively transparent (delivering almost one-to-one consonant to sound correspondence) than English. For example, 'Italian has 33 ways of spelling its 25 sounds while English has approximately 1,120 ways to spell its 40 sounds' (Helmuth, 2001, p. 2064); French is not very different from English in that sense too (Balasubrahmanyam, 2001).

The two following sections briefly investigate learning Arabic in the UK, with a hint on the global status of ASL/AFL, in conjunction with outlining the reasons of and needs to take Arabic courses as an L2 or foreign language in this country. These are followed by a brief review of the AWS textbooks utilised by institutions the UK.

3.3.1 Learning/Teaching Arabic as L2 in the UK

Internationally, there has been a gradually increasing trend in learning Arabic in the recent years. In the US, for example, the Modern Language Association reports that between 2002 and 2006, the number of colleges offering Arabic classes almost doubled. In fact, their survey of 2010 found that studying Arabic registered the largest percentage (46.3%) growth in US colleges and universities between 2006 and 2009, which is built on top of the previous recorded increase of 126.5% (MLA, 2010). Arabic has been the 8th most popular foreign language at US campuses and universities (ibid). Their motives vary from being interested in the language itself encompassing its culture, and pursuing academic simulation, to career-oriented studies (Brosh, 2013). Studying Arabic abroad is also

¹¹ In a fine experimental study by Ibrahim and Aharon-Peretz (2005), it has been concluded that despite their shared origin, the diglossic Arabic situation, involving the high MSA and low vernaculars, performs cognitively the status of two languages.

popular in the US. As a matter of fact, American college-students are increasingly becoming eager to experience Arabic culture in places like Egypt, Lebanon, and Jordan, in a program that educators describe as ‘the fastest growing study-abroad program’ (Conlin, 2010). For example, the number of Americans studying in Arabic-speaking countries rose from 562 in 2002 to 3,399 in 2007, (ibid).

Indeed, this rise was not a result of individual desires. Following the 9/11 event, the US government initiated the Critical Language Scholarship Program in 2006 which has encouraged students to apply for study of Arabic amongst 13 other languages (CLS, 2014). In the Far East, for about forty years now, Arabic has reportedly been taught in six South Korean universities. The interest in Arabic has rapidly been growing as a result of establishment of Arabic departments and adoption of Arabic by some universities as a foreign language admission requirement. In 1976, for example, Myongji University established the second Department of Arabic in the country (University, 2011). In Australia, Arabic seems to be even more needed as it has been embedded since 1980s in the Australian education system at all levels, in a government-supported effort towards multiculturalism (ACARA, 2013). While this is the global picture, the UK is no exception.

Interestingly, learning Arabic in the UK is not confined to one area, or a particular need, context, or institution. Learning, teaching, and researching Arabic in the UK has actually been booming recently. Besides the fact that numerous institutions across the UK formally offer Arabic learning programs; Arabic is being informally taught in Islamic societies, university evening classes, as well as online, to mostly English-speaking learners. Arabic is being officially taught, amongst a number of foreign languages, to KS2 school children and to adults; programmes that are supported by city councils in great cities such as London, Manchester, and Birmingham (Yourcounciljobs.co.uk, 2014). Several leading universities are currently offering academic Arabic programmes both at undergraduate and postgraduate levels, such as SOAS University of London, Edinburgh University, University of Durham, University of Leeds, and Kings College London etc. (e.g. King's-College-London, 2014).

Moreover, Arabic counts as one of the most demanded foreign languages in language centres and institutions in the UK. Table 3-2 presents an example of numerous organisations that offer formal Arabic classes, which are administered by certified Arabic teachers. The relatively widespread training programmes that provide Arabic teachers

with accreditations (e.g. PGCE, TAFL certificate, Diploma in Teaching Arabic) in the UK cannot be missed as well (Goldsmiths, 2014; SOAS, 2014). Above all, researching Arabic and dedicated research programmes have become noticeable in UK universities, such as Edinburgh University, Manchester University, Durham University, and School of Oriental and African Studies (SOAS) (CASAW, 2014). Children of local citizens, speakers of English or other languages, attend classes in different Arabic schools (besides the English schools) in the UK. These schools were originally established and are sponsored by Arabic governments to serve Arab children of international Arab students and diplomatic officials who usually live in the UK temporarily (Othman, 2006). Parents would send their children to such schools to either maintain their heritage language or acquire the language for religious purposes.

Additionally, various language programmes now accommodate Arabic as one of the main languages which they offer to customers in form of online paid/free courses, evening courses, and collaborative informal classes. Many UK-based websites on the Internet are now offering free as well as paid Arabic courses, such as the Association for Language Learning, BBC and Ibn Jabal (Association-for-Language-Learning, 2014; BBC, 2014; Ibn-Jabal, 2014). Other informal sessions are also widely exploited, such as appointing international Arabic postgraduate students who are mainly competent to teach the language through scheduled informal classes, in which basic conversation and essential literary information are learned. Examples include Newcastle University and Durham University which have provided such courses free of charge to their postgraduate students in the past (Vitae, 2013).

Table 3-2 Specimens of Arabic Courses and Institutes in the UK

	Institute/Organisation	City	Levels
1	Arab British Centre	London	Afternoon and evening classes
2	Arabic4Adults	Birmingham, Cardiff, Edinburgh etc.	Vary
3	Ariane Languages	London	General courses, business courses, and formal qualifications
4	Aston University	Birmingham	University undergraduate and postgraduate students
5	Brasshouse Language Centre	Birmingham	Adult training programme

	Institute/Organisation	City	Levels
6	Cactus	London, Manchester, Brighton etc.	Evening classes
7	City Lit	London	Adult evening and weekend classes
8	City University London	London	Evening courses
9	Communicaid	London	Business courses
10	Conversation Piece Ltd	London	One-to-one or group courses, weekdays and weekend classes
11	Durham University	Durham	BA, MA, and PhD levels
12	European Institute of Human Sciences	Birmingham	Young and mature students, Arabic Language Diploma
13	Ibn Jabal Institute	London, Birmingham, Nottingham, etc.	Summer School, Gap Year Programme, and Evening classes, etc.
14	International House	London, Newcastle upon Tyne	Evening and weekend classes, one-to-one sessions, In-company training
15	Kensington and Chelsea College	London	Day and evening classes, preparation for GCSE in Arabic and other courses
16	King's College London Modern Language Centre	London	Arabic Intensive Daytime Course, and evening classes
17	Language Lessons London	London	Evening and Weekend Courses
18	Language Trainers	Essex	Vary
19	Leeds University	Leeds	BA, and short courses
20	Listen & Learn	London, Swansea, Exeter, Bristol	General and business courses for students at any level
21	London Arabian Oasis School of Arabic	London	All levels, full time courses, calligraphy training, MSA and Egyptian courses, University Orientation Course, Preparations for Academic Arabic Course
22	London Arabic Tuition	London	University students and other students, Full time classes, weekdays and weekends, MSA and colloquial
23	University of Central Lancashire	Preston	BA full-time and part-time courses, short courses
24	Northumbria University	Newcastle upon Tyne	Adult evening classes

	Institute/Organisation	City	Levels
25	SIMON & SIMON	London	Group and one to one courses for different ages in weekdays
26	SOAS Language Centre	London	BA, Certificate and Diploma in Communicative Arabic Language, Arabic language teaching qualifications, MSA and colloquial
27	University of Edinburgh	Edinburgh	MA Honours, MSc in Advanced Arabic
28	University of Exeter	Exeter	BA full-time and part-time courses, evening classes
29	University of St Andrews	St Andrews, Scotland	MA Honours full-time course
30	University of Oxford	Oxford	BA Honours full-time course

3.3.2 Why Do People Learn Arabic?

With the rapidly growing interest in learning Arabic in the UK as well as in other Western countries, a question may be asked as to why people seem to be interested in learning the language. At first sight, it seems not worth the hassle to learn an unfamiliar language, in which both the spoken and written forms are nowhere close to English. However, a preliminary investigation of this learning trend reveals cultural, political, career, and religious reasons. One teacher at Newcastle International House said that many British graduate students who are preparing to be English teachers learn Arabic, which helps them increase their chances of getting jobs in the Arab world, especially in the Gulf (El-Wakai, 2014). Seeking job opportunities appears one of the crucial purposes as numerous Arabic courses are more often marketed to target and attract people who are willing to work abroad in government, business, or travel sectors, be it in one of the Arabic countries or in different countries that require Arabic language skills (International-Career-Institute, 2009; Communicaid, 2014). Another Arabic teacher who has been teaching Arabic in several institutions in Southern and North Eastern UK, agrees that career is the main goal as Arabic gives those who learn it advantages in translation, teaching, medicine, along with the need for them to survive in a politically hot zone – the Middle East (Al-Zwairi, 2014).

Culture and religious purposes come next, especially to students who want to learn about Islam and read the Quran without translation. Pure interest in languages is not also

peculiar amongst Arabic learners worldwide (Chang, 2005; Newby, 2011). Primary motivation to learn Arabic was found to be rather intellectual and personal (Suleiman, 1991). As it was demonstrated in the previous chapter, Arabic is officially one of the six international languages which is spoken in 27 countries by nearly half a billion people (UNESCO, 2013). Arabic countries are stretched over a vast area that links two continents, as shown in Figure 3.5. Given the significance of the land size it covers, the number of speakers and its religious status, the interest in Arabic becomes quite understandable.

Although these reasons collectively sound convincing, there is still some doubt since learning Arabic has never been easy, for two reasons: the language itself, and its teaching methods. Learning Arabic seems to be difficult from an English speaker's point of view (Newby, 2011; Ryding, 2014). Based on a study that involved English-speaking learners of foreign languages who achieved general professional proficiency, the Foreign Service Institute (FSI) placed Arabic under Category V, which is considered 'exceptionally difficult for native English speakers' as it takes approximately 2200 hours to learn, compared to 600 hours needed to learn French, for example (Effective-Language-Learning, 2013). Apparently, a key factor is the difficulty of learning the unfamiliar writing system which is shared amongst languages in the same category. Besides, it is a fact that in terms of teaching/learning methods, Arabic is not actually as advanced as English (Sirajudeena and Adebisib, 2012). Considering that English is relatively widely spoken in the Middle East and that English is chiefly the business language, especially in the Gulf, this question remains open for further research.



MAP 1. Countries of the Arab world

Figure 3.5 Countries of the Arabic World (Watson 2002, p7)

3.3.3 Textbooks and Arabic Writing in the UK

Though SL/FL Arabic textbooks have been around for years, *Al-Kitaab* by three Arabic professors seems one of the main textbooks that is largely used by institutions in the UK. The success it has achieved in the USA since 1995 in which several American universities have adopted the book in their courses for non-Arabic speakers, made a positive impression. This is due to both the lack of good competitive sources especially in the West, and for the communicative, proficiency-oriented approach that this book embraced towards teaching Arabic language skills. As they start with the Alif Baa course book, which is a basic introduction to Arabic letters and sounds combined with audiovisual media, and followed by series of books to teach the MSA (Alkitaabtextbook.com, 2015), the selection of this book in several British universities was well justified. The inclusion of the Arabic dialects (i.e. spoken Egyptian, Levantine Arabic, and Lebanese Arabic) on developing language skills besides the MSA, was also a valued addition to some institutions. It is probably the only book which appears to be inclusive comprising all levels, and involving literary and spoken Arabic.

Other textbooks, which are used by UK institutions (e.g. Cambridge University, SOAS, London University, Durham University, and Edinburgh University) either as main or secondary sources, include *Mastering Arabic*, *Ahlan Wa Sahlan*, *Al-Kitab Al-asasi*, and *Lughatuna al-Fusha*.

The first, written by Wightwick and Gaafar, is a series of two books in addition to three supporting and activity books focusing only on the MSA. In terms of writing, it assigns the practical volume titled *Mastering Arabic Script: A Guide to Handwriting* to teach how letters are formed in Arabic using handwriting in two styles Riq'a and Naskh. What probably is the unique feature of this book is the addition of Riq'a style which seems neglected in other course books. Because AWS is written usually in Riq'a in by native writers, it makes it easier for students to recognise differences among other handwriting styles. This guide adopts a slow-paced learning method into writing Arabic allowing learners to distinguish Arabic letters, words, and cards/titles as it includes numerous writing exercises (Wightwick and Gaafar, 2005).

Ahlan wa Sahlan, by Mahdi Alish, also focuses only on the MSA, covering all levels and skills. It exploits a story line of two students in which the story starts at the beginning of the first book for beginners to ends at the second book for intermediates. As published by

Yale University, the book conveniently describes Arabic culture as experienced by an American student. It follows a communicative but grammar-based approach with a supplement of audio and video materials (Alosh, 2009). This set is also supported by a special workbook to explain sounds and script of Arabic. Though this seems commonly used in the UK, it does not appear to be as much appreciated as the two aforementioned. The design of the book, the appropriateness of the level it is oriented to, and the relatively poorly presented workbook are factors that played in reducing the importance of such a textbook.

Al-Kitab Al-asasi was expected to be a colourful addition for TAFL as it was published by the American University in Cairo. This three-part course in the MSA similarly approaches the language through a series of themed topics (Badawi, 2009). The fact that it is predominantly monolingual (i.e. Arabic only), directed in essence to Arab immigrants to help retrieve their heritage language, and that it lacks task-based exercises has limited its value (Wahba *et al.*, 2006b). More importantly, it generally focusses on speaking and listening, while it does not provide care, let alone designated section/book, for writing.

The attention of *Lughatuna al-Fusha* is also paid to the MSA in particular. It is consisted of five volumes: two for beginners, one for intermediates, while the fourth addresses the middle to high intermediate Arabic learner, and the fifth book is designed for the Advanced levels (Louis, 2010). According to the author, Learning writing extensively is one of the two aims of the fourth and the fifth books. The book follows grammar-learning strategies and is further supported by interactive writing drills on the Internet (Louis, 2010). In terms of the approach, materials, as well as skills and topics, it does not appear to be different from any other textbooks. Moreover, this series has no book specified for teaching the Arabic script.

The five textbooks claim that they follow a comprehensive approach, but only one is covering dialects besides the MSA (i.e. Al-Kitaab), and only one is compatible with the European Common Framework (i.e. *Lughatuna al-Fusha*). While one is monolingual seeking heritage language learners, none of them is specifically tailored to the needs of British students. They either try to be universal or adapt to American universities. Although at least two of these series specify a student workbook for learning the AWS script, the actual time allowance given for them in UK institutions is limited. Furthermore, the textbooks encompassing script-learning supplements were not designed to develop

the skills towards mastering the AWS letter ductus, letter joining and the like. After the first instance of letter recognition, the textbooks utilise *writing* as a method of teaching other language skills – not as a skill that is supposed to be mastered on its own. Notwithstanding that writing is not given as much consideration as other skills in such textbooks, they do not appreciate the importance of handwriting in Arabic in particular. That is why teachers resort to other materials sometimes created by themselves.

3.4 Empirical Studies on L2 Arabic Writing Errors

Before reviewing empirical studies on L2 Arabic writing errors, it is probably useful to mention that natives' spelling issues and their common errors in the AWS are discussed in the previous chapter (section 2.4.5.3). For different linguistic and pedagogical reasons, native Arabic speakers are known to make errors in: Alhamza <ء>, the closed <ة> and open ta' <ت>, the sun and moon Laams <ل>, and Al'alif Almaqsora <ى> (Alhamad, 2004; Zayed, 2006; Shalabi, 2008; Alhamouz, 2011).

Numerous studies have dealt with Arabic speakers' orthographic difficulties. Abu-Zaid (2012) mentions that his experience confirms that whether in school or university, students cannot master spelling perfectly, and they may graduate lacking the appropriate level of competence. In fact, both male and female students in high levels of education make considerable spelling errors (As-Saqaaf, 2008). This is voiced by several experts in the field who seem concerned by the low-spelling-skill level of both learners and teachers in the Arabic world (Gaad, 2003, p. 46). This matter has been the subject of different trends including researching difficulties in Arabic-language learning across all levels, investigating the education system and variables of teaching environment and approaches, and examining difficulties concerning students learning Arabic as major, along with the preparation of teachers and the condition of textbooks (ibid). Ismail (1990) measured linguistic skills of grade 7 students and found that spelling ranks the second in their linguistic difficulties. Likewise, Zayed (2006) studied grades 7, 8, and 9, which involved 10 schools and 3125 male and female students in Amman, Jordan. Errors he found are a combination of the closed <ة> and open ta' <ت>, gemination errors, phonological errors, and obviously several types of Alhamza errors, amongst other spelling and punctuation errors (ibid). Alhamza, particularly the medial positioned, was the first most common spelling error, as 70% of the students made that sort of error in their writing (ibid).

Native adults and even teachers are also known to make such errors though in different ratios. Abdulrahim (2010) listed 12 spelling errors that he found common amongst teachers. The errors entail different types of Alhamza <ء>, the closed <ة> and open ta' <ت> , the sun and moon Laams <ل>, Al'alif Almaqsora <أ>, and other errors (e.g. extending short vowels, and specific letter-dot errors) (ibid). In the same manner, Hamdan (1993), who investigated spelling errors made by 100 male and female Egyptian teachers, found that the error types are not very different from those which are made by students. His results showed that 27% of the teachers made common errors in article test, while 75% of them made common errors in dictation (ibid). Alshomali (2000), concluded that teachers are in fact the main source of learners' errors. It might be true that students' spelling errors in the Arabic world are sheer results of incompetent Arabic language teachers themselves (Dahmani and Awadh, 1998). Alhamza errors as well as other types of errors were present even in post-graduate student academic writing (i.e. theses and dissertations) as Ahmed (2003) remarkably found.

Moreover, a study by Abu-Rabia and Taha (2004), which analysed spelling errors of normal and dyslexic native speakers, revealed that there are seven categories of errors: phonetic errors, semiphonetic errors (errors caused by omitting, adding and substituting phonemes), dysphonetic errors (unknown phonetic errors), visual letter-confusion errors (letter-shape similarity), irregular spelling rules, word omission, and functional word omission. Based on this study, Abu-Rabia and Taha hypothesised that 'phonological spelling errors would be more frequent across all ages because of the complexity of Arabic orthography' (Abu-Rabia and Taha, 2006, p. 173). In 2006, the two authors investigated spelling errors of 288 native Arabic pupils at grades ranging from 1-9 in five schools. It was an EA study which used dictation and showed that phonological errors represented 50% of all errors, which confirmed their hypothesis (ibid). Later, in 2013, a follow-up study by Abu-Rabia and Sammour (2013, p. 58) revealed 'that phonetic errors were more prevalent in Arabic than in English, while semiphonetic errors were more prevalent in English than in Arabic'. Though, the latter in particular does not seem to be an issue amongst adult Arabic speakers, the errors described in section 2.4.5.3 seem to be common in natives' writing in general whether teachers or students (Gaad, 2003), adults or children (Abu-Zaid, 2012), and whether normal or dyslexic (Abu-Rabia and Taha, 2004). Even those who are Arabic language specialists may make one or more of these sorts of errors (Ateyyah, 2007; AsShallaal *et al.*, 2009).

Moving to studies that have dealt with writing errors in Arabic as L2WS, this study reviews most of the available studies in this section, although it should be noted that the scope of literature on L2 Arabic writing errors is very limited. Besides the fact that very few studies have been conducted in different parts of the world, the existing studies are scattered in different interdisciplines. Published linguistic studies conducted with respect to L2WS could probably be counted on the fingers of both hands. Moreover, a number of these studies, as will be seen, have investigated Arabic writing errors without considering a particular L1WS; instead, their data were elicited from learners of L2WS Arabic who are essentially users of different L1WSs. Therefore, it can be argued that apart from the very few studies which considered a particular L1WS, there are perhaps fewer or no Arabic-writing-error studies that have been orthographically carried out on the theory of writing systems. Table 3-4 shows the key available orthographical error studies in Arabic as L2WS.

A study by Al-Ani (1972-1973), which is one of the two earliest studies conducted in this field, identified errors and roughly categorized them as being a) orthographic and phonological errors, b) dictionary usage errors, and c) grammatical errors. This was an EA study which had a limited number of samples written by English speakers who had spent at least three semesters studying Arabic. Assignments of familiar topics were given to students to write 300-500 words. The paper, however, shows no attempt to fully analyse, and statistically describe the data collected. Examples of the phonological and orthographical errors identified are illustrated in Table 3-3. Amongst orthographical errors, dots were emphasised as being entirely deleted or incorrectly added, though, Al-Ani pointed out that dot confusion is letter-dependant – little confusion with certain letter shapes. Errors were attributed to overgeneralisation, analogy, and mostly to L1WS interference.

The second earliest study, as Alhawary noted, was by Rammuny (1976), and it was more methodological than the first one. He statistically analysed and reported all errors that were made by 115 English-speaking intermediate and advanced learners of Arabic. The data had been collected from proficiency tests, except the errors that occurred five times or less. He found 1520 errors in total, and identified four categories: orthographic and phonological, lexical, structural, and stylistic errors. Within the orthographic and phonological errors, he highlighted emphatic sounds, vowel length, closed and open ta', Alif Maqsourah, dot confusion, transposition, Alhamza, Alqamar lam and Ashams lam,

and separating the conjunction <و> (and) from the word examples given in Table 3-3 below. The errors were attributed to four causes: teaching-learning strategies (e.g. hypercorrection, simplification, and overgeneralisation), interference by L1 as well as Arabic dialects, competence, and performance. Alhawary (2009) comments that even though these two studies did a significant job of documenting errors in L2WS Arabic in such time, they failed to provide a full account of the performance by the L2 learners. These early studies, especially the latter, however, were able to analyse and describe errors in L2WS Arabic using the EA framework.

Table 3-3 Examples of Orthographic and Phonological Errors in Literature

Study	Phonological errors		Orthographic errors	
	Incorrect	Correct	Incorrect	Correct
Al-Ani (1972-1973)	أوف	عوف	احلاء	إجلاء
	اقناء	اقناع	المحاعة	المجاعة
	انتحاء	انتهاء	يتشوف	يتشوق
	يسبح	يصبح	اسباع	إشباع
Rammuny (1976)	مسر	مصر	الحدب	الحديث
	مريدة	مريضة	اسنابيا	إسبانيا
	طارخ	تاريخ	صع	صعب
	ياثرب	يثرب	مأثرة	مؤثرة

While examining Hausa learners' writing errors in Arabic as L2WS, Gwarzo (1985) emphasised on grammatical, mechanical and lexical errors. Later, Oladosu (1997) investigated writing errors that were made by randomly selected 80 intermediate and advanced Yoruba (Nigerian) adolescent learners of Arabic at different schools. Data were drawn from one-hour free essay writing in a familiar topic. He identified a total of 3137 errors and broadly classified them into three: grammatical, lexical, and spelling errors. In detail, more than 75% of all errors were grammatical, in which wrong use and omission of definite articles were the most frequent errors. Spelling errors came next at 18.7% while lexical errors recorded 5.6%. He offered an explanation in terms of interlingual,

interlingual, and inter-intralingual errors, which according to him, are interference from L1, interference from L2, and interference from both L1 and L2 respectively. At an extended level as he asserts, Oladosu (2000) examined the effects of grammatical and lexical errors on the acceptability (approval by the receiver despite the deviant nature of the sentence) and intelligibility (comprehensibility of the intended meaning of a sentence despite its deviant nature) of selected Arabic sentences using a sample of 40 Yoruba and 40 Hausa speakers who took a one-hour writing test. After analysis, the erroneous sentences were judged by native Arabic speakers to determine their accessibility and intelligibility. The results showed that Arabic sentences that contained grammatical and lexical errors were generally intelligible but not acceptable to the judges.

Using EA too, but not determining a homogeneous sample of LIWS, At-tall (1989) investigated Arabic writing errors made by 34 intermediate and advanced students who spoke other languages. Using an open essay exercise, she identified 482 (41.84%) spelling errors, 350 (30.38%) morphological and syntactic errors, and 236 (20.48%) other (orthographic and non-orthographic) errors. Her study was rather general as she analysed and categorised seemingly all sorts of writing errors – orthographically, morphologically, and syntactically. Abu Al-Rub (2007), on the other hand, was quite focussed on orthography. He analysed written errors for Arabic learners from different backgrounds at Aal Al-Bayt University in Jordan. The study question was ‘what type of Arabic spelling errors are made by speakers of other languages and what are their frequencies?’ Prior to the study, as it seems, he decided that an error should be considered common when it is made by 25-75% of the participants. He randomly selected a sample of 4th (final) level and graduate students – a total of 19 participants, who were given a dictation, which he then analysed and described. As a result, Abu Al-Rub identified 757 errors (13% of all words), which he classified into nine categories: three of which are Alhamza errors (36.17%), dot errors (19.15%), letter shape or *Rasm* (16.24%), omission and insertion (14.92%), substitution (7.52%), phonological errors (4.88%), and transposition (1.05%). He finally remarks that the graduate learners’ errors were mostly performance errors, while errors made by the 4th level learners were competence as well as performance errors – which indicates a ratio of progress among graduates. Strangely enough, however, phonological errors recorded only 37 errors (4.88%), which might imply that he either did not include all phonological errors or he counted some of them as errors of omission, insertion, or substitution.

Similarly, Al-Faouri (2009) analysed errors made by 4th year learners of Arabic at Chengchi University, Taiwan. According to Mair (2010), Taiwanese, who officially speak Standard Mandarin and write using Traditional Chinese characters, have also adopted different writing methods such as Japanese kana, Mandarin phonetic symbols (e.g. bopomofo), and Roman letters, along with a mixture of different scripts. Learners are usually expected to spend one year abroad in one of the Arabic countries in order to familiarise themselves with the language and its environment. That is why Al-Faouri chose to select the 4th year students who had come back from their study abroad. Four different essays written by 13 participants, five males and eight females, which collectively made 50 samples (some learners failed to submit their essays) were examined by the researcher. He reported that the causes of errors were closely related to teaching/learning issues such as curricula and their content, the number of teaching hours, and teaching methods in addition to learning motives. His study identified 889 errors which he classified into six categories: grammatical, semantic, morphological, lexical, phonological, and spelling errors. Grammatical errors were the most common (39.5%) followed by spelling (16.9%), semantic errors (13.6%), and morphological (12.8%). He also noted that the females performed better than their male counterparts.

In the language lab, BaniAmer (2009) let 40 learners (10 American, 10 British, 10 Korean, and 10 Chinese) freely listen to a pre-recorded story at their own pace and as many times as they wished in order to finish writing what they heard in a two-hour session. He afterwards analysed, distinguished, and compared the results among L1WS groups, which were interesting. Results showed different and detailed errors, such as definite article omission and addition, letter substitution, Alhamza errors, and numerous phonological errors. This was a really interesting study which accounts to comparatively studying the differences among Arabic learners from a different L1WSs. In fact, it is claimed herein that there is no such study in the available literature, which explores and compares writing of four groups of different L1WS learners. However, BaniAmer who constantly illuminated the poor scope of literature in studying L2 Arabic writing errors, especially quantitatively, stopped at the description phase and did not go that extra mile to discuss and explain the variations amongst learners based on their L1WSs.

Pedagogically, Alhussaini (1988) researched the common errors that are made by non-Arabic speaking learners in TAFL programmes. She tried to comprehensively analyse and describe all sorts of errors grammatically, morphologically, and orthographically. She

however, concluded that there is no correlation between the language programme and error type/frequency or between sex and error type/frequency. Although she partially acknowledged differences of L1 users amongst learners, she did not mention any in her results apart from saying that errors are mostly attributed to L1 interference. In a similar descriptive analytical approach, two researchers studied the errors of 250 various-language speaking learners of Arabic at the TAFL, Imam University (Hassanin *et al.*, 1994). Three tests were given to the learners: phonological test, syntactic phrasal test, and spelling test. As what concerns us here is the last one, they mentioned that errors were mainly Alhamza-related errors (*ibid*), although there are no specific figures in the current study.

On the same path, a number of researchers analysed and studied different sorts of writing errors, although they seem pedagogically isolated, non-cumulative, and unpublished case studies, such as Nasseef (1980), Mustafa (1982), Al-Ssaied (1982), Muhammed (1987), Hashim (1991), Al-Shammeri (1992), Al-Hamad (1994), Abdulmalik (2002), Mustafa (2003), Muhammed (2003), and Abdullah (2003). Looking at the same framework but from another angle, which concentrated on learning strategy differences, Keatley *et al.* (2004) compared language performance between heritage speakers of Arabic and students of Arabic as a foreign language. The authors focused on nine university students of Arabic, and interestingly discovered that in their writing tasks, handwriting was kind of problematic and challenging because many of the students were not used to Arabic handwriting (Ryding, 2013).

Following computational and corpus-based approaches, several studies attempted to diagnose, classify, and probably offer solutions to different types of writing errors. The study by Magdy *et al.* (2007), offers a novel automated Arabic Lexical Error Diagnosis System that uses constraint relaxation and edit-distance techniques to provide error-specific diagnosis and feedback to second language learners of Arabic. Likewise, Shaalan (2010) and his colleagues addressed common error patterns (i.e. editing errors, vowel errors, Tanween errors, Shadda Errors, and semantic spelling errors) made by non-native Arabic learners and suggested an evaluated computational approach to error detection and correction (Shaalan *et al.*, 2010). Contributing towards building an Arabic Learner Corpus for Errors and an Arabic Learner Corpus, Abuhakema *et al.* (2008), Abuhakema *et al.* (2009), as well as Alfaifi and Atwell (2012) have done a notable work in which the former first introduced the corpus and the latter worked on developing it. They *tagged*

and *annotated* numerous errors which were classified into grammatical, morphological, lexical, and spelling errors, as well as errors in syntax, semantics, style and punctuation. Abuhakema *et al.* (2008) remark that intermediate writers are still struggling with phonological/orthographical issues (e.g. Alhamza) while the advanced writers have left these errors behind and are struggling with features of advanced writing, such as word order and cohesion.

Table 3-4 Linguistic Studies in Arabic L2WS Errors

Study	L1WS	Method	Results/error categories
Al-Ani (1972-1973)	English	EA	a) orthographic and phonological, b) dictionary usage, and c) grammatical errors (no figures)
Rammuny (1976)	English	EA	Orthographic & phonological errors (222) of which (77) Non-English consonants, (44) vowel length, (26) orthographic distinction, (25) dot confusion, (15) metathesis, (13) Alhamza, (10) definite article errors, (7) defective words, and (5) conjunction errors. lexical errors (455); structural errors (578); stylistic errors (265)
Gwarzo (1985)	Boko (Latin-based system)	EA	grammatical, mechanical and lexical errors (no figures)
Oladosu (1997)	Yakuba (Latin script)	EA	grammatical errors 75.6%; spelling errors 18.7%; lexical errors 5.6%
Oladosu (2000)	Yakuba, Hausa (Latin script)	EA	Sentences containing grammatical and lexical errors were generally intelligible but not acceptable.
Jassem (2000)	Rumi (Latin script)	EA	tense choice (54.67 %); lexical (17.03 %); spelling (13.81 %); category of errors (10.26 %); tense particle errors (4.23 %).
Al-Faouri (2009)	Chinese	Contrastive Analysis	Grammatical errors (39.5%); Spelling (16.9%) [of which dots (15%), Alhamza (23%)]; Semantic errors (13.6%); Morphological (12.8%)
At-tall (1989)	Mixed	EA	Spelling errors (41.84%) Morphological and syntactic errors (30.38%) Other errors (20.48%)
Abu Al-Rub (2007)	Mixed	EA	Alhamza errors (36.17%); Dot errors (19.15%); Letter shape (16.24%); Omission and insertion (14.92%); Substitution (7.52%) Phonological errors (4.88%); Transposition (1.05%).
BaniAmer (2009)	Mixed	EA	Definite article omission and addition, letter substitution, Alhamza errors, phonological errors etc.

Study	L1WS	Method	Results/error categories
Alhussaini (1988)	Mixed	EA	Grammatical, morphological, and orthographical errors
Hassanin et al., (1994)	Mixed	Descriptive	Alhamza related errors
Al-Najran and Jassem (2013)	Mixed	EA	Preposition errors 37%; Article errors 28%

The different error categories in the literature reviewed above are derived from linguistic and orthographic features of the Arabic script. On the whole, they are a mixture of orthographic and phonological errors. The spelling errors analysed by Abu-Rabia (2004) for example are categorised as phonetic errors, semiphonetic errors, dysphonetic errors, visual letter-confusion errors, and irregular spelling rules. As he explains, phonetic errors are made when ‘the writer is unable to translate specific phonemes of a certain word to graphemes’ (Abu-Rabia, 2004 p. 666). The example he gives is the similarity between the two sounds /d/ and /dʕ/ with their representations <د> and <ض> in which the writer mistakes one for the other. Another example is shortening long vowels or lengthening short vowels as a result of confusion along with the dialect effect (ibid). This type is divided into different subtypes elsewhere such as *consonant contrast* (Rammuny, 1976) or *substitution* (Abu Al-Rub, 2007) for the first example, and *vowel length* (Rammuny, 1976) or *vowel shortening/lengthening* for the second (Abu Al-Rub, 2007).

Semiphonetic errors are caused by phoneme omission/addition/substitution where letters were omitted, added, or substituted but the internal lexical representation is preserved e.g. كَرِم for كَرِيم (Abu-Rabia, 2004). These errors either are only implicated in the literature (e.g. Oladosu, 1997); grouped into one type (e.g. Rammuny, 1976; Abu-Rabia, 2004; Abu-Rabia and Sammour, 2013); divided into two: substitution, and insertion/omission (e.g. Abu Al-Rub, 2007; BaniAmer, 2009) or three types (e.g. Alhussaini 1988). Dysphonetic errors, on the other hand, occur when there is no correct grapheme-phoneme correspondence and no internal lexical representation – target word is more of pseudohomophone (Abu-Rabia, 2004). Other studies classified this type under *metathesis errors* (Rammuny, 1976) or *transposition errors* (Abu Al-Rub, 2007; At-tall, 1989).

Visual letter-confusion errors are caused by letter-shape similarity e.g. <ح, ح, ح> (Abu-Rabia, 2004), though this is called *Rasm* (i.e. *shape*) errors in Abu Al-Rub's (2007) work. The latter along with Rammuny (1976) had a subtype dedicated to dot confusion, where errors are resulted from failure to understand and to correctly apply the knowledge of how dots work in the AWS. Lack of mastery of the Arabic spelling rules would produce irregular-spelling-rule errors such as the sun Laam <ل> and Alhamza errors (Abu-Rabia, 2004). Others though differentiate these irregular-feature errors as being *orthographic* including other subtypes (e.g. Rammuny, 1976; Abu Al-Rub, 2007) or *intralingual* (e.g. Oladosu, 1997). Several researchers, however, preserved the two general types: orthographic errors which are related to spelling rules, and phonological errors which are resulted from perception and articulation of Arabic sounds (e.g. Hassanin et al., 1994; Oladosu, 1997; Al-Faouri, 2009).

These are probably most, if not all, of the available literature concerning L2 Arabic writing errors. Indeed these studies have used different approaches and discussed different writing errors. One obvious point is that while some focused on errors concerning grammar, orthography, dictionary, semantics, or writing processes and strategies, others preferred to operate with an all-in-one approach. The discussed studies tend to be either too inclusive, collecting and analysing everything in one shot, or too superficial, touching only on the surface but not analysing, explaining and discussing the reasons in light of writing system theory. A second important point is that most of them are not works that have been published as books, book sections, or peer-reviewed journal articles, but are rather academic theses, conference papers, and local university-specific articles. In fact, many studies have not even been published at all, which means that they are cannot be found easily or effortlessly accessible. Moreover, most of them are written in Arabic, which prevents international researchers from having a proper access.

3.5 Summary

We have surveyed studies in the L2WS field including diverse research trends. The phenomena investigated entail the use, learning and teaching, processing, and meta-cognitively interacting with an unfamiliar writing system. With all the complexity surrounding language orthographies, these studies have been giving insightful understanding of how they work and how to make it easier for foreign learners and users

to read, spell, and write. Interestingly, more research is emerging, which focuses on languages other than English, and this has provided an opportunity for other languages, such as Arabic, to be better understood. Numerous issues have been discussed with this respect, yet other topics such as the WS transferability effect on writing and the connection between the differences amongst WSs and erroneousness still need researchers' attention.

The available literature on writing of Arabic as a second/foreign language has been surveyed, which according to Alhawary (2009) has been 'parsimonious and sporadic'. As far as this study is concerned, the status of learning Arabic by native English speakers in the UK has been investigated. The reasons and motives to learn a pretty difficult/foreign language have also been laid down based on the accessible limited studies. Given that there has been an increasing interest in learning Arabic worldwide, a parallel concern has been growing with regard to means of meeting this interest by developing strategies, materials, and teaching methods; while the field is still lacking professionals, researchers, and testers (Mohamed, 2013). Alhawary (2009, p. 48) remarks that 'aside from limitations to do with some of the studies as discussed above, the data generated in Arabic SLA studies are limited in scope with respect to LI backgrounds'.

In spite of being few, mostly Arabic-only, unpublished and inaccessible, this chapter has examined empirical studies on L2 Arabic writing errors, highlighting their context, methodology, and results. Bearing this in mind, the research interest seemed drawn by several interdisciplines pedagogically and computationally, while linguistic published studies on writing errors, conducted within the L2WS framework, appeared very limited. Analysing, identifying, describing, and explaining spelling errors is said to be very useful in terms of revealing the underlying linguistic deficits in the learners' knowledge of orthography, phonology, vocabulary, morphological and semantic relationships, and mental orthographic images (Wasowicz, 2007). For Arabic speakers, the weakness seems to lay in Alhamza <ء> and its letterforms, the closed <ة> and open ta' <ت>, the sun and moon Laams <ل>, Al'alif Almaqsora <ى>, along with phonological difficulties at early stages – primary school children. Regarding non-native speaking users/learners of Arabic, they generally make grammatical, morphological, orthographic and phonological errors which seem to be most common, followed by lexical, semantic, and structural errors.

Although the available empirical studies on L2 Arabic writing errors have used different approaches and discussed different writing errors, they tend to be either very broad or very classic and shallow. No single study however, was found to have addressed the issue in the light of writing system theory.

Chapter 4: Methodology

English Speakers' Common Orthographic Errors in Arabic as L2WS

'a learner's errors ... are significant in [that] they provide to the researcher evidence of how language is learned or acquired, what strategies or procedures the learner is employing in the discovery of the language' (Corder, 1967, p. 167).

Chapter 4: Methodology

4.1 Introduction

Writing errors, of all sources and types, are manifestations of the language acquisition status (Brown, 2000). Research-wise, or more technically epistemologically, errors are valuable in terms of knowing how they are caused, and what is causing them. In the realm of SLA, describing and interpreting the learner's linguistic competence is ultimately the researcher's job, in which collecting and analysing authentic data seems to be the only way (Lirola and Stephen, 2007). As part of SLA, L2WS empirical research can be descriptive, comparative, or experimental (cf. Seliger and Shohamy, 1989; Blom and Unsworth, 2010; Polio, 2012). This study opts for the descriptive approach, in which data are collected, analysed and described in an attempt to understand how a L2WS, which is totally different from the learner's native WS, is acquired. It has indeed been a journey of struggle looking for participants in Arabic teaching institution across the UK, where I have been in contact with more than thirty institutes in London, Leeds, Edinburgh, Birmingham, Durham and many other places. After collection of data, they were analysed according to the study design, harnessing validity and reliability, along with the stated ethics in all stages from collection to presentation.

This chapter details the research questions and approach, marking the distinction between errors and mistakes, and explaining when an error in this research is described as being *common*. It also portrays the pilot study, which had been done prior to the actual research. The study participants, data collection and data analysis tools and procedures are sketched next. Lastly, light is shed on the study's standards of validity, reliability and ethics.

4.2 Research Questions

As pointed out in section 3.2.3 in the previous chapter, large volume of research have since, the 70s, been embarked on to investigate issues (mostly phonological) between the two writing systems, especially in the context of Arabic learners of EFL (e.g. Ryan and Meara, 1996; Al-Buainain, 2006; Crompton, 2011; Ismail and Alsheikh, 2012). On the other hand, orthographic aspects have had very little attention. Contributing towards this research gap the study question is developed: what are the common orthographic errors

that English speaking learners make in Arabic as L2WS? And why are these errors being made? This main question has several implications, which can be divided into eight sub-questions:

- 1- What types of orthographic errors are common in writing Arabic as L2 amongst English-speaking learners of Arabic?
- 2- How frequently do these error types occur?
- 3- According to the research sample, why do these errors occur?
- 4- Considering their frequencies, what is the link between their rate of occurrence and the probable cause?
- 5- Are Arabic speakers known to make these (or some of these) errors as well?
- 6- How can these errors be avoided/ reduced?
- 7- Based on existing literature, do speakers of other languages generally share these errors in L2WS Arabic?
- 8- Does English as L1 WS have influences on writing Arabic as L2WS?

4.3 What is ‘Error’ and What is ‘Common’?

Seemingly, the two terms, ‘common’ and ‘error’ mentioned in the main research question need to be explained. In Error Analysis (EA), which will be carefully looked into in section 4.7, there is a difference between an *error* and a *mistake*. According to Corder (1967), the former indicates lack of competence, and it cannot be self-corrected due to the absence of a knowledge reference. A mistake, on the other hand, shows non-consistent failure in performing the already acquired competence. The latter can be self-corrected as a result of accessing their knowledge of the target language (Ellis, 2008). An error systematic deviation from the accepted code, whereas a mistake is an inconsistent deviation (Norrish, 1983). Corder (1967) remarks that it is difficult to decide whether something is a learner’s mistake or a learner's error as it usually entails a much more complicated analytical study. Although there is a fine difference between an error and a mistake, this study will deal with the *error* as any deviation from the norms of the Arabic

writing, regardless of the cognitive factor that can be accounted for. However, based on the pattern that mistakes/errors draw, errors are likely to be those which are consistent as a result of competence failure.

Error, in this study, is that letter (or combination of letters) which is considered by professionals in the field as wrongly written, either because of inappropriate characteristics of the letter shape, or word spelling. Zayed (2006) remarks that spelling errors stem from failure in fully/partially corresponding phonological characteristics and graphemic forms to the Arabic orthographic system. Such errors are results of transfer of L1 phonological knowledge, or inadequate knowledge of the orthographic system of the L2WS (Van-Berkel, 2005). When L2WS learners are faced with phonemes that have no near equivalent in their L1, they are likely to invent a spelling to roughly represent the sounds (*ibid*). However, the same spelling error may be explained as caused by either L1 phonology or L1 writing system, as a result of limitations to L2WS spelling research (Cook and Bassetti, 2005). Mastering letter forms appears to be problematic in L2WS Arabic (section 2.4.2.1). Rules of writing system, as described by Sassoon (2004), include characteristics such as direction, ductus (the term *rasm* is used here with respect to the AWS), heights of letters, their size, their composite parts (e.g. teeth, slant, and cusp), their forms (i.e. initial, medial and final), the use of spaces, and the use of dots. Each of these elements may be incompatible with the *norms* of the writing system, and in our case the AWS. Unsurprisingly, the difference between the two WSs allows for difficulty in which odd shapes, irregular sizes, and wrong choice of letterform occur in L2WS learners' text and are considered errors (cf. Somers, 2005).

As this study pays no attention to aspects beyond the question of orthography, lexical choice and morphological errors, for instance, are not relevant to the research. Since the study looks specifically into handwriting, letter characteristics, besides spelling, are under the focus of this analysis. While there are some interesting interactions between orthography and handwriting, *error* might be better explained by the word *anomaly*, which can apply at all levels and remove the tension of *error* (Somers, 2005). A *written error* is 'the use of a linguistic item in a way which a fluent or native speaker of the language regards as showing faulty or incomplete learning' (Richards *et al.*, 1992, p. 127). With those which are seen unquestionably errors, the judgment is obviously easier; but the analysis of handwritten text and the following judgment sometimes are not very clear. Bringing back the binary division of error vs. mistake (Corder, 1981), deviations from

orthographic characteristics are always consistent in which they draw a pattern in the student's writing and therefore, are seen unambiguously errors. The researcher exerted every effort to diagnose the data at his best, with no previous example/study to work accordingly. And so, the *error*, in the present study, is any systematic non-native-like handwritten deviation (see examples of what are considered here as errors in two samples in appendix 7). These were checked against native writing (section 5.2.4) as they were also verified by a second rater who is considered one of the professionals in the field (section 4.9.1).

A *common* writing error is that writing error which is shared amongst numerous learners, recording a high rate of occurrence in the data. Researchers' views seem to differ greatly on the appropriate percentage required in order to declare an error as common (Al-Majed, 1996). It seems to vary according to the context within which their theories, data, samples, and results are located. Based on piloting, this study nonetheless, and considering the normal distribution of participants, mean number of all errors, and the standard deviation of the study sample, it is probably safe and viable to determine that any error scoring 5%+ occurrences should be considered as common. In addition, an error would be described as common when it is made by at least 20% ($n=8$) of the participants – the proportions that were embraced by similar researches (Alwan, 1984; Al-Majed, 1996; Abu Al-Rub, 2007).

4.4 The Research Approach

The nature of this study entails discovering the actual writing in different places/institutions, where the researcher can investigate real L2 classrooms and collect authentic samples of students' writing. Adopting a descriptive approach, the research tries to look into, analyse, and describe the data collected from a L2WS theoretical point of view. The overall methodology, hence, is an exploratory case study where the research tools are mixed - qualitative and quantitative. Within applied linguistic research, several methodologists affirm that a mixed methods approach is useful for exploring complex phenomena, as it investigates both the processes and the outcomes (Hashemi 2012). The interplay between the two major approaches, quantitative and qualitative, is said to have strengthened, and beneficial results (Strauss and Corbin, 1998). Moreover, combining different methods brings the best of both approaches, which provides richer data along

with multi-level analysis, and eventually improves the research validity, as suggested by several methodologists (Dörnyei, 2007; Lamb, 2013).

Employing the mixed method paradigm, this study embraces a triangulation model, in which the issue is investigated qualitatively and quantitatively simultaneously. This is thought to be ‘best suited when a researcher wants to collect both types of data at the same time about a single phenomenon, in order to compare and contrast the different findings to produce well-validated conclusions’ (Ivankova and Creswell, 2009, p. 142); and that is the case of this research. Although it is believed to be time-consuming and sometimes laborious to simultaneously collect and analyse two separate datasets, it can result in well-validated and substantiated findings (ibid). Moreover, the design of this study adopts a case study style, more particularly a *collective case study*, in which the researcher collects more than one case in order to investigate and better understand the issue in question (Hood, 2009). In applied linguistics, a case study may, according to Stake (1995, p. xi), be defined as ‘the study of the particularity and complexity of a single case’; in which a *case* typically refers to a person, an entity, or even a whole country (Chapelle and Duff, 2003). The importance of this research style lies in the fact that it entails rich contextualisation fostered by a deep inductive data analysis which consequently provides concrete evidence (Duff, 2013).

The weight of this study’s design is evenly given to both qualitative and quantitative data. The writing samples in form of multiple-choice test, open-ended essay and a dictation will be treated both qualitatively (EA) and quantitatively (statistically). In addition, participants were asked to complete a follow-up survey to supplement the writing samples’ results afterwards, which will be tackled mostly quantitatively. Interviews, on the other hand, which are intended to explain the previous results and afford comments, experiences and observations, will mostly be dealt with qualitatively. Mackey and Gass (2005:2) suggest that where the data cannot be simply quantified, ‘and the analysis is interpretive rather than statistical’, a qualitative study is preferred as it is more effective.

4.5 Piloting the Research

Needless to say, piloting is very important before embarking on actual research. This step affords much information on how the actual experiment would go both methodologically

and theoretically, and eventually allows for more reliability and validity. Pilot-study data was collected from three different institutions: King Saud University (Saudi), Islamic University (Saudi) and Durham University (UK). Thirty-three English-speaking learners of Arabic as a foreign language were the total number of participants in the piloting sample. The data were first collected from Islamic University, then from King Saud University in late 2010, and then more samples were gathered from Durham University in 2011.

Three types of data were collected. Free-writing was one type, in which students were asked to write in Arabic freely about a specific subject for 40 minutes (150-250 words). The second type was dictated text (162 words), in which the students were asked to write what the teacher dictated in Arabic. The third was a translating task, whereby the students were asked to translate an English text of approximately 200 words into Arabic. The three types intended to approximately match the study methodology and moderately cover the variety of writing practised inside Arabic L2WS classrooms.

In order to analyse the data, the researcher made a list of broadly anticipated orthographic errors based on literature (e.g. Mahmoud, 1994; Albieli, 1998; AlHumidi, 2003; Al-Nashwan, 2006; and Alhawary, 2009) and formed 13 categories. The data were scored by the researcher as he set symbols to appropriately code the errors that emerged from the data and to eventually count errors in each category. Table 4-1 below shows these categories.

Table 4-1 Error Categories in Piloting Study

Error type	Symbol	Example/explanation
1 Directionality	→	Unclear writing direction within the word.
2 Phonological	P	Converting short to long vowels, or mixing sounds such as <ح> /h/ for <ه> /h/.
3 Grapheme (Beginning)	GB	A wrong letterform in the word-initial
4 Grapheme (Middle)	GM	A wrong letterform in the word-medial
5 Grapheme (End)	GE	A wrong letterform in the word-final
6 Transferring from English	T	Transferring letter shapes from Latin script
7 Dots	D	Misplacing, or wrongly adding dots
8 Letter ductus, size and teeth	L	Errors in letter-formation which includes its size, shape, and teeth
9 Spelling errors	O	Spelling errors such as writing <ه> instead of <ة> for the word مكة (Makkah).

10	Character substitution	S	Substituting letters for other reasons
11	Gemination (Shadda)	Sh	Doubling letters instead of using the shadda diacritic as in الطَّعام for الطَّعام
12	Missing letter	M	A letter is missing from the word
13	Insertion	I	A letter is incorrectly inserted in the word

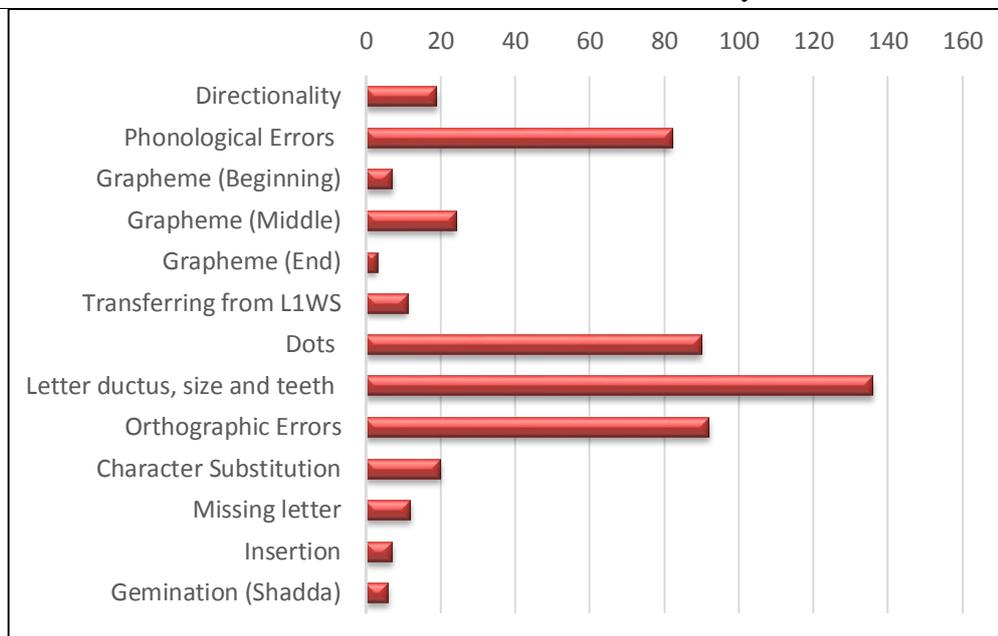


Figure 4.1 Frequencies of Orthographical Error Types (in pilot study)

The three writing tasks (33 sheets) yielded 503 errors in total. Figure 4.1 demonstrates the results in terms of error categories and frequencies. The most common errors were found within the category of letter ductus (shape), which recorded 26.72%. Orthographic errors, which accounted for (18.07%), dots (17.68%), and phonological errors (16.11%) were also common. However, the rest of the errors accounted for less than 5%. The pilot study confirmed that English speaking learners of Arabic L2WS encounter a problem both orthographically and phonologically. It also gave the researcher a picture of what is expected and how to improve the design of the actual study.

4.6 Research Participants

As mentioned, three instruments were used to collect data for the study purpose, namely: writing tests, questionnaires, and interviews, each of which has its own population criteria. The writing tests and questionnaires were distributed among English-speaking learners of Arabic as L2WS. The interviews, on the other hand, were conducted with teachers of

Arabic as second language, in order for them to explain and comment on the test results. Based on similar studies (Mol, 1992; EL-Aswad, 2002; Abu Al-Rub, 2007), the researcher had calculated that an adequate sample size would consist of about 30 learners multiplied by three writing samples for each, which would make 90 writing samples. Furthermore, around 60 completed questionnaires as well as five to eight teacher interviews would be quite representative. The researcher nevertheless, managed to gather 82 responses to the questionnaire, 128 different writing samples from 44 learners (four learners did not complete the tasks), and six teacher interviews.

The study criteria for the writing-test sample stated that any participant had to be: a learner at one of the Arabic institutes in the UK, an English L1WS user, and holding at least an intermediate Arabic ability or studying at intermediate levels. The selection of intermediate levels was based on the fact that beginners are known to make a wide variety of errors due to lack of Arabic knowledge; and conversely, advanced students are known to make less errors due to their high level of Arabic proficiency. Sassoon (2004) remarks that students at these stages are usually in the best stage to explain specific L2WS problems. In detail, the 44 participants in the writing tests were in the age range of 18-25, and were studying Arabic programmes at language departments of their universities. The largest proportion of participants were females with a percentage of 79.5%, while males accounted for 20.5% of the total participants. All writing-test participants were at intermediate levels of their Arabic programmes.

The questionnaire was, however, circulated amongst English speaking learners of Arabic at any level in the UK. This was done in order to gather as many opinions as possible so as to investigate learners' attitudes in a fully integrated prospect. Arabic-department staff were contacted to facilitate circulating the email invitation to the online questionnaire. The questionnaire eventually had 82 responses from learners in the UK, who responded through online communication.

The interview sampling frame, on the other hand, was purposefully designed to accommodate solely Arabic teachers with relatively lengthy experience in teaching Arabic to English speakers. A strategic technique, based on Network Theory (as pioneered at Newcastle University by Milroy and Milroy (1992)), was exploited in order to reach teachers in the same field and with the same context. Teachers at the organisations where the tests and questionnaires were collected were of course included.

Specifically, the frame required that a participant had to be a qualified teacher of Arabic with formal teaching experience to English-speaking learners in the UK. If they were not linguists, interviewees had to at least be familiar with linguistic topics and terms in order for their observations and comments to be meaningful to the research. The participants also had to have some experience with teaching Arabic writing specifically, in order to be able to notice attitudes and mistakes and be able to elaborate on their experiences and explain phenomena.

All the interviewees are either PhD holders or PhD candidates, and most of them were linguists with different specialties (i.e. critical discourse analysis, applied linguistics and translation). The interviewees, except one, were native Arabic speakers with different dialects. Although, the researcher had initially planned to acquire data from eight informants, due to rejections from numerous institutions and teachers, the sample was ultimately compiled of six people (three females and three males). Nevertheless, the interview sample may be considered representative as this number of interviewees actually reflects the total number of teachers in the main data resources – three universities, which is the final number considering the research style and methodology (Krejcie and Morgan, 1970; Cohen *et al.*, 2011).

4.7 Data Collection

The data collection process took place between January 2012 and March 2013 in different institutions such as Durham University, Leeds University and Northumbria University. Although there are more than 50 institutions that offer learning Arabic as a foreign language in the UK, many of which were contacted, it was quite a long struggle to find the institutions that eventually allowed me to collect data in their premises. Each participating institute was contacted prior to data collection to arrange for learner consents, time, place and so forth. The researcher travelled to each institution several times before collecting data in order to liaise with staff members for all arrangements. Before each collection, the researcher talked to the participants to explain who they were, what the research is about, and what they would do with the data they intended to gather. The Consent Form was then circulated (see appendix 1) to afford detailed information about the study including information confidentiality, which is carefully discussed in section 4.10. As explained, the data consisted of three writing tests, a follow-up

questionnaire, and teacher interviews. An overview of the three instruments was as follows.

4.7.1 Writing Tests

Open-ended essay, multiple choice and dictation are the tests which the researcher designed in order to investigate the patterns of writing that lead English-speaking learners to make categorised or undesigned errors. Since this study is triangulated, it aims, using these tests, to answer the thesis question. Whereas the tests are intended to unveil *what* errors learners make, other tools (i.e. questionnaire and interviews) seek to touch the background to disclose *how* these errors are made and may explain *why* they would occur in this specific context. Generally, the tests were designed to reflect the real situation in L2WS Arabic classrooms. The purposes of each test, and their design and structure are outlined below.

4.7.1.1 *Open-Ended Essay Test (OEET)*

As its name implies, the open-ended essay test (OEET) is intended to replicate reality. Although writing outside exam halls is not timed or scored, an open-ended essay is the nearest type of writing to imitate individual writing. Imitative writing, which is the first of the four types of writing performance, can afford a revealing assessment of the basic tasks of writing letters, words and limited sentences (Brown, 2004a). Open-ended writing test has to be direct and on general topics (Weir, 1993), but could be set in tight or loose settings with regard to timing, text length and compulsory or optional topics. What is meant here by open-ended essay test though is a test which allows test-takers to write on a very general topic, but within a limited time and length. Learners are however free in terms of planning, organising, and structuring their essays.

This move of requiring extended writing to measure writing ability, according to Alderson and Banerjee (2002), began in the late 1970s and remains in use in many language tests, such as IELTS and TOEFL. To an examiner, setting this type of test tends to be quite easy and direct, as many researchers observed (e.g. Weir, 1993; Hughes, 2003; Weir, 2005). This easiness and directness, on the other hand, raises concerns about the

test implications as well as its validity. Questions are being asked, for example, about the load on test-takers' backgrounds, which they constantly draw upon in order to compose on such general topics (Weir 1993). In addition, researchers argue that students can accurately write sentences in the sense of syntax while they cannot produce appropriate text with regard to coherence (Hyland, 2002). Scoring this kind of test, among other criteria, is also debatable (e.g. task purpose, test instructions) in terms of validity. However, what matters here is that this open-ended test is used to elicit learners' ability of writing Arabic as L2WS. The researcher is interested in discovering common orthographic errors which English-speaking learners habitually make while in writing Arabic. Hence, the learners' thoughts, creativity, coherence and even their grammatical errors will not be assessed due to the fact that this is out of the research question. Accordingly, those debatable concerns are relatively irrelevant.

■ Test aim

The OEET was purposely designed to discover orthographic errors in productive writing which could be considered to be 'common' and yet would not appear in other indirect tests (i.e. multiple-choices and dictation) for one reason or another (e.g. individual difficulty, rare vocabulary). As the other tests used in this research were designed indirectly using existing data, this test may show other issues that have not emerged previously or were not shown in the existent limited literature. Moreover, this test accounts for the approach of examining the interference between the two writing systems, as this study is concerned particularly with English-speaking writers of Arabic as L2.

■ How the test was designed

To ensure that the test is valid and that it fulfils its purpose as explicated above, it was designed in a careful way. Written instructions were given both in their L1WS and L2WS to the test-takers on how to answer the question. It is believed that doing so makes the test more valid and reliable (Atkinson, 1987; Macaro, 2005).

The instructions include a time limit, acceptable length of text, and the task topic and type (see appendix 2). The acceptable length ranges between 250-300 words, which suits the purpose, and is neither too long nor too short. The time limit was set to 35 minutes on the

basis that one minute would be enough to compose 10 words; therefore 35 minutes is sufficient for writing up to 300 words and to review the whole text. The test entails one type of text, which is short essay, and one topic only ('the last summer vacation'), for two reasons: restricting test-takers' choices, which limits probable confusion or hesitancy; and maintaining comparable production of texts. Granting candidates more freedom in an already free, direct and open-ended test could cause invalidity and unusable results. The topic selected, namely writing on a past holiday, presumably fits all candidates. That is to ensure that relying on the test-takers' backgrounds would not be difficult, and therefore individual differences would be pretty limited.

4.7.1.2 *Multiple-Choice Test (MCT)*

Although it is a traditional method and comparatively hard to design (Alderson and Banerjee 2002), unlike open-ended test, MCT is a type of test that is more desirable due to several attributes. Being indirect, showing clear purposes, and enclosing fixed response format are some of those attributes. One of the foremost types of indirect tests, as McNamara (2000) illustrated, is the Multiple-Choice Test. These characteristics in general prepare for a controlled test environment and assist raising validity in both test stages: testing and scoring.

Apart from the advantage of being indirect and practical, MCT can be scored quite quickly and reliably (Brown, 2004a). Its advantages, however, do not negate the fact that it requires certain knowledge of vocabulary for test-takers to react independently (Alderson and Banerjee 2002), besides that it is difficult to design perfect questions for an optimum test (Hughes 2003). Designing such a test requires writing several plausible distracters, in which 'several' means, at least two, and 'plausible' indicates the ability of each distractor to be possible but not correct. On top of that, each question, including its distracters, has to be clear, simple, and by no means tricky (Haladyna *et al.*, 2002; Brown, 2004b). These criteria are supposed to limit the chance factor while maintaining unbiased and acceptable presentation. Out of different forms of MCT (e.g. one correct answer, two correct answers and True or False), the 'one correct answer' has been chosen for this study, for limiting the guesswork.

■ Test aim

MCT is utilised by this study to examine the existent data of common errors collected during piloting of the study, besides what previous studies have found and identified. The test would also allow the researcher to compare its results as hypothesised in literature against the results of the open-ended test.

■ How the test was designed

The researcher designed the test following the criteria for writing a MCT. Since it looks for errors in L2 writing, the focus was on orthographic issues in word form, such as errors in writing graphemes, letter shapes, as well as orthographic and phonological errors. In addition, issues concerning cross-linguistics were included, such as directionality and transferring errors. The test was built based on the results of the pilot study. The distracters were made of actual errors that the students made while writing in Arabic.

The test had 30 questions. Each of which had three options; obviously only one was correct (see Appendix 3). Each question/stimulus was written to test only one possible error. Each stimulus used in the test was incorporated in a sentence to help the test-taker recognise the correct meaningful word from the context – avoiding homographic words. The stimuli were divided into thirteen categories according to the error categories found in pilot study as well as in OEET. They were distributed based on their frequencies of occurrence as appeared in the results of the pilot study, OEET, and in the available literature. Hence, six stimuli involved letter shape, five entailed orthographic errors, four were given to phonological problems, and only one was concerned with directionality. The distractors were handwritten, imitating students' errors as they appeared in their actual writing (e.g. pilot study, student essays). The time limit was set according to the numbers of questions, with each question being given one minute, which makes 30 minutes adequate.

4.7.1.3 Dictation

In the learning context, dictation is the process of writing down what the learner has heard, as he/she transfers the language from a spoken to a written form (Cartledge, 1968). It

involves, by this meaning, two language skills: listening and writing. It was recognised as a language exercise as well as a testing device. Although Cartledge (1968:227) argued that dictation ‘is not a teaching exercise but a testing exercise’, the use of dictation for testing purposes has been consistently exploited since the late 1960s (John *et al.*, 1975). As it has been well-known, mainly for testing spelling, it has also been a useful tool to measure overall language proficiency, as John *et al.* (1975) points out. Even in L1WS, spelling was tested chiefly by dictation in order to identify learners’ visual recognition of letter sequence, and assess their explicitly or implicitly acquired ability (cf. Peters, 1985; Nunes and Bryant, 2006). In a dictation session, learners need to spell, contextualize and discriminate (Cartledge 1968), which adds analytic elements to the writing process (John *et al.* 1975).

Although reliable research sustains confidence in this technique being a valid and effective test (Lado, 1960; John *et al.*, 1975; Hollenbeck, 2002), studies argue that judging natural writing by a dictation task might be risky. For example, a recent study reported that Russian writers rely to an extreme degree on memorisation of complete orthographic forms, as opposed to the orthographic rule (Kapatsinski, 2010). Furthermore, while Alderson and Banerjee (2002) acknowledge that dictation is proven to be useful in measuring language proficiency, they claim that it is not ‘effective’ when the pronunciation and orthography of the target language have a very close relationship. The ‘very close relationship’ probably means the superiority of phonology as linguistic components of a language as compared to the language orthographic system. If that is true, many phonographic languages, by this meaning, would not consider dictation to be effective in testing language proficiency. Further research is vitally needed to verify this claim.

Nevertheless, dictation is only one of several instruments utilised by this study, and so it is not used unilaterally to judge test-takers’ writing. It is indeed employed here as a research instrument that is concerned with the outcomes of L2WS and not the process of learning it. That said, the test most likely would be a successful device, along with the other tests, to elicit common errors among the study’s participants and to discover the extent of their orthographic knowledge.

■ Test aims

This test aims mainly to explore the implications of writing Arabic on the grounds of listening to the text, as many phonological/orthographical issues depend on how the text is heard. Moreover, it may verify results of the other tests.

■ How the test was designed

The test extensively drew upon the pilot-study's data in producing the dictating text, as it included the most common errors that previously emerged from the test-takers. From the thirteen categories that embodied those common errors, the dictating text was formed and compiled. The whole text was then divided into 22 various sentences, each of which has its own meaning and context. Instructions were given in advance about the process of the test. These instructions entailed guidance to listening to 22 full sentences, each of which had its own number. In the test sheet (see appendix 4), the test-takers find 22 numbered boxes. The participants were asked to write what they heard in the right numbered box as they listened to a pre-recorded tape of the text twice. The entire process was given 50 minutes, on the basis that each sentence had an allowance of one minute to be dictated and repeated once more. This presumably ensured that the time was just enough for writing the sentences, checking, and correcting their possible mistakes before the end of the task.

4.7.2 Questionnaire

A questionnaire sounds a simple term, yet it is not that simple when it comes to definition (Dörnyei and Taguchi, 2010). *Questionnaire* nonetheless, is used here as identified by Brown (2001, p. 6), in which he remarks that 'questionnaires are any written instruments that present respondents with a series of questions or statements to which they are to react either by writing out their answers or selecting from among existing answers'. Even though Brown's definition is well-received among a number of researchers, his definition would also cover written examinations. Hence, a questionnaire is specifically concerned with respondents' beliefs and attitudes which may explain their behaviour rather than being a record of the behaviour itself. In this research, this *subjective* tool then provides a valuable complement to interviews and to the *objective* data of the students'

performance that were collected. Plentiful questionnaires have been used in L2 research gathering various pieces of information to provide further distinctive findings. This section outlines the reasons for using a questionnaire in this study, and how the questionnaire was designed.

4.7.2.1 Overview

In this study, questionnaires were used to discover the reasons why English-speaking learners feel that they make common Arabic writing errors. It is directed to English speaking learners of Arabic in different learning levels. As noted before, the writing tests (section 4.7.1) were taken by mid-level learners in order to avoid too little as well as too much information, which normally accompany early and advanced stages respectively, which may prejudice eliciting data – common writing errors. The questionnaire tries to reveal the participants' backgrounds and attitudes, which might impact their Arabic writing reception, leading them to make such errors. While this is the main purpose of using a questionnaire, it was open to all learners whose English is their L1 at the institutions (see section 4.7), where the data were collected. The decision was to widen the sampling frame seeking for a more representative picture and gathering as much information as possible, leading to reliable and valid results.

As in similar studies (e.g. Al-Shehri, 2009; Ryan, 2009), the questionnaire was not designed totally from scratch. In terms of language and demographic background of respondents, the design of research questionnaire embraced two context-related questionnaires (i.e. Li *et al.*, 2006; Marian *et al.*, 2007). Numerous studies were surveyed on the two resources to determine the most frequent and useful questions in the realm of L2 research. Given the fact that many L2 questionnaires overlap, they proposed a web-based questionnaire which compiles crucial items. In terms of questions on Arabic writing, however, they were carefully tailored by the researcher to explore the respondents' feedback on their own L2WS Arabic experience. These purpose-designed set of questions seem fundamental in order to discover the attitudes that underlie the respondents' behaviour while performing Arabic writing. More details about the two strands of questions are in the discussion of the questionnaire structure.

4.7.2.2 The Questionnaire Structure

As said, the respondent profiles, which comprise language history and language proficiency, were compiled, selecting the most appropriate questions in two L2 questionnaires. The other specific questions, however, which touch on Arabic writing attitudes, were designed by the researcher according to the objectives of the study. Exploiting the writing test results, various questions about certain writing errors were raised as well. Accordingly, a framework was drawn to determine areas of interest that encompass four aspects: the Arabic language history of the sample; their Arabic writing errors; their difficulties in Arabic writing; and their cross-linguistic influences. A pool of questions was then established to cover these four aspects. The initial, fifty-four questions, which represented the question pool, were refined into twenty-six questions that were divided in three sections: language history and language proficiency, Arabic writing, and background information; each of which was then revised appropriately. Moreover, the questionnaire sections were structured and ordered to gain as many interested respondents and completed questionnaires as possible.

The design incorporated suggestions and guidelines of several methodologists (e.g. Seliger and Shohamy, 1989; Aiken, 1997; Oppenheim, 2000; Brown, 2001; Couper et al., 2001; Lazaraton, 2005; Perry, 2005; Gillham, 2008; Dörnyei and Taguchi, 2010; Cohen et al., 2011), such as using positive instead of negative phrases, writing specific and not general terms, laying factual questions at the end, and so on. Giving instructions in the respondents' L1 (English) was to ensure that the respondents had time to spend on responding to the questionnaire items rather than figuring out what it was all about. Using L1WS for such purposes is thought to be useful and significant in terms of validity and reliability (Atkinson, 1987). Although this may activate a specific language mode (Grosjean, 2001), the questionnaire was intended to merely gather information and not test the respondents' L2 efficiency, and hence there was no reason to write the questionnaire items in their L2.

During the design process, a number of questions were rewritten and restructured to reach a satisfactory wording. Similarly, sections were joined and divided in order to provide the respondents with a good experience (see Appendix 5 (Questionnaire – 9 pages). The following sub-sections explain in detail how the questionnaire sections were designed.

■ The first section: language history and language proficiency

The first section focuses on two main aspects: language history and language proficiency. It investigates the number of languages that a respondent speaks, and their proficiency-based order. It then goes deep into their Arabic-learning background as when/how/where they started writing in Arabic. A question regarding their own Arabic skills follows. A system of six-level scale which describes stages from very poor to very good, including poor, fair, functional, and good in between.

■ The second section: Arabic writing ability

This section thoroughly investigates beliefs and attitudes towards L2WS Arabic. It forms the main part of the questionnaire which embraces the most important information to the study. The researcher designed ten questions here based on three areas: language difficulties, learning difficulties and inter-linguistic difficulties. This triangle of difficulties was formed based on literature survey as well as results of the pilot study. Each question in this section belongs to one (or two or all) of the three angles. The entire section could perhaps reveal where the writing problems come from so as to assign one, two, or all the three angles/areas being the source of making errors. It also may rank them based on their weight as error sources. Each of the ten purposely designed questions will be illustrated.

The first question basically explores how learners perceive Arabic letters in general. The second investigates whether respondents have specific problems with the Arabic letters in their isolated forms. The third takes a step further to examine joining Arabic letters to compose a word which includes three letter positions/forms (i.e. initial, middle and final). The fourth question looks at directionality and whether learners find challenges while writing in the opposite direction to their L1's. The fifth covers many issues that have been found in previous studies (refer to section 3.4 in the previous chapter) and emerged from the pilot study results, such as common orthographic errors among non-native learners, common errors among native learners, phonological problems and directionality. This question was designed to verify whether the errors addressed in prior general studies are also found in the research specific context. The sixth question gives an example of a letter that is joined to others in the three forms and looks for difficulties that learners might encounter in practice. This basically and practically verifies the answers to the third

questions. The seventh question asks the respondent to refer to one of the three problems and state whether the difficulties come from the fact that Arabic has different spoken dialects; that Arabic has a completely different writing system; or because of influences from their L1WS. This question collectively represents two angles of the triangle mentioned above.

The eighth question, similar to the fifth, asks about documented known errors amongst second language learners of Arabic. It investigates the respondents' attitudes to particular Arabic writing phenomena, including those which native speakers fall into, such as *Alhamza* – the glottal stop, and *Al-shadda* – the gemination, and connecting sounds with their letters. Other issues regarding letter-shape and graphemes are also investigated here, such as letter sizes, teeth and dots, and differences/difficulties in joining letters according to their positions in the word. This would act as a check on the results of the fifth question. At the end of this part, the ninth question tries to determine how often learners check spelling of an Arabic word while writing in Arabic, whereas the tenth inspects whether they do so in a certain way. The former would probably show the size of difficulty or uncertainty that learners encounter while writing in Arabic, while the latter may reveal the most preferable resource, if there is any, to acquire the correct spelling.

As described, the ten questions refer to one or more of the three problematic areas. Questions 1, 2, 3, 7 and 8 ultimately ask whether the learners see the AWS itself as difficult to learn, while questions 4, 5, 7 and 8 investigate writing problems that relate to inter-linguistic aspects such as directionality and L1 interference. Questions 5, 6, 8, 9 and 10 finally try to find out whether the learning methods or personal writing practices have negative impacts on the respondents' writing.

■ The third/last section: factual information

The third section, which is the last part of the questionnaire, contains questions with regard to personal information such as name, age, sex, and education level. These are obviously essential questions which provide insightful information about respondent profiles. It also asks whether the respondent has taken the writing tests which are part of this study, in order to link their responses in both data instruments. At the end of this section, the researcher offers to send the survey's outcomes to the respondent by typing

their email address in the designated box. At least it leaves a nice gesture of returning their effortful inputs.

These questions were situated here, at the end of the questionnaire, as several methodologists suggest avoiding personal questions at the beginning of the questionnaire (Dörnyei and Taguchi, 2010). Placing those questions which ask for critical information at the end allows the respondents to answer the survey questions with much more ease and honesty compared to the other way around.

4.7.2.3 The Questionnaire Administration

The group-administered questionnaire type seems more reliable and suitable for the study purpose (Dörnyei and Taguchi 2010). Besides, it has numerous advantages over the self-administered questionnaire as Brown (2001) noted. On the other hand, online administration tends to be the most desirable among researchers for many reasons and advantages. It adds an illustrative fun element, an individual control device and a reliable computerised result. In addition, it saves paper and assures that each respondent has thoroughly completed the survey as the required-answer feature does. Online administration, using the so-called e-questionnaire, relatively outweighs the group administration type by overcoming many problems associated with traditional administration methods and offering appealing benefits, as numerous methodologists highlighted (Dörnyei and Taguchi 2010). For all these powerful advantages of the online administration type, it was selected to administrate the study questionnaire.

4.7.3 Interview

This is the third research instrument which was designed and applied to the field after a set of writing tests and a questionnaire. The interview has been used as a research instrument for decades in applied linguistics to explore language-related issues. HO (2013) explained that most interviews are like conversation between people, ‘including the researcher and a respondent whose beliefs, opinions, attitudes, and feelings are relevant to the language issues investigated’. Nonetheless, research interviews cannot be described as conversations because one participant is always in charge. More appropriately, as

Kvale (2008) suggests, a research interview is a conversation with structure and purpose that is defined and controlled by the researcher. The differences between a normal conversation and a research interview has driven methodologists to adapt the term ‘in-depth interview’, whereas some of them had to theorize the expression to give a distinction between open and fully structured interviews (e.g. Oishi, 2003; Mack *et al.*, 2005; Seidman, 2006; Dörnyei, 2007; Croker, 2009; Richards, 2009). Although a television, or more generally, media interview seems to relatively match Kvale’s definition, media interviews tend to be very interrogatory with a sense of competition for control whereas research interviews are conducted with a sense of collaborative and exploratory relationship (Richards, 2009); still the control stays in the interviewer’s hands. In any case, ‘interviews are typically used in exploratory and qualitative research to gather data about beliefs of individuals or groups, but different types of interviews are used for different purposes, including data collection in quantitative research’ (HO, 2013, p. 1).

The use of interviews in SLA research reveals the data on different variables such as attitudes and motivation, as well as testing information collected about language proficiency (Seliger and Shohamy, 1989). Numerous researchers in qualitative and quantitative paradigms, even outside social sciences, tend to embrace the interview as a source of information regardless of the dimensions of the information they sought (Richards, 2009). In social sciences however, the need to interview is more important as the interview has been deconstructed and theorized (Rapley, 2004).

4.7.3.1 The Research Interview

In this research, the interview is mostly needed to answer the second part of the research question as to why learners make those found errors. Interviewing the teachers offers more density, explanation, and justification to the data collected from learners. While the interview is not entirely subjective, or wholly objective, it essentially supplements the rest of the research tools. It allows for exploration of different interpretations of the phenomena being studied (i.e. learner errors in L2WS Arabic) from the interviewees’ perspectives. Explaining the data collected from writing tests necessitates exploring teachers’ opinions and beliefs in a way that a normal questionnaire would not offer. This tool allows much time for discussion and probing the results of the tests and the methods

of teaching writing in a L2 context. The interview's potential as method to collect data is very useful if it aids phenomena exploration (Roulston, 2013). The intensive investigation that interviews afford drove the researcher to employ them in order to put the teachers' perspectives into the wider picture of the research.

In this study, interviews follow the writing tests and the questionnaire respectively. They were intentionally situated at the end of the data collection processes to allow for more information to emerge from the learners' input, whether it was types of error, factual data, or beliefs and attitudes. The teachers/interviewees were then asked to express their opinions, to tell their observations, and to comment on the results of the writing tests and the questionnaire. Based on what the participant wanted, interviews were conducted in either English or Arabic as the interview was already designed accordingly. Using the interviewee's L1 in interviews removes concerns about their L2 proficiency, which otherwise might impact the quality and quantity of the collected data (Mackey and Gass, 2005).

The use of interviews is intended to look for answers to several questions which the study asks: Are there any particular problems reported among English-speaking learners with Arabic writing? What types of errors do the learners mostly make according to the teachers' observations? Why do these errors occur? How would learners overcome them? Would one of the suggestions be developing teaching methods in a certain way? What is the impact of the learners' L1 on their Arabic writing? What do they see as the extent of L1 influence, and how does it weigh among other factors (e.g. the differences between the two writing systems and the differences between written and spoken Arabic)? These questions in general would allow the teachers to reveal their observations and beliefs as well as to specifically and scientifically comment on the learners' writing mistakes.

4.7.3.2 Interview Design

Interviews can be divided into numerous types and forms according to their target, means and structures. Job interviews differ from research interviews as the targets change. Using mail, phone, or face-to-face interviews determines their forms as well. Several structures can be employed in designing an interview, ranging from fully-open to a questionnaire-like structure. Much discussion stems from literature about these forms and types with

regard to their suitability for different scenarios. Nevertheless, the researcher adopted the face-to-face, semi-structured interview.

Several methodologists specify stages of designing a research interview regardless of its type (Wilkinson and Birmingham, 2003; Mackey and Gass, 2005; Dörnyei, 2007; Cohen *et al.*, 2011). The stages start with drafting, and then go through different stages to end up with the final, ready-to-go interview. The researcher followed the same suggested path, starting by asking various questions and writing them down. The researcher started by grouping questions about the issues surrounding and involving common orthographic errors which resulted from the writing tests as well as the difficulties, concerns, and opinions that learners expressed in the questionnaires. After a long brainstorm, the questions were refined and regrouped severally, until the first draft emerged. Possible causes, learning difficulties, teaching methods, and teacher perspectives are some of the question groups that were formed.

More than 60 questions were written in the question pool as the interview was being drafted. These questions were refined many times in order to include only the most important related questions. The forms and the wording of the questions were also appropriately adjusted to eliminate any leading or biased items. The interview was then checked to include all, and only, the required questions, ensuring that it fulfils the research aims. The questions were rephrased again to ensure the most suitable wording. Several versions of the interview were piloted (more on piloting the interview in section 4.9.3), until it reached an appropriate shape (questions, sections, and duration) which took it to the final stage and made it ready for interviewing. However, as this is a semi-structured interview, it was possible to add questions as the interview progressed, which indeed is the point of using such a structure (Rapley 2004). Handling questions in this structure involves probing answers to some questions before moving to the next one. More explanation about the conduct of the interview is presented in section 4.7.3.5.

4.7.3.3 The Structure

Different structures were considered in designing interviews. The most well-known structures which relate to this research methodology, are the unstructured, the semi-structured, and the fully structured interviews (Mackey and Gass, 2005; Cohen *et al.*,

2007; Dörnyei, 2007; Bordens and Abbott, 2011). Although the unstructured interview seems flexible and could lead to many details that the researcher has not thought of, it tends to be hard to master and difficult to analyse. It can also be difficult to plan in terms of time and to control afterwards, which might drift the discussion from the key subject (Wilkinson and Birmingham, 2003; Mackey and Gass, 2005). The structured type, on the other hand, has several advantages. It ensures that the interviewees are asked the same questions in the same order, probably with the same wording, as well as that the fact that the interview is easy to steer, control, and analyse (Richards, 2009). Nonetheless, numerous methodologists remarked that this type tends to be inflexible to the point that it appears as a face-to-face questionnaire. The inflexibility element precisely takes out several core advantages of the interview as a means to collect data. This view drove the researcher to choose the semi-structured interview as the suitable structure for this study.

The semi-structured type seems more related to the study approach as it tends to be closed and open at the same time. It allows the interview to naturally flow while providing the interviewer with control. Timing can be mastered, as the essential questions are determined. It additionally possesses the flexibility element, by which the interviewee can contribute outside the predefined questions (Seliger and Shohamy, 1989; HO, 2013). Although the difference between this type and the unstructured form may be only academic, as Wilkinson and Birmingham (2003) highlighted, they distinguish them in terms of the control roles that the interviewee and the interviewer play. In the unstructured interview, the control is almost in the interviewee's hands, whereas semi-structured interviews are mainly under the interviewer's eyes.

Face-to-face interviewing was chosen, not just because it appears as the most common type for interviewing individuals (Fontana and Frey, 2005), but for other benefits that it offers, such as time allowance, and observing the non-verbal gestures with which in-depth interviews are usually concerned (Mack et al. 2005). Also, it helps to better understand what the interviewees try to say or express by affording the opportunity to rephrase or repeat questions. However, face-to-face interviews are not bug-free. They may cause some problems that are not usually associated with other means of interviews, such as telephone or mail interviews. These problems chiefly surround the presence and the various reactions of the interviewer, which could affect the responses of the interviewees (Bordens and Abbott, 2011). In the researcher's eyes however, the face-to-face advantages outweigh its drawbacks.

4.7.3.4 Interview Sections

The researcher divided the interview into five sections: preparation, the interviewee profile, teaching experience, observations, and opinions (see appendix 6). In the preparation stage, the researcher tries to set the atmosphere so as to retain informal-chatting settings, whereby the interview subsequently flows smoothly and naturally. Where possible, the researcher avoided interrogation style, which includes two chairs with a table in the middle, and a tool to record every word the interviewee says. Instead, the interviews took place in the interviewees' preferred places, with informal and comfortable sittings as suggested by Mackey and Gass (2005). In addition, the preparation entailed explaining the project, which includes detailed information about the institution (i.e. University), the supervisor, the research and the researcher. The interviewee, during the preparation, was briefed on what the interview was about, why they were being interviewed, the rationale for using a voice recorder, how to answer questions, and the confidentiality of the interview and their names and answers. This section ends with signing the Informed Consent Form (appendix 1) which asserts on the voluntary nature of their participation and the option of withdrawal at any time.

The next section investigates the interviewee's background, which mostly entails factual questions about their Arabic dialect (if applicable), sex, education, specific knowledge field, current job position, and their job experience. The third section explores their teaching experience in which they have taught Arabic as L2. This section focuses on two main aspects: teaching Arabic writing skills; and teaching Arabic writing specifically for English-speaking learners. This involves the method/methods by which they have taught Arabic writing and the difficulties that appeared concerning the differences between Arabic and English writing systems. The fourth section of the interview is designated for the interviewees' observations. It includes seven questions which probe the common errors they had noticed, the kinds of orthographic errors that learners make, L1 influence, direction errors, and difficulties in learning Arabic orthography.

The fifth section has seventeen questions, which are all about the interviewee's opinions. This section seeks to ascertain possible reasons that underlie making errors in each error category. Based on the Arabic writing tests, which were taken by learners as part of this

study, the interviewees are asked to express their opinions and comment on the tests' results. Additionally, the section entails questions regarding probable similarities between learners' errors in the research context and natives' errors. Since Arabic has many dialects, the influence of teacher dialects is also examined. It is surprising that spelling differs because of phonological characteristics of the teachers' dialects (Treiman, 2004). It also investigates the use of dictionaries and whether they, or other means, help learners to avoid errors. It ends with a call to comment on the current teaching methods, and whether the interviewee has something to openly add about the research and its issues.

4.7.3.5 Setting and Conducting the Interview

In general, the interviewer has to have the interviewing skills to obtain the best results from their interviews. Interviewees respond to interviewers based on different determining factors, such as who the interviewers are in terms of their gender, age, social class, and race, along with their listening and conversation skills (Gass and Selinker, 2008). This places a burden on researchers' shoulders, as it means that the quality of any interview would be measured mostly by the craftsmanship of the researcher (Kvale, 2007). Setting and performing the research interview undertook three phases: preparation, interviewing and finalising. The preparation phase entailed sitting comfortably and explaining the research purpose, design and aims. It also involved addressing the interview, its procedures and confidentiality. Interviews began with factual and closed questions before gradually moving towards more detailed and open questions. The final phase summed up the informant's responses and then asked if they had any other ideas/comments on the topic which the interview did not cover. This is based on suggestions, guidelines, and checklists of several methodologists (e.g. Richards, 2003; Mackey and Gass, 2005; Dörnyei, 2007).

Recording the interview is relatively agreed to amongst researchers, especially if it was a semi-structured or unstructured interview (Dörnyei, 2007). The use of voice-recorder, however, can be useful with some drawbacks (Hermanns, 2004; Rapley, 2004; Burns, 2009). It provides plenty of time for the researcher to focus on the interview itself (e.g. the structure, the questions, the non-verbal communication and mostly on what is being said by the informant). In addition, it entitles the researcher to go back to the source

whenever needed to verify information. On the other hand, it could be intimidating for some informants (Dörnyei, 2007). Others may feel that they have to say something interesting rather than just truthful (Minichiello et. al. 1995, cited in Rapley, 2004). However, the situation that the researcher was in encouraged relying on the recorder due to the nature of the sample; participants were used to such interviews (i.e. researchers and teachers). The recorder was used after acquiring the interviewees' consent with several assurances on the confidentiality of the recordings, and with a full explanation on how the data recorded would be handled.

In terms of asking questions, the approach was naturally conversation-like (Richards, 2009) in that the researcher took the opportunity whenever it came up during the interviews to probe for more information or details that the interviewees could provide in a certain amount of relaxed informal style. This of course goes against what might be described as obsession with neutrality. If neutrality means 'creating appropriate space for the interviewees to share their experience with us freely, regardless of any social, moral, or political content' (Dörnyei, 2007, p. 141), then this is obviously acceptable and approachable. Complete neutrality however, where the interviewee is described as 'active' and the researcher being 'inactive' seems somewhat misleading. There are two participants: the interviewer and the interviewee; the former asks questions and the latter answers them. Hence, thinking of the interview as being active or the interviewer as being neutral is unthinkable unless the interviewer diminishes their presence to be, as Holstein and Gubrium (2004, p140) put it, 'little more than a fly on the wall'. Neutrality, however, could be relatively attained by steering the interview between being too cautious about giving leading questions or misreading the exact wording, and being inactively irresponsible for the interview framework (Richards, 2009).

In addition, the interviewees were asked to express their opinions and observations impartially. In case of question ambiguity, the researcher asked them to reply just as they understood the question to avoid leading the interviewees to a particular answer. The researcher would listen to the answers without interrupting until the interviewee stopped talking. This was quite important, to allow interviewees to expound their views on the topic, which led to better comprehension.

4.8 Data Analysis

Data analysis was the inevitable stage after data collection. Based on the sorts of data collected (i.e. interviews, writing materials, and questionnaire), they were analysed accordingly. Here, data analysis methods used in this study are explained.

4.8.1 Writing Tests

Error Analysis (EA) was the main approach to the analyses of the writing tests collected for this study. Despite its lack of interest in explaining the process of L2 acquisition, Error Analysis was theorised in the realm of applied linguistics to provide ‘a methodology for dealing with data’ (Cook, 1993, p. 22). Describing L2WS learners’ errors has been one of different approaches to analyse writing of the target WS, which could be in any form e.g. free compositions or dictations (Cook and Bassetti, 2005). EA has yielded ample information, encompassing cognitive strategies as well as phonological and orthographic knowledge, on the way that learners translate oral language into a written form (Treiman, 1993; Abu-Rabia and Sammour, 2013). In his notable book titled ‘Errors in Language Learning and Use’, James (1998, p. 1) defines EA as ‘the process of determining the incidence, nature, causes and consequences of unsuccessful language’. Error Analysis distinguishes between lapses, mistakes and errors. A lapse may be a result of lack of concentration, shortness of memory and fatigue (Norrish, 1983). *Errors*, on the other hand, should not methodically be a synonym to *mistakes* (Corder, 1981). The former is an issue of competence, whereas the latter is a matter of performance failure (Corder, 1967). In other words, *error* refers to the systematic error that a learner makes out of his/her ignorance and not knowledge (James, 1998).

The approach of EA generally prescribes three stages to follow for a successful result: recognition, description, and explanation (Corder, 1981). In detail, the procedure entails six steps: data collection, error identification, error classification, error description, error explanation, and finally pedagogical application (Jassem, 2000). Though the procedure involves steps which may be assumed isolated, practically they merge one into the other (James, 1998). The essential complication for the stage of error identification/recognition is to elucidate what constitutes an error. Arguably, it is not always obvious whether an

allegedly *error* is actually erroneous or well-formed writing. This, however, was clarified and dealt with in section 4.3.

In terms of categorisation, different types of EA are carried out by researchers. Dulay *et al.* (1982) point out to four methods of classification: a) Linguistic Category Taxonomy e.g. based on the level of language: phonology, morphology, and syntax etc.; b) Surface Strategy Taxonomy e.g. omission, addition, misinformation, and misordering; c) Comparative Taxonomy e.g. L2 vs. L1 errors; and d) Communicative Effect Taxonomy which highlights the perspective of the effect on the reader, for example. While researchers may prefer one method of taxonomy, an EA study can entail features of different types (Jassem, 2000). Categorising errors can be based on a pre-set categorisation existing in the literature, or based on a new built-up categorisation from the ground as the text is being analysed. Categories in L2 writing literature embody insertion, omission, transposition, grapheme substitution, disordering letters, doubling of consonant, other consonant errors, vowel errors, L1 phonological interference, and L1 orthographic interference, amongst other categories (Dulay *et al.*, 1982; Bebout, 1985; Brooks *et al.*, 1993; James *et al.*, 1993; Cook, 1997; Cook, 2004). In the present study categories embody directionality, phonological, graphemic errors (divided into 3 sub-categories), transfer from L1WS, dots, letter ductus, orthographic errors, gemination (shadda), substitution, omission, insertion, and a category for other errors. Sections 4.5 and 5.2 explained further how the categorisation was conducted.

Describing learner errors involves a primarily linguistic practice. The description system must have one of two characteristics: to be well-developed, and to be as simple as possible (James, 1998). Error description in principle serves for three purposes: a) to label errors in which they can be dealt with; b) to quantify errors or otherwise they would be all in one category – *errors*; c) and to signal the difference between categories (*ibid.*). The explanation of errors, on the other hand, differs from their description in the sense that the former is a linguistic activity whereas the latter is a psycholinguistic one (Jassem, 2000). Explaining errors entails the attempt to follow the sources of errors by which they may be explained how and why they occurred (Corder, 1967). This is a crucial stage as it is the fundamental object of EA (Corder, 1981). Though analysts cannot be certain that their explanation is true or absolute, explanations presented by L2 teachers and linguists may be acceptable, propositional, or reasonable (Jassem, 2000).

Error Analysis was criticised for being interested in, and limited to, analysing errors only, while leaving non-erroneous data out of consideration. However, Hammarberg (1979) claims that this restriction is not real, particularly from a pedagogical point of view since EA operates with a cyclic procedure of elicitation where errors cannot be seen, within the text, as isolated items. Although EA has been exploited for quite a while now as the L2WS literature is rich of old and recent EA studies (e.g. Al-Ani, 1972-1973; Rammuny, 1976; Richards, 1984; Al-Majed, 1996; Mahmoud, 2000; Kopečná, 2008; Chan, 2010; Falhasiri *et al.*, 2011; Khansir, 2013; Muftah and Rafik-galea, 2013; Ufot, 2013; Walkova, 2013) there are still two drawbacks that seem to be persistent: on one hand, determining what is considered an error can be relatively problematic (Saville-Troike, 2005); on the other hand, studies appear to be inconsistent, even within one WS in which we find some studies combining punctuation errors along with different errors in accuracy measures (Polio, 2012). After all, the EA approach has proven to be quite effective in explaining and classifying the interlingual¹² errors in L2 writing, compared to the Contrastive Analysis for example, in which the former has been able to acknowledge and identify more possible sources of errors (Kopečná, 2008).

While the possibilities of studying L2WS using other methodologies are wide (see section 3.2.2), they depend on the aim and the type of data collected. On one hand there are descriptive approaches which vary in a number of features. While the Contrastive Analysis is mostly concerned with L1 influences (Lado, 1957), EA seems more practical and comprehensive (Richards *et al.*, 1992). Observational approach may produce very useful outcomes, but it seems skill-dependent, neglect unobservable phenomena, focussing on recording the phenomenon not necessarily understanding the reasons (Dörnyei, 2007) to the end it may not serve this study's objectives. Similarly, the main purpose of the longitudinal studies is to evaluate different variables over time (Collins, 2006), which was not primarily intended in this attempt of the present study. Experimental and statistical analysis, on the other hand, may reach certain conclusions about the difficulties of writing a L2WS, but this would need a very large population in order to present any useful results (Sassoon, 2004). Computer-based corpus approach, for

¹² Selinker (1969; 1972) originally coined the term *interlanguage* which refers to a concept to which Corder (1981) had named *idiosyncratic dialect* and Brown (2000, p. 217) defined as: 'a system that has a structurally intermediate status between the native and target language'. The interlanguage (IL) theory refers to the linguistic system in the L2 learners' mind which is neither the L1 nor the L2, but influenced by both (Gramley and Gramley, 2008).

example, encounter limited availability ‘of corpora of L2 learners’ writings that accurately reflect the spelling and other writing system properties of the original texts’ (Cook and Bassetti, 2005, p. 35). The EA framework, nevertheless, may be exploited for three aims: a) to examine strategies which are employed by the learners during the process of learning; b) to investigate causes of errors made by learners; c) and to inspect common difficulties in language learning, as a vehicle to improve teaching or teaching materials (Richards *et al.*, 1992). Though it is a basic step in the evolution of the research paradigm, the EA is still widely practiced, specially within the WS research (numerous examples can be found in the Writing Systems Research Journal). As the present study aimed to investigate error types and causes in, as well as writing difficulty of, Arabic as L2WS, the EA approach was chosen accordingly.

Going back to the analysis of the writing tests, the process started with scanning the text to look for errors that fall in the 13 pre-set error categories plus other unknown errors to be analysed and categorised later. These 13 error categories were collected and built based on previous studies, and were used in the pilot study (see section 4.5). However, these errors as well as the Multiple-Choice Test were also counted and statistically analysed using MS Excel. MCT had scoring marks up to 30.

4.8.2 Questionnaire

As explained in the questionnaire design section, a questionnaire has two forms of questions: closed questions and open-ended questions. The results of the questionnaire, which comprise 82 responses, are coded into two different strands: the closed questions are statistically analysed using MS Excel whereas open-ended questions are thematically analysed using Nvivo (a software package that helps to deeply analyse qualitative data with very rich text-based information as it enables researchers to analyse content from surveys, interviews, and other sources, including multi-media information (QSR-international, 2014)). Some data from open-ended questions can be quantified, though (Wagner, 2013).

Closed-ended questions were coded categorically. Using Likert model, multi-item scales required a coding scheme of mostly nominal in addition to interval data. The use of online-questionnaire was of great help since they were already coded and categorised. As suggested by (Wagner, 2013) the data of nominal responses were tabulated. The use of

frequencies in such methodology provide valuable outcomes in understanding the phenomena (Seliger and Shohamy, 1989). In descriptive analysis, the mode is said to be the suitable measure of central tendency (Wagner, 2013), which has been used in this study.

Open questions, on the other hand, were arranged in specific questions (e.g. factual and profile questions) and open questions which directly asked for opinions and details regarding a specific issue. The former were summarized and straightforwardly coded, such as the questions of other languages that a respondent speaks and the period of time they had spent in an Arabic country. The latter, however, were thematically coded, based on grounded theory, using Nvivo, in which they were categorised within on-going built-up themes and subthemes. In thematic analysis, codes are typically developed to represent the identified themes and are initially applied to other sets of data for later analysis (Guest *et al.*, 2011). Responses to the question which asks respondents to comment about their Arabic language use are examples of the kind of data treated through this method. Although this might be involving subjective elements, it is advised that the diversity of response is better refined to a few key issues reliably (Dörnyei and Taguchi, 2010). The researcher followed this advice in the analysis of open items.

4.8.3 Interviews

After recording, the interviews were transcribed. Each interview took about an hour's recording time, which roughly made transcription time take about thirty hours. The interviews were then analysed following the thematic analysis approach that was used in the open-ended items of the questionnaire. It has been said that adopting thematic analysis as an analytical approach in interviews is conventional (Talmy, 2010). It entails analytically grouping and summarizing of the respondent answers by shared or significant themes (Holstein and Gubrium, 2004). Derived from grounded theory, it focuses on the topical content of the transcribed text to inductively reduce the interview to key concepts via a sequence of coding processes (Roulston, 2013).

Exploiting thematic analysis provides the researcher with a comparison tool in which relationship between teacher responses might be investigated. In addition, it seems possible to link some concepts and opinions of the teachers' responses in the interviews with the learners' comments in the questionnaire. Since the interviews were recorded in

L1s, the important coded chunks were translated into English to enable discussing of the results. Using NVivo 10, the texts were coded and categorically analysed, in which seven key themes in addition to other subthemes emerged and developed. Some of these interviews are supported with pictures and videos, which made NVivo the ideal programme to analyse with.

4.9 Validity and Reliability

Validity and reliability are fundamental aspects in designing research instruments. Three instruments were designed and used in this research, after being piloted several times and ascertained that they have acceptable levels of validity and reliability. The details of how the researcher paid attention to validity and reliability of each instrument are as follows.

4.9.1 Writing Test Validity and Reliability

The three tests were given careful attention to ensure that they were designed to measure exactly what they are supposed to in a feasible environment. What is meant by test validity in general is the degree to which the test fulfils the intended objective; accordingly, the test would have high or low validity. In other words, if a test measures what it is supposed to measure, it is considered as valid (Henning and Huizhong, 1987). On the basis of this definition, validity has a great impact on the usefulness of any test as it determines the most important element of its quality criteria (Bachman and Palmer, 1996; Kurpius and Stafford, 2005). Validity is crucial then, as Broadfoot (2005) alerts, to avoiding ‘dark alleys’ which lead assessors to missing opportunities; and ‘blind bends’ which drive them to cause damage.

In addition, Hughes (2003) points out that a language test should examine only language ability and nothing else; doing so would maintain an adequate degree of reliability and validity. Many researchers, however, argue that a very valid test is just a theoretical idea that cannot actually exist (Popham, 2003; Kurpius and Stafford, 2005). It is understandable that test-takers’ performance would vary more or less. That said, the three tests were designed to assess writing ability with respect to orthography.

To gain more reliability, a second rater assessed arbitrary writing pieces of the three tests. The selection of this particular rater was based on the fact that he is an Arabic linguist with long experience in teaching Arabic both formally and informally in the UK. Typically, according to Perry (2005, p. 131), researchers would determine the inter-rater reliability by either ‘computing a correlation coefficient or calculating a percentage of agreement’. The inter-rater reliability calculated degree of this study, hence, is 93.3% in percentage agreement.

In detail, validity has several types: face validity, content validity, construct validity and consequential validity. Each type has its own objectives. Therefore, it can be said that the study’s writing tests probably show: a) face validity, because they are intended to test what they were designed for; b) content validity, as they ‘include a proper sample of the relevant structure’ (Hughes 2003:26); c) construct validity, because the rationale of the tests, upon which construct validity lies (Luo, 2010), is based on a certain context (i.e. English-speaking learners of Arabic as L2WS) including particular writing criteria, such as writing directions, and transferring from L1WS; d) consequential validity, for trying to maintain measuring criteria, following the standards of each type of the tests.

Reliability on the other hand is precisely concerned with the test settings, and the extent to which the test-taker would get the same score with different administrations (Hughes 2003); if a test greatly differs because of different administration, the test is considered unreliable. In taking care of test reliability, the researcher paid much attention to task settings, such as time limit and test language. In addition, the tests were carefully designed to be more reliable according to their characteristics, as each task had its own criteria with their own settings and instructions. Length of writing was not a key factor in the OEET, as the test was intended to look at what is being written in terms of word forms, while not caring much about organising ideas, for example. The task therefore, was only allocated half a page with a rigid amount of time. Such an approach was followed in writing each task, considering their characteristics individually.

4.9.2 Questionnaire Validity and Reliability

Since the questionnaire exploits previous valid and reliable questionnaires (refer to section.4.7.2), the questionnaire items which deal with learner profiles and language background should already be valid and reliable. Dornyei and Taguchi (2010) point out

that in addition to relying on their creativity, successful questionnaire designers draw the survey items by making use of other sources such as qualitative data gathered from different studies and well established questionnaires. These sorts of resources add a large amount of validity due to the fact that these reliable resources have been processed through much careful piloting before they were used and published. The study questionnaire in whole though, was piloted and revised in order to test its validity and reliability.

Eight English speakers, who have taken Arabic courses, participated in piloting the questionnaire. While, they are all native English except one Dutch, three of them were considered multi-linguals. In terms of education, half of the participants were graduates, whereas the others had completed their master's degree. All of them were males, and they had all been to an Arabic speaking country for at least one month. The participants were between 26-35 years old. The data collected showed that they started to write in Arabic after just one year of their Arabic study, and that most of their Arabic competences fall between *functional* and *good*.

Piloting the questionnaire, especially its newly created questions, was taken at two levels: questionnaire piloting and question piloting. The former is part of the design process, while the latter is a matter of preserving correct wording and avoiding ambiguity. Wording ambiguity, section order, question type, content validity, and layout are some of many issues that piloting focuses on. Several notes were taken into account after piloting of the questionnaire by the participants. Some of them were about the question type or the layout, such as adding an extra choice to the answers of the Q13. The layout of the first question was changed to meet some computer compatibility, for instance. The time required to complete the questionnaire was also checked and considered as appropriate. In addition, the researcher revised the content validity several times before and after giving it to the pilot-participants to make sure that the survey served the purpose for which it was designed. The entire try-out, nonetheless, provided the researcher with numerous benefits and careful editing.

Piloting the questions was also given a lot of attention. Gillham (2008) noted that developing and writing questions, even if it takes a long time, does not produce valid questionnaire items unless they are tried out and returned with useful feedback. He lists seven stages to secure a satisfying research tool (Gillham, 2008, pp. 35-36). The

researcher checked Gillham's checklist and revised Dörnyei and Taguchi's (2010) suggestions, whereby the questions were: a) written initially to create a 'question pool', b) tried out on similar as well as different groups to the study sample, c) and edited according to beneficial feedbacks. In details, several questions were rephrased to avoid wording ambiguity like Q13, 14, and 16, for instance. One question was added (Q7), and different items were changed (i.e. edited or deleted) such as Q5, 6, 7, 13 and 17. Indeed, question piloting and the test-study as a whole, has reformed, developed and ultimately matured the survey.

4.9.3 Interview Validity and Reliability

Validating the interview qualifies its results as to be correctly and scientifically extracted. This includes, but is not limited to, excluding unrelated elements, editing wrongly worded questions, and adding other important relevant items (Richards, 2009). In brief, Cohen et al. (2007) summarised the process to attain a greater validity in minimising the amount of bias. Bias could emerge, according to Cohen et al. (2007), from three sources: the interviewer, the interviewee, and the question content. These sources embody many elements, such as the interviewer's opinions and expectations or attitudes, interviewee's misconceptions, and leading questions. There are also leading gestures which could lead the interviewee to a specific bogus stance by a nod of the interviewer's head for instance. Although Kvale (2007) argued that leading questions might on occasion be necessary, it may be understandable in non-research interviews (e.g. job interviews), but not in academic research.

The researcher conducted four pilot interviews, which yielded valuable notes and feedback. Correcting and adjusting several wrongly worded questions cleared out misunderstandings and confusions. A number of questions were added to probe for specific information, whereas two were deleted due to repetition or irrelevance. In addition, different questions were reordered or moved to the appropriate section. It was very useful to discuss with the interviewees how the interview went, which reflected an outsider's point of view. Based on the changes and the updates after the piloting stage, the interview was relatively valid and fairly ready as a research instrument.

It has been suggested that one way to achieve reliability in interviewing is to control the interview by a highly structured design, which ultimately keeps the differences among

interviewees to the minimum (Silverman, 2006; Dörnyei, 2007; HO, 2013). However, this comes with a disadvantage that the data becomes generally limited as the questions are mostly inflexible (Dörnyei, 2007). That said, although the highly-structured design may eliminate most of the interview advantages (HO, 2013; Holliday, 2013), turning it into another form of questionnaire, does not guarantee its reliability. A semi-structured design, therefore, is believed to address this issue with an acceptable compromise (Dörnyei, 2007; HO, 2013). Interview reliability nonetheless, can be significantly enhanced by much training and piloting (Silverman, 2006; Dörnyei, 2007). The researcher therefore chiefly followed the same procedure and sequence, with the same questions to a large extent, particularly the closed ones, including their order. The time limit was tested so that the interview takes between fifty minutes and one hour. This was achieved by repeated piloting and preparations.

4.10 The Study Ethics

In qualitative research which is applied differently in various empirical frameworks (e.g. case study), the ethical structure can be a confusing one (Lazaraton, 2013). It is however said that adhering to three principles, namely: (a) doing no harm, (b) obtaining participant consent, and (c) protecting privacy and confidentiality, makes a research operate ethically (Dörnyei, 2007; Kono, 2013; Lazaraton, 2013). The study has taken into consideration these three principles. Participants (i.e. learners and teachers), who have been part of this study at any stage, had been given notice that participation in this study is entirely voluntary. Each participant was offered full information about the research and its data-collection procedures as well as a consent form. It is stated, as in appendix 1, that this causes no harm to any participant or their learning courses and grades. In addition, the research tools were carefully designed in order to avoid ethical issues. Moreover, the results which were obtained from participants are dealt with and presented anonymously.

Regarding the tests as well as questionnaire, it was stated in the consent forms (appendices 1 and 5) that it is important for participants to know that the collected information would be kept confidential. The tests as well as the questionnaire do not affect any aspect of participants' studies. In addition, the participants' names, personal information, and test results were dealt with anonymously throughout the research. Interviews, on the other hand by nature develop a close relationship with informants which ultimately raises its

ethical concerns (Dörnyei, 2007). These concerns were seriously tackled in this research tool in all of its stages, as suggested by Kvale (2007). Hence, the purpose of the interview was to explore interviewees' experiences on teaching Arabic writing from the beginning of their career to the time of the interview. The participants were informed about the entirely voluntary nature of participation in this study, and their right to opt out at any time without the need to give an explanation. Confidentiality was clearly emphasised and stated to the interviewees. This confidentiality was taken into account during the interview itself so as to reassure the interviewees that the collected data would be presented anonymously at all stages (i.e. transcription, verification, analysis and reporting).

4.11 Summary

This study deals with Arabic writing errors made by English speaking learners in second language classes. The idea is to identify, quantify, and categorise common orthographic errors, and then to examine the reasons behind making them. The study would bridge the gap in the cross-linguistic research, specifically on the differences between Arabic and English writing systems, or more specifically in the context of English-speaking learners of L2WS Arabic in the UK. In this matter, the study hypothesized that English-speaking learners of Arabic probably have their own 'common orthographic errors' which precisely relate to the differences between the two writing systems. It utilises a descriptive writing system approach, which is based on mixed-methods design, in order to answer the thesis question: what are the common orthographic errors made by English writers in L2 Arabic, and why? As a qualitative research, the goal is to discover and explore this phenomenon, not to generalise the results, unless they are generalizable.

Three research tools were employed: writing tests, questionnaire, and interview, for which 44 intermediate learners (writers), 82 respondents, and 6 informants participated respectively. The questionnaire results might supplement the writing test results as the tests were concerned with intermediate-level learners, whereas the survey was directed at learners from any level. The study, including its tools had been properly piloted, leading to several developments and adjustments. Each tool, whether used in collecting or analysing data, was given much attention in order to ensure acceptable levels of validity and reliability. Moreover, the researcher made every effort to ensure that the study

followed a suitable ethical procedure, and participants were fully informed of all details and a consent forms given out to each participant.

The data collected consisted of 128 writing pieces, 82 questionnaires, and six teacher interviews. The data were analysed according to their type. Writing tests were analysed using Error Analysis, in which errors are identified, described, categorised and explained. Errors were statistically analysed as well. Descriptive statistics was used to analyse the questionnaire whereas the open-ended items were thematically analysed. By exploiting Nvivo, the interview data were thematically analysed.

Chapter 5: Test and Questionnaire Results

English Speakers' Common Orthographic Errors in Arabic as L2WS

'From a Western point of view, Chinese books are printed 'from back to front', as are Arabic newspapers.' (Harris, 1995, p. 133)

Chapter 5: Test and Questionnaire Results

5.1 Introduction

As detailed in Chapter four, the study deals with Arabic writing errors made by English-speaking learners in second language classes. The aim is to identify, quantify and categorise common orthographic errors, and then examine the reasons behind them. Thus, the researcher collected three types of data, namely, a set of writing tests (section 4.7.1), a follow-up questionnaire (section 4.7.2), and teacher interviews (section 4.7.3). In this chapter, the researcher presents the results of the tests and those of the questionnaire, which cumulatively form the participants' practice and perspective. Hence, they are divided into two sections: writing tests results, and questionnaire results. The interview results will be presented in the next chapter.

5.2 Writing Test Results

The writing tests, as explained above, consisted of three writing tests: Open-Ended Essay Test (OEET), dictation, and Multiple-Choice Test (MCT). The test takers were 44 participants in total; one did not complete the OEET, and three participants could not complete the dictation test. Presenting the results of these tests will follow the same sectioning in addition to a fourth section which checks whether these results would vary if the tests were taken by native speakers.

Common errors in both OEET and dictation will be presented according to 13 error categories plus an additional category of unknown/uncategorised errors. The 13 error categories, as explained earlier (section 4.5), were collected and built up based on previous studies. They were also applied and tested in the research's pilot study. They include directionality, phonological errors (vowels or consonants), grapheme errors (beginning), grapheme errors (middle), grapheme errors (end), transferring from English, letter dots, letter shape (ductus¹³, size and teeth), orthographic errors, gemination (*shadda*), letter substitution, omission, and insertion, in addition to other uncategorised

¹³ The way in which script is written considering speed, method of execution, and form of letter. (Brown, 1990)

errors. Table 5.1 shows the categories along with their corresponding symbols as used in the result charts and tables.

Table 5.1 Orthographic Error Types

	Error type	Symbol	Example/explanation
1	Directionality	→	Unclear writing direction within the word.
2	Phonological	P	Converting short to long vowels, or mixing sounds such as <ح> /h/ for <ه> /h/.
3	Grapheme (Beginning)	GB	A wrong letterform in the word-initial
4	Grapheme (Middle)	GM	A wrong letterform in the word-medial
5	Grapheme (End)	GE	A wrong letterform in the word-final
6	Transferring from English	T	Transferring letter shapes from Latin script
7	Dots	D	Misplacing, or wrongly adding dots
8	Letter ductus, size and teeth	L	Errors in letter-formation which includes its size, shape, and teeth
9	Orthographic errors	O	Spelling errors, such as writing <ه> instead of <ة> for the word مكة (Makkah).
10	Character substitution	S	Substituting letters for other reason
11	Gemination (Shadda)	Sh	Doubling letters instead of using the shadda diacritic as in الططعام for الطَّعام
12	Missing letter	M	A letter is missing from the word
13	Insertion	I	A letter is incorrectly inserted in the word
14	Other errors	?	Other unknown errors

The errors, found in OEET and dictation, are categorically and statistically presented in this chapter, which helps to evaluate them in terms of their commonness. The third test, which is the Multiple-Choice Test, has scoring marks of up to 30, which reflects how the participating learners performed with stimuli words compared to their writing in both production and reception.

A short comparison between the performance of both non-native speakers (the actual research sample) and four native Arabic speakers will follow in section 5.2.4 to show the English speaking learners' common errors against their native counterparts', which may give a better understanding of the results.

5.2.1 Open-Ended Essay Test

The purpose of the Open-Ended Essay (OEET) was to replicate actual writing situations. This type of writing imitates individual writing, and so it would collect errors that learners normally and repeatedly make while writing. Individually, most of the English-speaking

learners of Arabic (participants were described in section 4.6) made at least 20 different writing errors in the OEET.

Figure 5.1 sketches the sum of errors in each type/category made by each learner to give an idea of the sort of errors that the individual participants made (each layer in the columns represents a learner). It clearly demonstrates the variation of error frequencies in each error category and how it was collectively done by many participants. The letter shape in conjunction with the orthographic errors appear as the most problematic error categories. Dots, either omitting or adding (overdoing), along with phonological errors came as the next widespread errors, having more than 150 errors each. Direction errors, missing letters, and grapheme errors, especially the initial and the medial letter errors, are also common errors as they were made by numerous individual participants. Categories with less than 50 errors such as substitution, insertion, gemination or *shadda*, and transferring from L1 seem to have many individuals too, but not as diverse as the categories with greater number of errors.

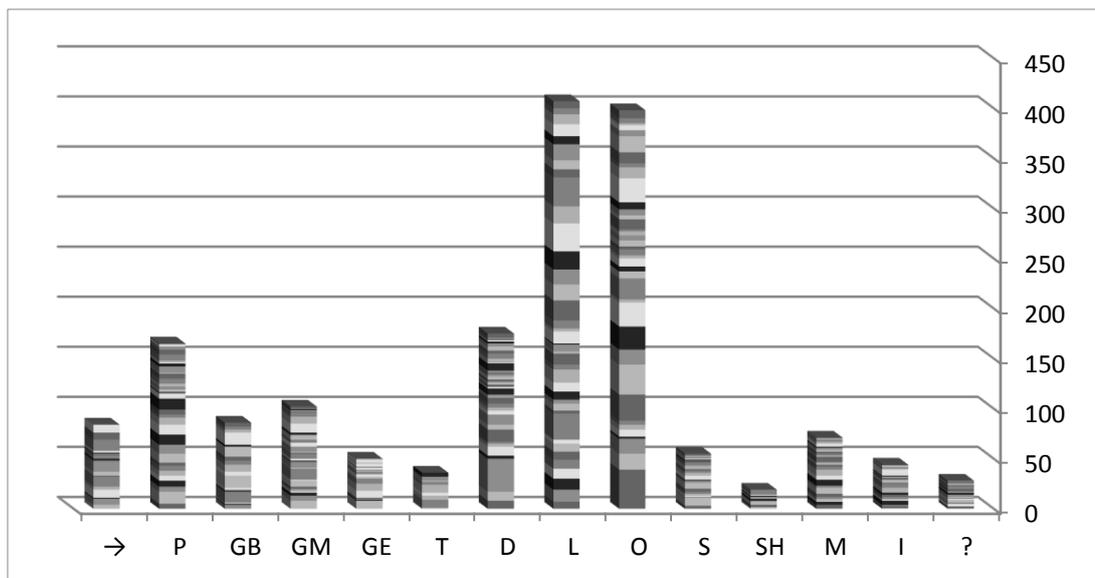


Figure 5.1 Error Type by All Learners Combined in OEET

KEY
 → Directionality, P Phonological error, GB Grapheme (Beginning), GM Grapheme (Middle), Grapheme (End), T Transfer from English, D Dots, L Letter shape, O Orthographic error, S Letter substitution, Sh Gemination and doubling errors, M Missing letter, I Insertions, ? Other

Combining the individual results, Figure 5.2 exhibits how the 14 error categories are distributed depending on the mean error percentage made by all participants.

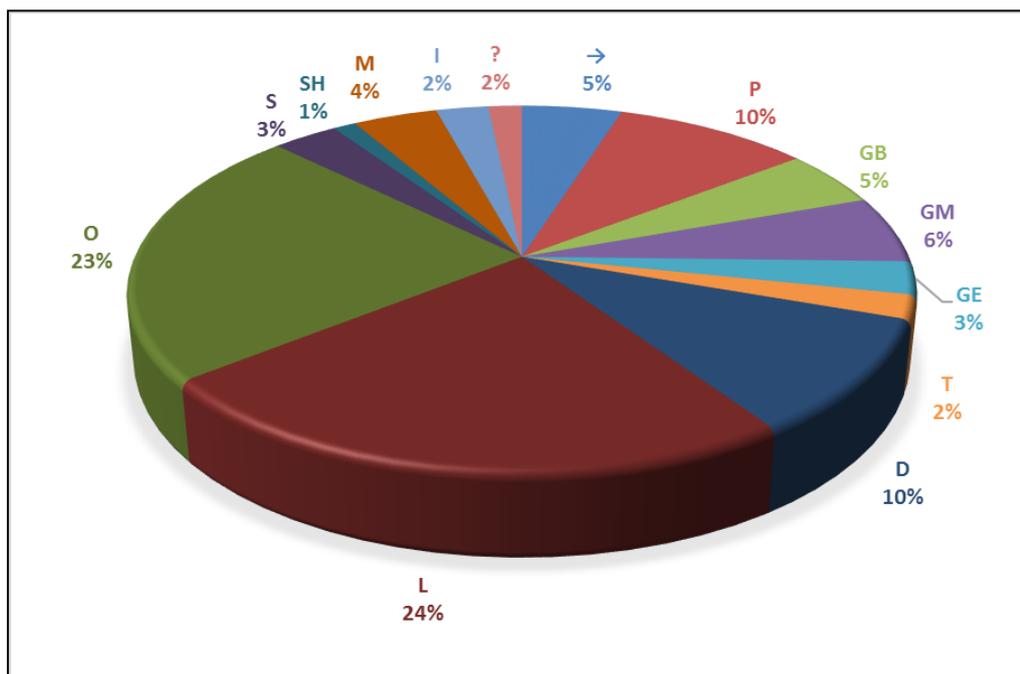


Figure 5.2 Mean of Error Categories in OEET

KEY	
→	Directionality
P	Phonological error
GB	Grapheme (Beginning)
GM	Grapheme (Middle)
GE	Grapheme (End)
T	Transfer from English
D	Dots
L	Letter shape
O	Orthographic error
S	Letter substitution
SH	Gemination and doubling errors
M	Missing letter
I	Insertions
?	Other

The most common error, as this figure shows, is the letter shape with 24%, followed closely by orthographic errors with 23%. The phonological issues and dots problems seem to be next in common with 10% of all errors. Letter positioning both in the beginning as well as in the middle appear to be also problematic with 5% and 6% respectively.

The full results of the open-ended essay test are shown in Table 5.2. Each error category is shown along with their number of occurrences, mean frequency and the standard deviation. The table also presents the total number of all errors found (disregarding of their types) against all letters written by participants, along with error frequency per letters. The mean is also calculated in each error category, as was illustrated in Figure 5.2.

Table 5.2 Open-Ended Essay Test Result

	Key	Sum	%	Mean*	SD
Directionality	→	84	5%	1.95	3.18
Phonological	P	165	10%	3.84	3.36
Grapheme (Beginning)	GB	86	5%	2.00	3.24
Grapheme (Middle)	GM	102	6%	2.37	2.77
Grapheme (End)	GE	50	3%	1.16	2.02
Transferring from English	T	36	2%	0.84	1.90
Dots	D	175	10%	4.07	5.36
Letter ductus, size and teeth	L	407	24%	9.47	7.21
Orthographic errors	O	398	23%	9.26	9.11
Character substitution	S	55	3%	1.28	1.74
Gemination (Shadda)	Sh	19	1%	0.44	0.77
Missing letter	M	71	4%	1.65	1.77
Insertion	I	44	2%	1.02	1.42
Other errors	?	28	2%	0.65	0.87
Errors		1,720	100%	40.00	21.55
letters		16,805	100%	390.81	
Error per letters		10.23%		10.23%	

* Computed based on 43 learners

Although they differ greatly, as indicated, the average letter count in the OEET was nearly 391 letters per participant, whereas the mean error count (computed based on 43 learners) recorded 40 errors per sample. This means that in average, there were approximately 10.23% of errors per letters in each participant's sheet. It can be seen from the table above that, based on the mean of all errors and the mean of all letters written by participants, the rate of 10.23 errors per hundred letters is relatively considerable, though is not quite high ratio.

To look at the data from other points of view, the researcher divided the error categories into error groups. Grouping similar error categories affords a better look into the error variations. Four groups were formed based on similar general attributes of the error types: grapheme errors, letter composition errors, alteration errors, and L1 influence errors. The group Grapheme Errors combines graphemic errors at the beginning of a word GB, graphemic errors at the middle of a word GM, and graphemic errors at the end of word GE as in *هناك**, *هناك*, and *هناك* respectively. In the second chapter, the Arabic Writing System (AWS) was discussed, and how letters mainly have four forms: standalone form (not used in writing), initial, medial, and final forms. In cursive writing, which Arabic entirely depends on, letters change their forms based on their positions in words. Figure 5.3 shows that GM (medial form) is the most difficult position for writing the correct corresponding form, having 43% of all grapheme errors. GB (initial form)

accounts for 36%, whereas GE (final form) comes with the least percentage of all errors in this group. It is worth mentioning that the mean number of the three grapheme errors is 5.53, which is divided into 2.0, 2.37, and 1.16 for GB, GM, and GE respectively.

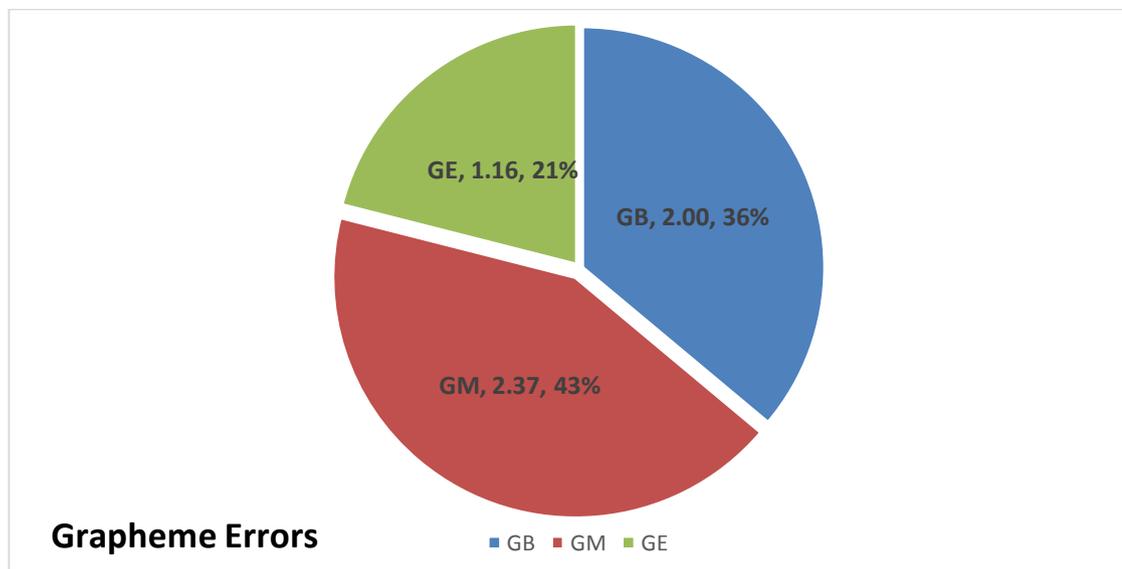


Figure 5.3 Grapheme Errors in the beginning (GB), middle (GM), and end (GE) of words

‘Letter Composition Errors’ embodies three sorts of errors: failing to write a letter in its correct shape (L); orthographic errors (O) (e.g. احتمال); and errors in placing letter dots (D) (e.g. چمل). The letter shapes differ from letterforms, as the former totally depends on both individual handwriting and learning the letter’s ductus. Therefore, a letter could be written in its correct form, depending on its position in a word, but with an odd shape, leading to either ambiguity or to being read as another letter, which may change the meaning completely. Similar to other languages, Arabic has its own orthographic system (spelling rules) which requires proper understanding of the rule to apply it correctly. Various spelling rules were discussed when reviewing Arabic Orthographic System (section 2.4.5). Figure 5.4 shows that letter-shape errors and orthographic errors equally share the most common errors in this group, with 41% each, leaving dot errors with 18%. Given their error frequencies, however, it seems that the three of them are very common. In fact, they have a mean occurrence that is quite high as they all scored 22.80, which literally accounts for more than half of all sorts of errors recorded and categorised within this test.

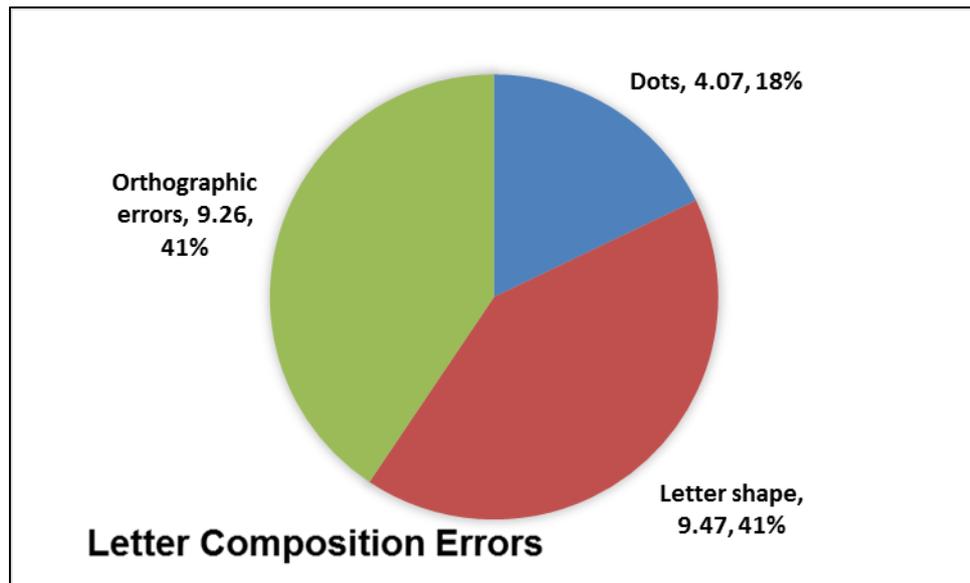


Figure 5.4 Letter Composition Errors

The third group, Alteration, comprises letter substitution (S), missing letters (M), inserting extra letters (I), phonological errors (P) and doubling letter errors (gemination) or as it is called in Arabic, *Shadda* (SH). The five categories cause some kind of change, either in the letter itself as is the case with substitution for example, or at the word level by letter omission/addition. Letter substitution involves alternatively writing an irrelevant letter in a place of another intended letter, and cannot be associated with other type of errors, as in placing ر /r/ instead of ع /ʕ/ in the word بعيد /baʕi:d/ (far) which was found in S14's sample, for example. Conversely, a letter could be inappropriately added to a word, regardless of where it was inserted. This is considered to be wrong insertion. Other alteration can be due to sound similarity or letter-to-sound correspondence. While it will be discussed at length later, it is useful to say that phonological errors, whether they occurred because of misrecognition or misleading reproduction, are all broadly counted here as phonological errors. Gemination is one of the Arabic Orthographic System phenomena, explained in section 2.4.4. The issue is that a particular consonant is written doubled whereas other consonants are not, which presumably causes some confusion. Errors in doubling consonants here include both undoubling and over-doubling (e.g. *أحببت for أحببت and *استعددت for استعددت).

Figure 5.5 illustrates the distribution of the five error categories in the Alteration group. Clearly, phonological errors represent the most common errors gathering 47% of the group's errors. Missing letters come next with 20%, whereas substitution and insertion

appear with 16% and 12% respectively. Although, letter-doubling or *Shadda* seems to have as little as 5% of all errors, they were made by 13 participants, in the group of alteration. Phonological errors though, as evidently shown in Figure 5.2, are one of the problematic areas, having 3.84 in average of all errors.

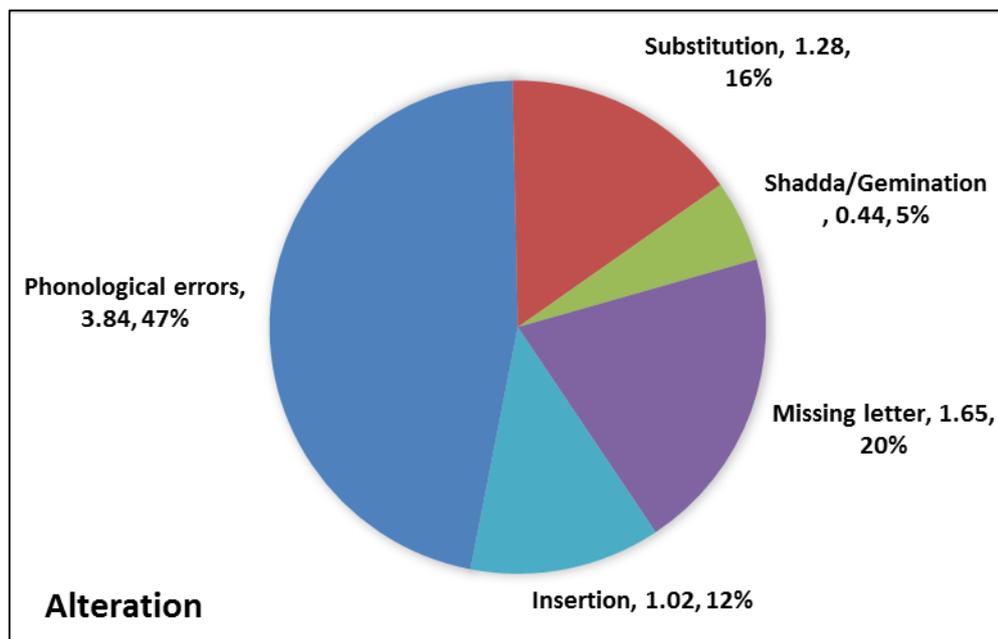


Figure 5.5 Alteration

L1 influence group contains two types of errors: directionality (D) where learners lose direction at the letter level (more on this in section 6.3.5), and transferring from L1WS (T) as in writing X for ڤ and J for ڭ. Figure 5.6 demonstrates that 70% of the errors made in this group are caused by directionality. Although it would still be major with around two errors on average, which represents 5% of all different errors as Table 5.2 shows, it would not be as common as letter shape or orthographic errors, for instance. Transferring from L1, on the other hand, comprises of errors in letters which were written similarly to English letters, such as writing the letter ط /t̤/ or ظ /ð̤/ in an odd form is similar to the English . These sorts of errors recorded 30% of the groups' errors but less than one error in average of all errors documented.

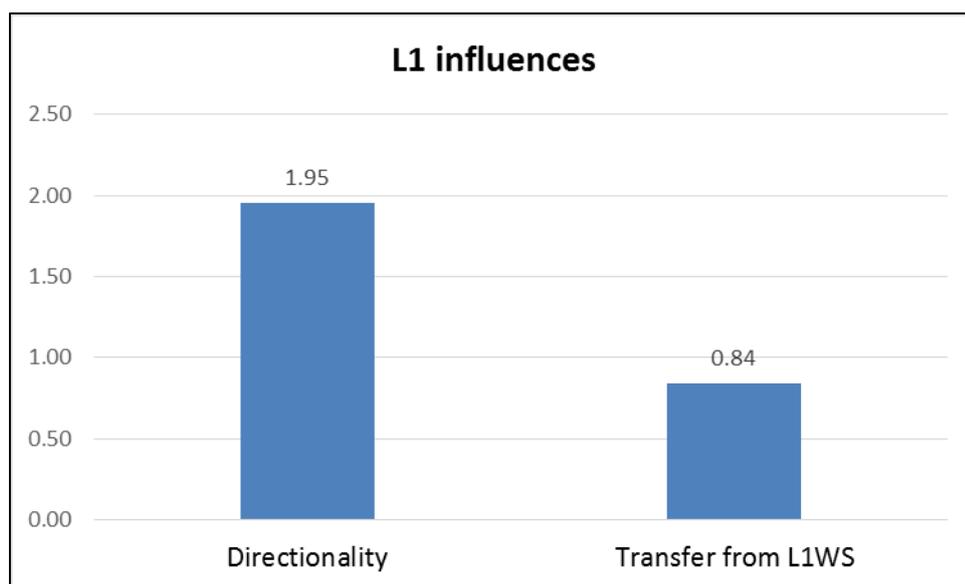


Figure 5.6 L1 Influences

The OEET was intended to investigate individual writing, where each participant would rely on their knowledge and competence only. On average there were 390.81 letters per participant, of which participants made an average of 10.23 errors. Detailed results show that letter-shape errors appeared at the top, being closely followed by orthographic errors. Phonological and dot errors came next. Graphemic errors, specifically at the middle, and direction errors were also common. The rest of categories (i.e. omission, insertion, substitution, transfer from L1WS, gemination, and other errors) were not major. The OEET results were also divided into groups, whereby similar error categories were grouped together to form four groups: grapheme errors, letter composition errors, alteration errors, and L1 influence errors. This has provided a better description of the results.

5.2.2 Dictation

The word count of the task was specifically 148 containing a sum of 674 letters. Most participants (described in section 4.6) wrote above 130 words. Although they varied individually in word production, they collectively wrote a total of 5240 words containing 23,842 letters, of which they made 4941 different errors. Table 5.3 shows that the error rate reached 20.72% per letters. On average, however, there were 120.5 errors out of 138 words (581.5 letters) on each sample.

Table 5.3 Dictation Test Result

	Key	Sum	%	Mean*	SD
Directionality	→	100	2%	2.63	3.74
Phonological	P	1335	27%	35.13	15.30
Grapheme (Beginning)	GB	111	2%	2.92	4.36
Grapheme (Middle)	GM	173	3%	4.55	5.26
Grapheme (End)	GE	32	1%	0.84	1.22
Transferring from English	T	53	1%	1.39	2.57
Dots	D	323	7%	8.50	6.46
Letter ductus, size and teeth	L	565	11%	14.87	10.13
Orthographic errors	O	673	14%	17.71	6.55
Character substitution	S	462	9%	12.16	6.92
Gemination (Shadda)	Sh	173	3%	4.55	2.02
Missing letter	M	528	11%	13.89	8.53
Insertion	I	278	6%	7.32	4.78
Other errors	?	135	3%	3.55	2.81
Errors		4941		120.51	41.86
Letters		23,842		581.5	
Error per letters		20.72%		20.72%	

* Computed based on 41 learners

Noticeably, the most common error type was phonological errors, which alone had 1335 errors. Figure 5.7 reveals the enormous gap between this error category and the other error categories which participants made. It also shows how participants individually added to each error type. Orthography, letter shape, missing letters, substitution, dots, and insertion, each recorded more than 200 in total. Moreover, *Shadda*, medial grapheme (GM), as well as other (uncategorised) errors seem to have fairly high numbers of errors.

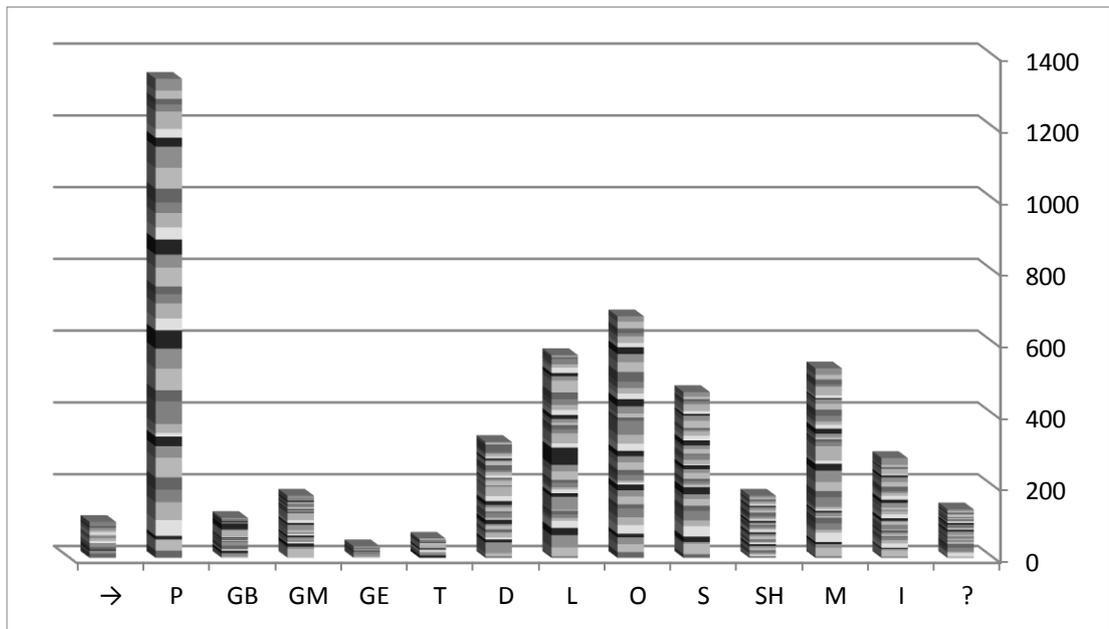


Figure 5.7 Error Type by All Learners in Dictation

KEY
 → Directionality, P Phonological error, GB Grapheme (Beginning), GM Grapheme (Middle),
 Grapheme (End), T Transfer from English, D Dots, L Letter shape, O Orthographic error, S
 Letter substitution, Sh Gemination and doubling errors, M Missing letter, I Insertions, ? Other

On average, intermediate English speaking learners of Arabic showed, in dictation test, that phonological errors are the most common errors so far, with 27% as Figure 5.8 demonstrates. Orthographic errors come next, having 14% of all errors. Letter shape errors and missing letters appear as most common as well, both recording 11%. Substitution, with 9%, dot errors, with 7% and insertion errors, with 6%, seem to be less common. The rest of the categories, namely direction, grapheme errors, transferred from L1, shadda or gemination and uncategorised errors, are shown as uncommon. Although direction and shadda errors were less frequent, they were made by 19 (47%) and 40 (97%) participants respectively, which suggests that they are very widely made errors.

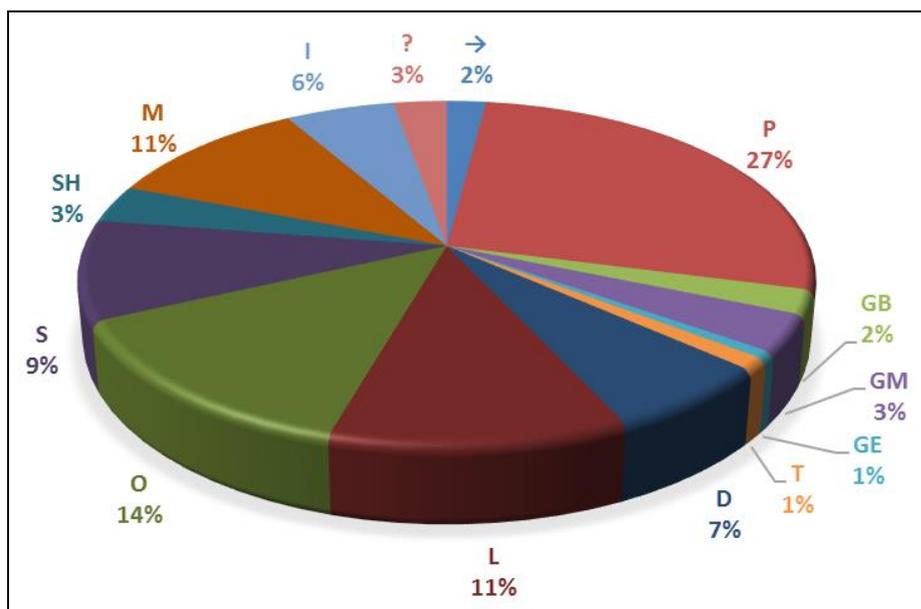


Figure 5.8 Mean of Error Categories in Dictation

KEY

→ Directionality, P Phonological error, GB Grapheme (Beginning), GM Grapheme (Middle), Grapheme (End), T Transfer from English, D Dots, L Letter shape, O Orthographic error, S Letter substitution, Sh Geminations and doublings, M Missing letter, I Insertions, ? Other

To sum this up, this test (dictation) showed that phonological errors are the most common errors by far. Orthographic errors, letter shape and missing letters are also common; substitution, dot errors, and insertion errors appeared to be less common. The similarities and differences between the results of OEET and Dictation will be addressed in the discussion chapter.

5.2.3 Multiple-Choice Test

The Multiple-Choice Test (MCT) had 30 questions in which participants were asked to complete a sentence by choosing the correct answer out of three choices. Each question presented a word that had been written in three formats (three choices), with one correct answer. Based on the learners' writing ability, they would choose the correct form. Eventually, each correct answer was counted as one score, building a mark of up to 30. The test is fully described in section 4.7.1.2. Forty-four participants took the test. As Figure 5.9 shows, it is patently obvious that few learners scored below 20 marks, and far fewer scored under 15 marks.

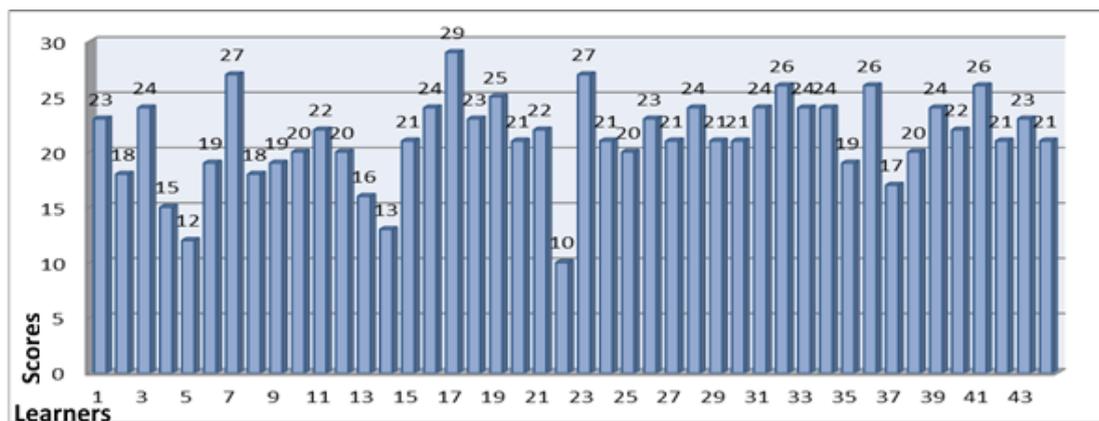


Figure 5.9 MCT Results: Individual Students 1-44 Scores Out of 30

The forty-four learners who took the tests came out with a mean accuracy of 21.27 out of 30, and a standard deviation of 3.98, as shown in Table 5.4. The stimuli word-forms used in each of the thirty questions cover the error categories as listed in Table 5.1. Apart from the unknown-error category, these are already known orthographic issues as found in either literature or in the pilot study, which was done prior to this study. It should be highlighted here that the two categories, insertion (I) and omission (M), were combined in two questions, the reason why they are shown with the code (IM) in Figure 5.10. Nonetheless, all the stimuli were arranged based on the error frequency as illustrated in the results of the two tests, the OEE and dictation. Thus, in Figure 5.10 we find six questions involving the letter shape category, four dot issues and only one directionality, for example. It is well-worth noting that the same figure shows that directionality-related errors were the fewest errors in MCT.

Table 5.4 MCT Result

Sum of scores	936
Out of	1320
Mean accuracy	21.27
Standard deviation	3.98
Sum of errors	384
Avg. Errors	8.73

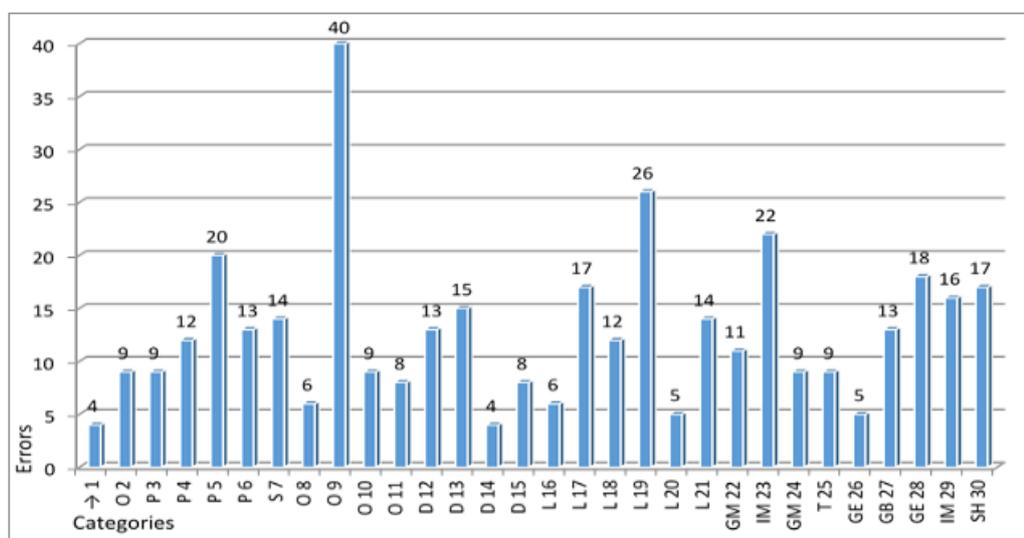


Figure 5.10 MCT Sum of All Participant Errors per Question

Figure 5.11 presents a better look at the results of MCT since the questions, including their stimuli, were grouped according to their error categories. The average error for all participants was around 9%, out of which 21% were linked to letter shape representing 80 out of total (384) errors. This is followed by orthographic issues, which registered 72 errors (19%). The third problem appears to be phonological, with 54 errors, representing 14% of all errors. Some of Arabic sounds which are non-existent in the English sound system were behind this fairly high rate of errors. Missing or overdoing dots registered 10%. Likewise, wrong omission and insertion showed 10%. Apparently, deciding the correct letterform was also problematic, especially when the letter takes the medial or final position, as these registered 5% and 6% respectively. Shadda (gemination) errors were less frequent, registering only 5%; yet, more than one third (38.6%) of the participants made them.

All in all, the biggest problem in MCT was the letter shape, followed by orthographic errors. These were followed by phonological issues, dots, omission and insertion, each of which has proven to be common as well. The rest of the hypothesised categories, namely direction, grapheme errors, transferred from L1, *Shadda* and other (uncategorised) errors appeared to be relatively less common.

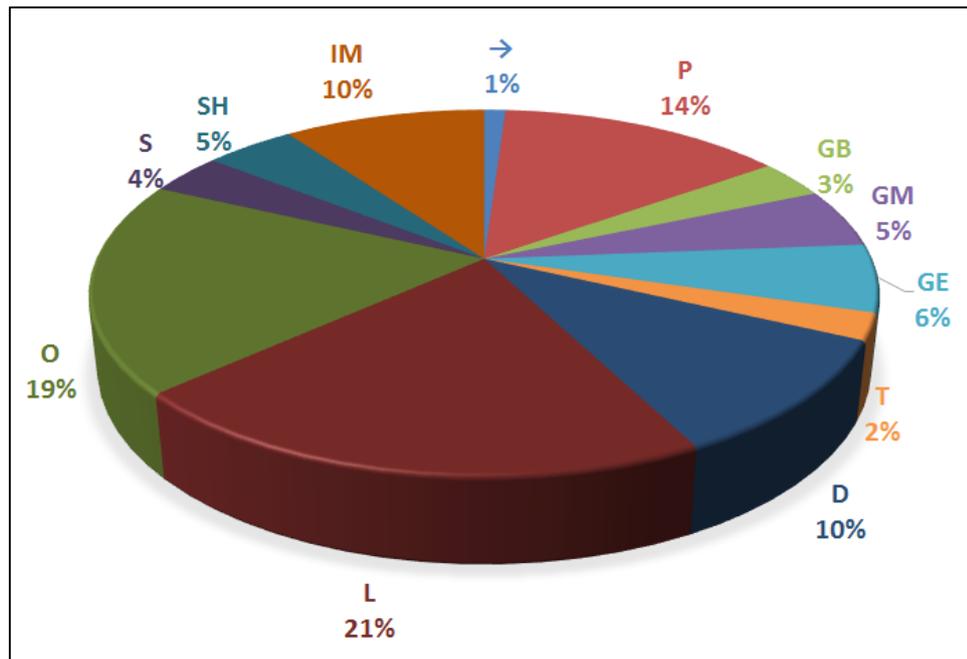


Figure 5.11 Errors per Category in MCT

KEY

→ Directionality, P Phonological error, GB Grapheme (Beginning), GM Grapheme (Middle), Grapheme (End), T Transfer from English, D Dots, L Letter shape, O Orthographic error, S Letter substitution, Sh Gemination and doubling errors, IM Missing or insertions

5.2.4 A Performance Comparison between L1WS and L2WS Users

As explained earlier (section 3.4), Arabic native speakers have their own common writing errors which have been detailed in numerous studies. These errors are mostly orthographical and relate to the difficulties of some complicated spelling rules. In case of the L2 (or to be exact the L2WS) learners, however, studies (e.g. Abu-Rabia and Taha, 2006; Abu Al-Rub, 2007) have shown that their writing difficulties touch on many linguistic aspects, such as grammar, phonology and orthography. That said, it is herein hypothesized that English-speaking learners of Arabic would make almost the same common orthographical (spelling) errors that native speakers make in writing Arabic. Being L2WS learner does not really change the fact that some spelling rules are merely complicated within the WS itself. This was described in our discussion of the research hypothesis (section 1.5).

Preliminary results of the research, however, showed a rather high rate in specific error types such as the letter shape, phonological and orthographical errors. Hence, the researcher had to check that these common errors were a result of the validated writing

tests, and not due to other external factors such as the difficulty level, language (wording) of the tests, or known issues in writing among native Arabic speakers themselves. In order to check the validity and reliability of the tests and consequently their results, some Arabic native speakers were asked to take the writing tests under relatively identical settings to the research instrument. Two men and two women (all are graduate 25-35-year-old) undertook the three tests: open-ended essay, multiple-choice test and dictation respectively. They spent the same time as the participants on each test and were given the same information along with the consent forms that participants had, so as to have the most genuine results out of the checking test.

Finally, a comparison was made between the results of the two tests: the actual (English speaking learners of Arabic as L2WS) test and the checking (native speakers or users of L1WS) test. The researcher calculated the mean number of error occurrences for all the test results, as described in section 4.8.1. The mean numbers were then reported in bar charts for both groups, side by side in each test. Additionally, a t-test was utilised to investigate any real significance between the two groups. Table 5.5, and Table 5.6 illustrate comparison results, which show that the L1WS participants performed as expected, with a small numbers of errors which mainly consisted of the letter shape and orthographical error types. The results of L2WS users on the other hand, as seen, showed different picture with plentiful errors spread widely across several error types.

Table 5.5 Mean Errors for Both Groups in OEET & Dictation

Error category	Key	OEET		Dictation	
		L1WS	L2WS	L1WS	L2WS
Directionality	→	0	1.95	0	2.63
Phonological	P	0	3.84	0	35.13
Grapheme (Beginning)	GB	0	2.00	0	2.92
Grapheme (Middle)	GM	0.25	2.37	1.25	4.55
Grapheme (End)	GE	0	1.16	0	0.84
Transfer from English	T	0	0.84	0	1.39
Dots	D	0.25	4.07	0.25	8.50
Letter ductus, size and teeth	L	2.75	9.47	6.5	14.87
Orthographic errors	O	5.25	9.26	1.75	17.71
Character substitution	S	0	1.28	0.25	12.16
Gemination (Shadda)	Sh	0	0.44	0	4.55
Missing letter	M	0	1.65	0	13.89
Insertion	I	0.25	1.02	0.75	7.32
Other errors	?	0	0.65	0	3.55

Table 5.6 Mean Errors of Category for Both Groups in MCT

Error category	Key	L1WS	L2WS
Directionality	→	0	0.09
Phonological	P	0	1.23
Grapheme (Beginning)	GB	0	0.30
Grapheme (Middle)	GM	0	0.45
Grapheme (End)	GE	0	0.52
Transfer from English	T	0	0.20
Dots	D	0.25	0.91
Letter ductus, size and teeth	L	0	1.82
Orthographic errors	O	0.75	1.64
Character substitution	S	0	0.32
Gemination (Shadda)	Sh	0	0.39
Omission/Insertion	IM	0	0.86

Figure 5.12 shows that in the Open Ended Essay Test, the most common errors made by English-speaking learners of Arabic as L2WS were in letter shapes and orthography by far, followed by dots and phonology. The average numbers of these errors among this group were 9.47, 9.26, 4.07 and 3.84 occurrences respectively. On the other hand, L1WS users have only two common errors which are orthography, with a mean number of 5.25, and letter shapes with 2.75 as the mean number.

Because the analysis used so far was only descriptive, it had to be verified that this difference in the mean error occurrence between the two groups is statistically significant. An unrelated (independent) t-test was conducted, and the test confirms that there is a

significant difference in the results for L2WS users ($M=40$; $SD 21.55$) and L1WS users ($M=8.75$; $SD 7.80$), conditions being; $t=2.85$, $p= 0.003$. Dictation shows the same pattern. The L1WS users (native speaker group) have the letter shape errors in common with 6.5 mean occurrences, whereas the L2WS users (English speaker group) shared several errors in common, some of them with high rates, especially the error type of phonology (35.13 mean occurrences). A t-test reveals that the two sets of data samples L2WS users ($M=130$; $SD 41.86$) and L1WS users ($M=10.75$; $SD 8.88$) are significantly different with $t=5.62$ and $p= 0.0000008$. In the Multiple Choice Test, orthographical errors in particular were the weakest point for L1WS users, with a mean of 0.75 errors as shown in Figure 5.14. In return, the L2WS users recorded high rates in different types of errors such as letter shape ($M=1.82$), orthography ($M=1.64$) and phonology ($M=1.23$). Besides, Figure 5.15 demonstrates that the test was far easier for the L1WS users with only one mark lost, than on the other group whose mean score was 21.27 out of 30 in the same test. There was a significant difference in the scores as t-test suggests recording a condition of $t=3.83$, $p= 0.0001$.

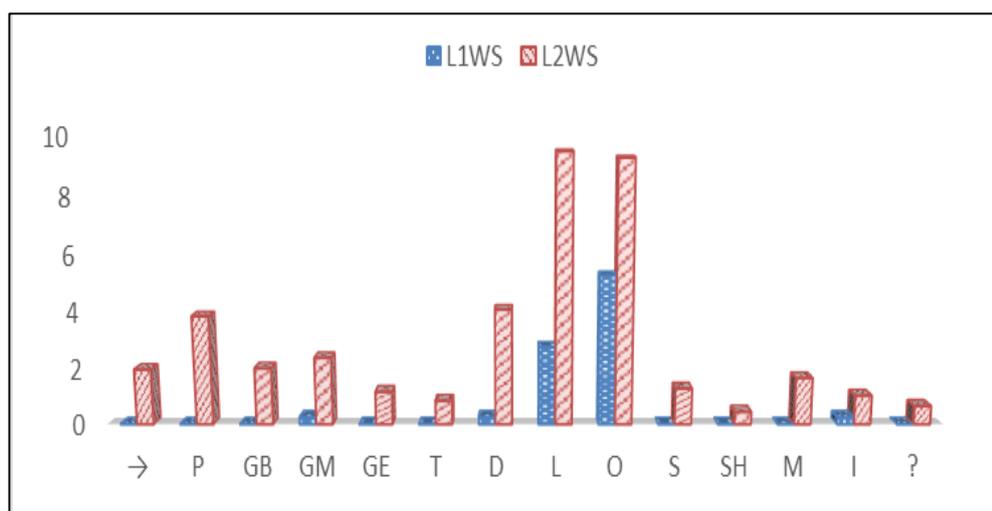


Figure 5.12 Mean Occurrence of Each Error Type for Both Groups in OEET

KEY
 → Directionality, P Phonological error, GB Grapheme (Beginning), GM Grapheme (Middle), Grapheme (End), T Transfer from English, D Dots, L Letter shape, O Orthographic error, S Letter substitution, Sh Gemination and doubling errors, M Missing letter, I Insertions, ? Other

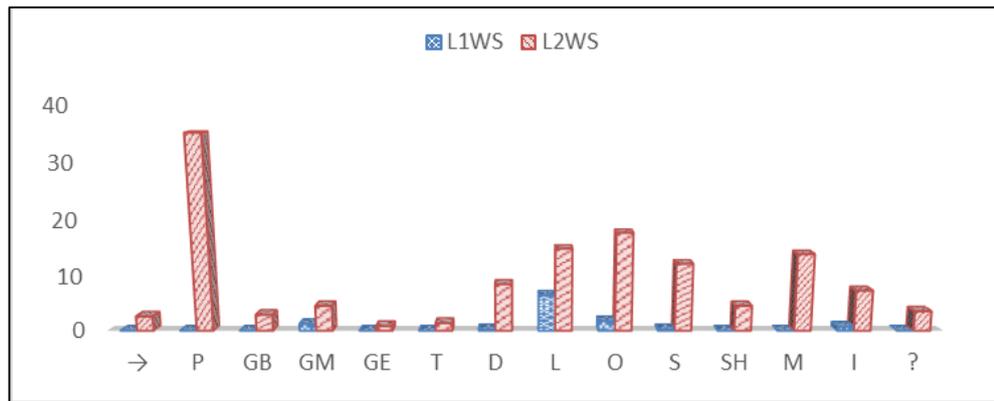


Figure 5.13 Mean Occurrence of Each Error Type for Both Groups in Dictation

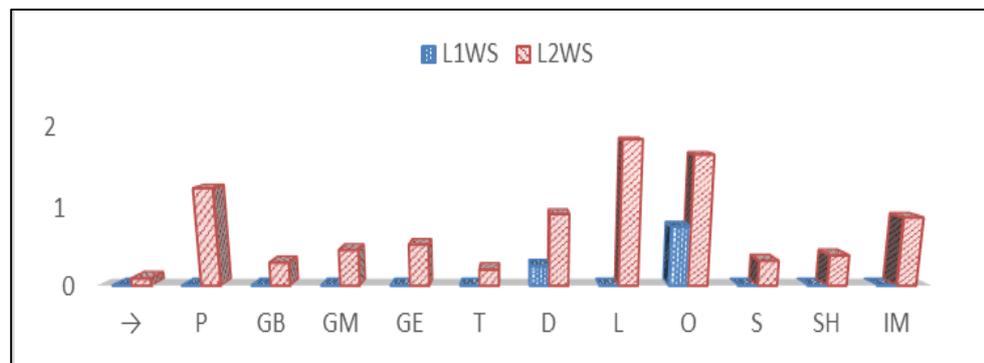
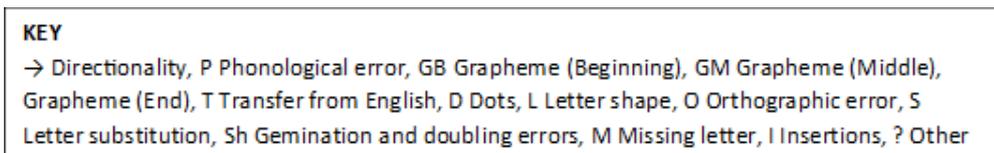


Figure 5.14 Mean Occurrence of Each Error Type for Both Groups in MCT

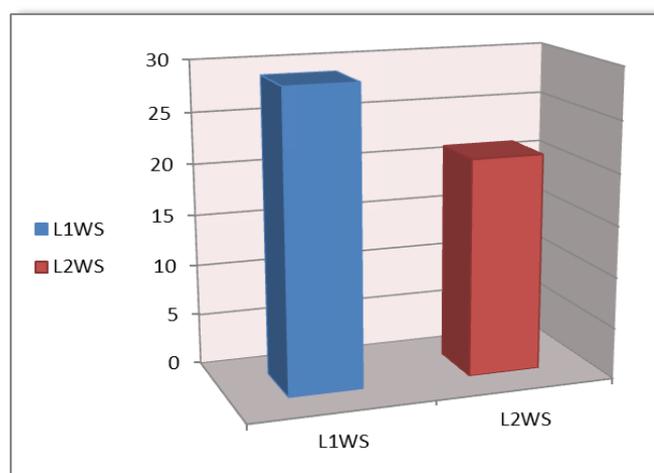


Figure 5.15 Mean Score of MCT for Both Groups Out of 30

The checking test results and the inferential statistic test that were carried out show that there is a significant difference between L1WS users and L2WS users, both in the mean number of errors and in the error types. The tests confirm that the native speakers acted as expected on such writing tests. This checking test may then raise the validity of the research instruments for such results. These findings in all, by showing statistical significance between the two groups, prove that the research writing tests are most likely valid and reliable as they meet both the results from previous studies and the researcher's expectations.

5.3 Questionnaire Results

The purpose of carrying out a questionnaire was to investigate English-speaking learners' views towards Arabic as L2WS in general and their views regarding the common Arabic writing errors identified in the writing tests in particular. It also illustrated the subjects' backgrounds, which might have had an impact on their Arabic writing reception. Learners of Arabic WS from English background from different learning levels were asked to respond to the questionnaire. It was expected that the results would supplement the writing test results as the latter are concerned with intermediate-levels for methodological reasons (see section 4.6), whereas the survey was directed at all learners regardless of their levels of study.

It is an on-line questionnaire designed to answer the study's questions through twenty six questions that were divided in three sections: language history and language proficiency, Arabic writing, and the learners' profiles. The questionnaire design, sections, and questions have been fully explained in the methodology chapter (section 4.7.2).

Eighty-two responses were collected from different institutions in several cities in the UK. The questionnaire data was coded into two different strands: open-ended questions were analysed using Nvivo (see section 4.8.2), whereas closed questions were statistically analysed using MS Excel. Nonetheless, displaying the results will follow the section divisions, not the method of analysis. However, all questions will be linked back to the results of both interviews and writing tests in the discussion chapter. Here, the questionnaire findings have been demonstrated in five sections: factual information;

student language history; student language proficiency; learners’ perspective on Arabic as L2WS; and other student opinions.

5.3.1 Factual Information

This mainly describes the respondents’ background and their demographic information. The section was purposefully placed here and not at the beginning of the chapter because it specifically belongs to the questionnaire respondents, not the test-takers. Although many respondents had taken the tests, nearly half the respondents did not for reasons justified in the research participants (section 4.6). This section consisted of questions on country of origin, age, sex, education and current level of learning Arabic. Seventy-six per cent of the respondents were from the UK, and 6% were from other English-speaking countries as shown in Table 5.7.

Table 5.7 Respondents’ Country of Origin

Country of origin	Number of respondents	Percentage
UK	75	91.5%
Other English-speaking countries	7	8.5%

The respondents were mostly female (63%). Male respondents were slightly above the third (37%). In terms of age, there seem to be homogeneity. The majority (79%) of the respondents were between 18 and 25 year old. Only Fifteen per cent were older, having a range of 25-35 years. 5% of the respondents were aged between 36 and 45, and only 1% was above 45 year old. Regarding level of education, most the respondents (69%) were at college working their way towards their first degree. Eighteen percent were pursuing their postgraduate studies, while 12% seemed to have left school at an earlier age or worked after high school

There was also a question about the level at which they were studying Arabic, in order to see how varied the respondents were in terms of their level-of-study in the second language. Table 5.8 shows that 41.5% were beginners, 39% were intermediates and 19.5% were advanced learners. Although these percentages were collected from various institutions, they probably seem to apply equally to the numbers at Arabic schools/institutions as many students drop from learning after beginner levels due to

difficulty or achievement of one's goal as one teacher commented. Nonetheless, this mainly falls into the learning purposes which we discussed in chapter three (section 3.3.2). Finally, the respondents were asked whether they undertook the writing tests which were introduced to intermediate learners only as explained earlier (section 4.7.1). Although the questionnaire was open to all learners from different levels, it was primarily directed to those who took the tests i.e. intermediates. However, only 23 learners stated that they had undertaken the tests and only 17 among these volunteered to provide the researcher with their test numbers.

Table 5.8 Respondents' Level of Arabic Study

Level	Number of respondents	Percentage
Beginners	34	41.5%
Intermediates	32	39%
Advanced	16	19.5%

5.3.2 Learners' Language History

This part of the questionnaire, together with the learners' proficiency information, sketches the respondents' language background in order to put their opinions about Arabic as L2WS into perspective. The results here include answers to questions on the respondents' native languages, their methods of learning Arabic as a second or foreign language, their exposure to Arabic, their ages when they started learning Arabic and specifically Arabic WS.

All of the respondents are native English speakers. In terms of their methods of learning Arabic, 63% of the respondents reported that they have mainly learned through formal classroom instruction. The rest said that they mainly learned independently (23%) or via interaction (14%). As for language exposure, most of the learners have been to one or more of the Arabic speaking countries as part of their learning of the language, whereas about one third, as in Table 5.9, have not. The majority of the respondents went abroad into different countries such as Algeria, Oman, UAE, Saudi Arabia, Morocco, Tunisia, and Egypt. The period of their stay abroad also differ from only a month or even less to over three years. Some learners have been to more than one country and had breaks in between the visits.

Table 5.9 Respondents' Methods of Arabic Learning

Primary learning method		Language exposure	
Formal classroom instruction	63%	Went abroad	68%
independently	23%	Studied locally	32%
interaction	14%		

Table 5.10 Respondents' Age of Learning Arabic

Age of learning Arabic		Age of Learning to Write In Arabic	
0-12	8%	0-12	3%
13-18	42%	13-18	41%
19-40	49%	19-40	53%
Above 40	1%	Above 40	3%

Nearly half the respondents started their Arabic learning in the age range of 19-40, which indicates that mostly this was at college onwards. Interestingly however, 42% started learning Arabic in their teens, which implies that either they were already abroad in an Arabic country and they learnt the language with their parents, or they were learning it for cultural or religious purposes, whether inside or outside the UK at some formal or informal institutions. What supports this implication is that 8% of them, as shown in Table 5.10, started learning Arabic since their primary school age or even before. Focussing on writing specifically, the same table above demonstrates the age at which the respondents started writing Arabic and it looks relatively similar to their age of generally learning Arabic. However, it can be noticed that the 8% of the age range 0-12 in learning Arabic has shrunk here to only 3%. The same goes for the next age range 13-18, which reduces by 1%, thereby allowing the later ages 19-40 and 40+ to become bigger with 53% and 3% respectively.

5.3.3 Student Language Proficiency

Evaluating the learners' Arabic proficiency seemed crucial before surveying their opinions and experiences on the Arabic WS. As explained in the methodology chapter (section 4.7.2.2), the proficiency question was divided into five areas of language skills: spoken interaction, spoken production, reading, listening, and writing. The respondents

were asked to select a choice among six stages starting from (very poor) building up to (very good) for each skill in order to describe what they think their level is.

The respondents described their Arabic speaking skills as follows: 10% as good, 22% as functional, 27% as fair, 29% as poor, 10% as very poor, and only 2% said their Arabic spoken interaction is very good. In terms of spoken production, nearly 30% said it is fair, while 22% chose functional, the same percentage chose poor, 14% said it is good, 12% said it is very poor, and lastly, 2% said it is very good. Reading skills seem better than speaking skills. Based on their responses, 33% said their reading skill is functional and 30% said it is actually good along with 22% said it is fair. About 10% said it is poor and 2% said it is very poor. Only 3% said that their reading skills are very good. Looking at the chart, listening appears to be much similar to speaking skills as Figure 5.16 demonstrates. We see that only 2% of the respondents evaluated their listening skill as very good, 13% said it is good, and 29% saw it as fair. However, 26% said it is functional, 21% said it is poor and 8% said it is very poor.

Focussing on writing nevertheless, 5.5% of the respondents surprisingly evaluated their writing skills as very good whereas 21% said it is good. 23% described it as fair, 34% as functional, 12% as poor, and 5.5% as very poor. It is worth noting though that calculating their average situates them between 'functional' and 'fair' and that is the sort of sample that the researcher sought for in the writing tests.

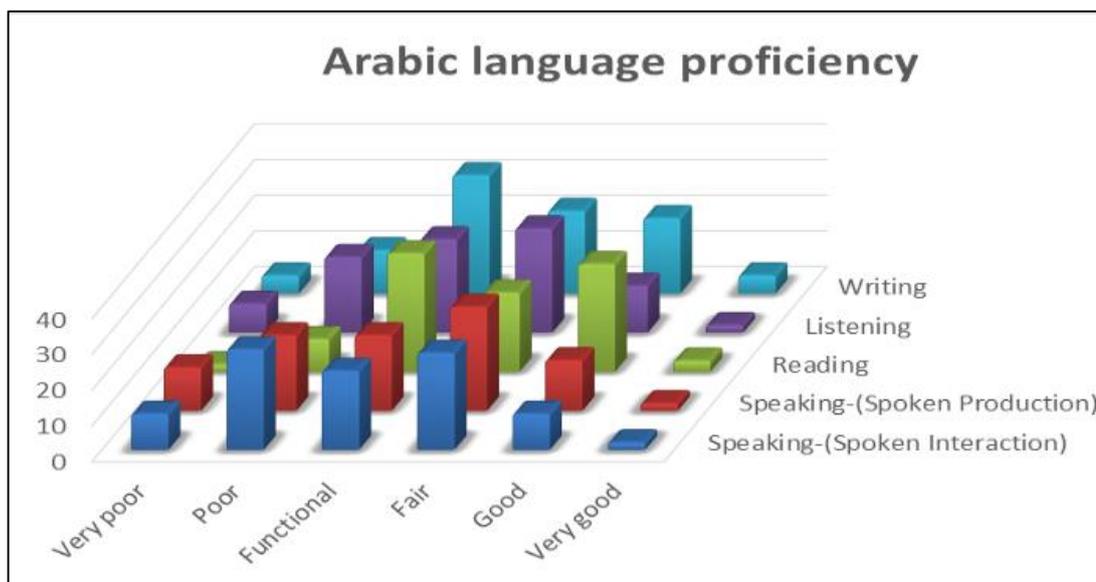


Figure 5.16 Arabic Language Proficiency

5.3.4 Learners' Perspective on Arabic as L2W

Given their proficiency and background, the learners' perspectives on Arabic as L2WS, which were the main part of the questionnaire, are reviewed here. It includes the respondents' views on the level of difficulty in writing Arabic letters, joining them together to compose words, and the direction of writing. It also reveals whether they find some specific errors in their own writing to be common on a six-point scale. Another question investigates whether they find any difficulty while writing Arabic letters in different forms according to their positions in the word. Besides, questions on what they think is the cause of writing difficulty, how often they check their spelling while writing and the method of doing so are also asked. Moreover, the questionnaire examines their opinions towards 6 statements that summarise the most common errors found in their writing tests.

5.3.4.1 Arabic Letters: Easy or Difficult?

In response to the question of whether they see some difficulty associated with writing Arabic letters, none of the 82 respondents who answered this question ($n=0$) see it as very difficult. However, 2% described writing Arabic letters as difficult, 19% as neutral, 52% as easy, and 27% as very easy. It is probably obvious that the average of their answers is

easy. The actual figures are given in Table 5.11. Focusing on intermediates only though, they, in average, find writing Arabic letters, writing direction, and joining letters easy.

Table 5.11 Difficulty of Arabic Script

	Very easy	Easy	Neutral	Difficult	Very difficult
How do you find writing Arabic letters?	22	43	15	2	0
How do you find writing from right to left while your first language is in the opposite direction?	31	41	9	0	1
How do you find joining Arabic letters to compose a word?	22	45	13	2	0

In order to trigger their Arabic letter perception and to validate their last answer, the researcher asked ‘what are the most difficult Arabic letters to write?’ The responses were relatively consistent. Apart from those (13%) who did not find any of the letters difficult to write, the responses focused on 5 letter groups and two letters. However, the researcher has disregarded any selection in which the letter and its counterparts combined made less than 5% of all selections.

Table 5.12 demonstrates the most difficult Arabic letters to write and their corresponding percentage of respondents’ selection. According to the participants, the five groups arranged by their difficulty are: <ص> /s/, <ض> /d/, <ط> /t/, <ظ> /ð/, <ج> /dʒ/, <ح> /h/, <خ> /x/, <ع> /ʕ/, <غ> /ɣ/; and <ر> /r/, <ز> /z/. Additionally, there were the letters <ه> /h/, which was selected by 7% of the respondents, and <م> /m/, which was selected by 5%. The intermediate learners hold a similar result except that they find no difficulty with the two letter groups <ع> /ʕ/, <غ> /ɣ/ and <ر> /r/, <ز> /z/. As they were asked to justify their selection of most difficult letters, their reasons widely varied from joining difficulty to position-based form difficulty, to shape similarity to calligraphic differences, and to handwriting difficulty, and writing movements and direction. For example S99 said ‘My ‘ayn [ع] is ok in the end position, but in the medial position, sometimes it looks really messy and I found it really difficult to start writing when I first learnt Arabic’, which sheds light on both position and handwriting difficulties. S11 also said ‘different form in different parts of the word sometimes cause errors in writing’.

On position difficulty and joining difficulty, S1 said ‘When they are in the middle of words, I find it difficult to join them to the letters in front and following smoothly’. According to S23, who is an advanced learner, it has to do with phonological difficulties as she said ‘[I]t’s difficult to learn to spell with completely different letter sounds... when hearing a word, for example, it’s [STILL] hard to differentiate between <أ> /ʔ/ and <ع> /ʕ/ even after 4 years’. Amongst numerous respondents, S51 agreed that ‘it is difficult to distinguish between these (letters) in terms of sounds, so I find it difficult to know which is used in spelling certain words’.

Table 5.12 Most Difficult Arabic Letters to Write

Letter	Letter name	Letter sound	Percentage
ص	s ^ʕ ad	s ^ʕ	10%
ض	d ^ʕ ad	d ^ʕ	9%
ظ	ð ^ʕ a’	ð ^ʕ	9%
ط	t ^ʕ a’	t ^ʕ	7%
هـ	ha:’	h	7%
ج	dʒi:m	dʒ	5%
ح	ħa:’	ħ	5%
خ	χa:’	x	5%
م	mi:m	m	5%
ع	ʕayn	ʕ	4%
غ	ɣayn	ɣ	3%
ر	ra’	r	3%
ز	zay	z	3%
Other letters			12%
I don’t find any of them difficult to write			13%

Returning the difficulty to orthography and shape similarity, S46 commented that ‘It’s hard to get the shape just right, in order to differentiate them from others’. Similarly, S56 said that he finds <ع> difficult to write because ‘[w]hen in between letters, I often write it and it looks like <م>’. Another example describes how shape similarity is responsible for the selection of the most difficult letters to write. S4 said ‘the shapes are quite similar, and often, in other people’s handwriting I struggle to distinguish between them’. She goes on to explain that handwriting differences is also a key cause as she ‘also think that the <ح, ج, and خ> can be written quite differently depending on people’s handwriting, and that sometimes confuses me’. Writing movements and direction difficulties are no exception then. S24 says that ‘[t]he tail of <م> is difficult to write well, I think I write the

whole letter backwards’. S27 adds that ‘[t]he backwards-forwards motions do not flow well’, and clarified that ‘because of the way it doesn't flow that well from right to left’.

Despite the fact that the reasons can go in different ways and do not end with what has been discussed, the reasons were divided into six types: letter positioning (including letter joining), letter shape, letter similarity, phonological difficulties, handwriting difficulties (including writing direction and movements), and other individual difficulties. Figure 5.17 below illustrates the coded respondents’ statements divided into each type of reasons. We can clearly see that letter positioning is the highest type of reasons why some letters were difficult to write. Letter similarity along with letter shape gained 25 comments, which is inevitably explained by the complete difference between the two WSs in addition to the fact that without their dots, many Arabic letter counterparts actually look exactly the same. Interestingly however, it seems that handwriting difficulties are relatively persistent problems for English speaking learners of Arabic as L2WS. In other words, this reveals that writing direction, writing movement, the varieties of Arabic calligraphy, and individual handwriting differences are all substantial factors associated with writing difficulty of several letters. Although it was worth noting this here, the discussion on handwriting difficulties and teacher comments will be expounded on in the next chapter. The other difficulties include individual writing difficulties, or simply some sort of confusion with no proper explanation. S16 said, ‘[T]hey are hard to write in a word, if you do not build the letter on top of each other i.e. having a Ha on top of a Jiim’, whereas S23 commented, ‘I found the <ظ> difficult at first but now I have no idea why’, for example.

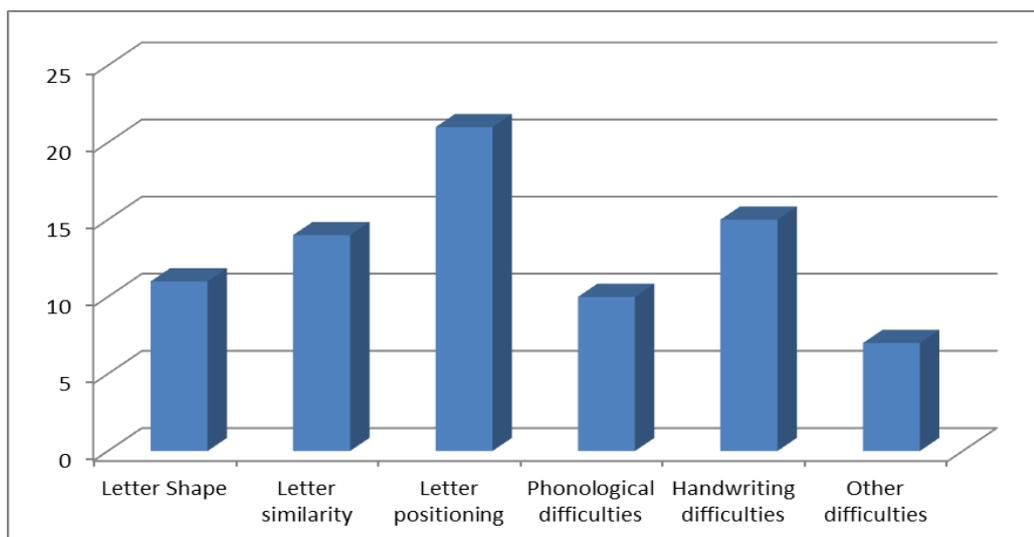


Figure 5.17 Reasons for Selecting ‘Most Difficult Letters to Write’

Nevertheless, the participants (13%) who found no difficulty with any letters also have their reasons, which mostly touch on either intensive practice or the time and level of study. S60's comment, 'Once practised and gotten to grips with they all make sense' and S20 who said, 'I've practised writing the letters enough that none are difficult' are good examples. On the other hand S42 commented 'I've been writing it a lot for a long time and I am now used to writing all the letters' and S14 said '[a]lthough I may have had problems in the past, I don't have any problems at the moment'.

On a different note, S52 highlighted, '[n]ow that I have fully learned them I don't feel like I have problems writing them. Sometimes, I get confused though if I hear the word and am asked to write it because I can't tell the difference between different /t/ <ت> and /d/ <د> sounds, of which Arabic has many more than English does!'. S43 seems to agree on that note as she stated, 'my articulation of them in written form doesn't always look great but it's not hard'.

On slightly rare comments however, S98, who does not find any letter difficult to write and described his Arabic writing proficiency as functional said, 'Once you have learned the alphabet, the reproduction of letters is very straightforward'. S66 also commented, 'Even though they are completely different symbols than we have in English, with practice, they become easy to write'. Given that the Arabic WS chiefly differs from English, S90 justified her selection that none of the letters is difficult to write by saying, 'I am familiar with the letters through Qura'an teachings'. This reveals that religious scripture, in this case the Quran, which is written in Arabic script, might have positive effects on learning languages using the same script.

5.3.4.2 Letter Joining and Letter Positioning

As we have seen, letter shape has been amongst the most common problems/reasons /difficulties associated with writing Arabic letters in learning Arabic WS. Letter shape and letter positioning (letterforms), as discussed in the literature (section 2.4.2) and discovered by the present study (in Open-Ended Essay Test), have been found to be sources of writing problems. By asking the question of whether joining or connecting

letters is problematic, we wanted to find out if the respondents could tell letter joining, letter positioning and letter shape apart.

The respondents said that they find joining Arabic letters to compose a word as mostly easy but not too easy. The results show that 16% find it very easy, 55% said it is easy, 27% are neutral, and only 2% said it is difficult (actual figures are given in Table 5.11 above). Calculating the average of their responses, however, situates them very close to saying that joining Arabic letters is actually easy from their point of view. The average response of the intermediate learners specifically is also 'easy'. AWS, as mentioned (section 2.4.2), provides three writing forms for almost every letter depending on their position in a word: initial, medial, or final. In cursive writing, which Arabic solely depends on, letters change their forms based on their positions in words. This has proven to be a persistent problem, at least for non-advanced learners. Surprisingly though, the vast majority of the respondents said that there is no difficulty in writing letters according to their positions. Only 16% admitted this difficulty in their own writing. We will discuss this result against their statements along with other results in the discussion chapter.

5.3.4.3 Direction: Right to Left or Left to Right?

This is not about direction as a source of writing errors, but particularly how learners' perception of directionality is affected by directionality. The question which was asked in the questionnaire was 'How do you find writing from right to left while your first language is written in the opposite direction'?

The results demonstrate that 38% of the respondents said that they find the direction of Arabic writing very easy, 50% said they find it easy, and 11% were on the fence (actual figures are given in Table 5.11 above). Given that the respondents are between beginners and intermediate levels, the intermediates in specific say that direction was not really a predominant issue. Other following results of the questionnaire also reveal the same attitude.

5.3.4.4 Common Writing Issues

Sixty nine respondents answered this question out of 82, the total number of respondents. They were asked to consider their own writing and to reflect upon 12 statements which summarised the common error categories found in literature and in the writing tests, seen on Table 5.1. They were asked to state whether the error type has never occurred, is less common, common, most common, or always there. On the questionnaire, which was done online, the error types were randomised in order to have the most accurate responses.

Table 5.13 as well as Figure 5.18 and Figure 5.19 show the responses towards each statement. According to the responses, direction problems have mostly never occurred, whereas only 11 learners said they are less common and only 2 think they are common. The vast majority of the intermediate learners said they never experienced this issue. On the letter-to-sound correspondence, however, the respondents' attitude here was not as clear as it was on direction. It may reflect uncertainty or individual differences but in all, it is obvious that phonological problems are not easy to overcome. Twenty-nine learners replied that errors in connecting the letter to its sound are less common, 24 reported that they are common, and 13 said they are most common. Between the two extremes, 11 people stated that they never occurred while 5 respondents said they are always there. Calculating their average responses however, revealed that the letter-to-sound correspondence issues tend to be common. Highlighting the response of the intermediate, they reported that they are common.

On errors caused by letter similarities between L1WS and L2WS, the majority (including the intermediate group) reported that they have never experienced such errors, which is explained by the foreignness of the AWS. Other responses are spread over the rest of options which, most likely, reflects individual differences, as it is backed with some evidence found in the writing tests done by individual samples. This will be discussed in detail later on.

Letter dots (e.g. missing letter dots or placing dots in the wrong position on the letter), as we have seen in the writing tests section 5.2, are known to cause major problems. Thirty-four respondents reported that their own writing errors associated with letter dots are less common, 17 that they never occurred, and 19 that they are common. Nine people, on the other hand, stated that they are most common, while three learners went to the extreme of saying they are always there. Their average responses however, tends to be that errors

occurring by letter dots are less common, which equals the average response of the intermediate group as well.

Letter size and letter teeth are part of the letter shape in general. Half the respondents said that they never experienced writing errors because of letter size. The intermediates' responses are spread between 'never occurred' and 'less common'. From the samples in hands we see that this is probably accurate, as most of errors caused by letter size go back to individual differences. Letter teeth (a small stroke or three slants, depending on the letter e.g. <س> and <ش>, which form part of the letter as discussed in section 2.4.5) are also known to be a source of problems amongst learners of L2WS Arabic (Alfi *et al.*, 1992). According to the respondents, 31 and 30 learners see errors caused by letter teeth as less common and never occurred respectively. Fifteen however, said they are common and six said they are most common. The intermediate group leans towards reporting this issue as 'less common'. No one reported it as 'always there' though, which may be considered relatively unusual due to the fact that this is one of the key issues affecting the letter shape.

We have repeatedly seen that Arabic letters change their writing forms according to their position in the word (beginning, middle, or end). Forty-nine respondents reported that these errors never occurred in their own writing. More than the third selected that they are less common. The average responses of the intermediate group reveals that they see this as never occurred. This result quite reflects the finding of the question 'Do you have difficulties in writing letters at the first, middle or end of a word?' which was discussed earlier. Alhamza, <ء> the glottal stop which widely differs in its written forms, is probably the most common error for Arabic native speakers or users of L1WS. Among other orthographic issues, Alhamza, and the closed and open ta' were asked about just to remind/give examples of what we mean by orthographic errors. It is quite surprising that even on this issue, learners were too conservative to acknowledge as only about the third said they are common. However, it is worth mentioning that the majority of intermediate learners reported this as common.

Regarding letter substitution, about half the respondents said they never thought of a letter but wrote a different one which quite understandable as this is almost caused subconsciously. Gemination/Shadda was not a big issue either. The test results have revealed 1% of shadda errors in OEET and 3% in dictation (Figure 5.2 Figure 5.8), and

CHAPTER 5: TEST AND QUESTIONNAIRE RESULTS

so it is fairly reflected here. Missing or inserting letters as causes of writing errors were reported relatively similarly as in Table 5.13 and Figure 5.18 below. Emphasising on the intermediate group responses, they reported substitution, omission, insertion, and gemination, all as less common.

Table 5.13 Common Writing Issues

Error Type	Never occurred	less common	common	Most common	Always there
Direction	69	11	2	0	0
Connecting the letter to its sound	11	29	24	13	5
Some letters look like English letters	60	18	2	1	1
Letter dots (I forget/add extra dots)	17	34	19	9	3
Letter size (I mistakenly write letters in different sizes)	40	31	7	2	2
Letter teeth (I forget/add extra letter teeth)	30	31	15	6	0
Letter form (the beginning, middle and end)	49	29	3	1	0
Orthographic errors (Alhamza, open or closed ta')	9	27	28	16	2
Letter substitution (I think of a letter but write a different one)	38	29	8	6	1
Gemination/ <i>Shadda</i> (I write two letters instead of one)	40	28	12	2	0
Missing letter (I forget to write some letters in a word)	16	40	20	8	0
Insertion (I add unnecessary letters)	22	36	15	8	1

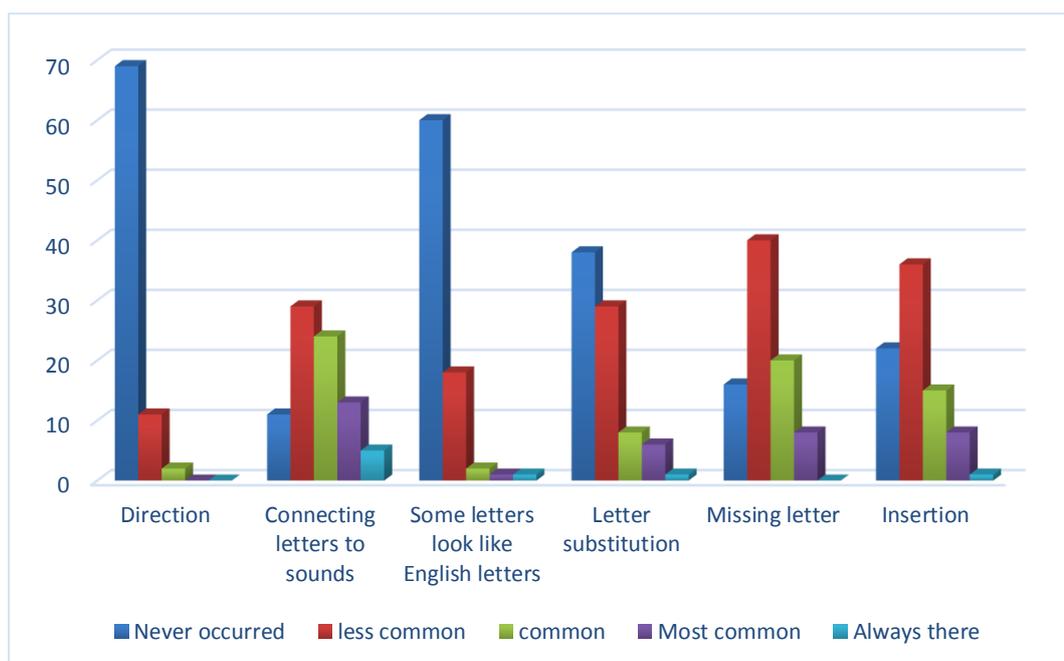


Figure 5.18 Common Writing Issues (1/2)

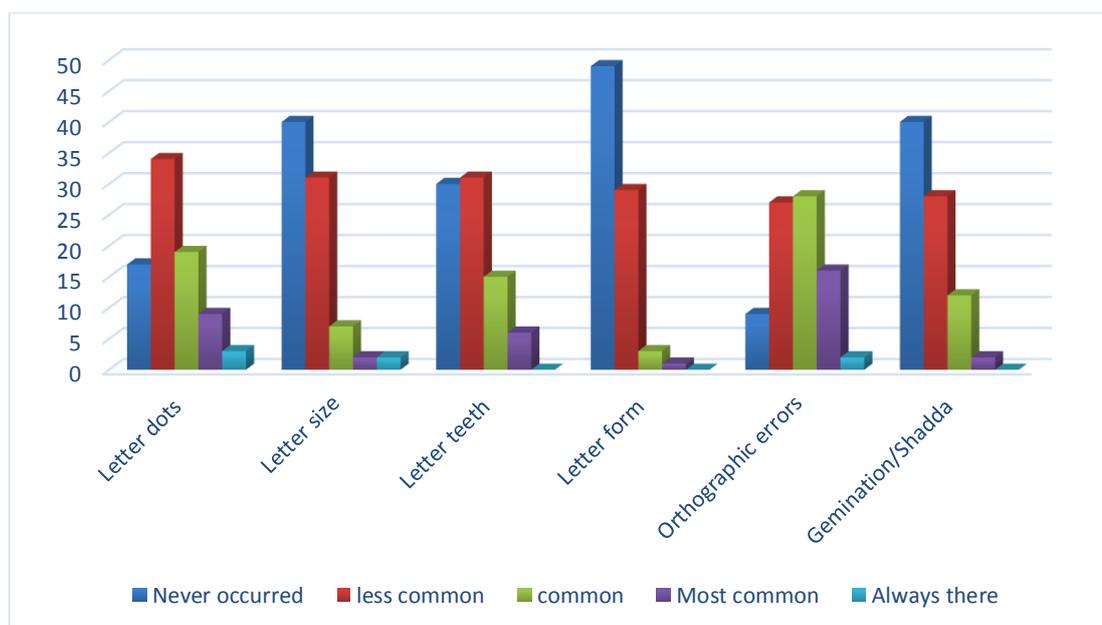


Figure 5.19 Common Writing Issues (2/2)

5.3.4.5 Causes of Writing Difficulty

To discover what learners think might be the main source(s) of difficulty in writing Arabic as L2WS, they were asked to select what they think it applies or/and specify other reasons, if any. The options were three predefined statements in conjunction with ‘other’ open

answer. The three statements were following justifications to the statement of that ‘there are writing difficulties because of’, 1) there are different Arabic speakers (spoken Arabic variations); 2) Arabic is a completely different writing system; 3) English is somehow interfering with Arabic.

As Figure 5.20 illustrates, 62% of the responses, including the majority of the intermediate group, stated that Arabic is a completely different WS. 24%, however, related the difficulties to the fact that Arabic is highly diglossic. There are the MSA along with numerous spoken Arabic variations in different regions. Diglossia as explained in section 2.4 is known to be problematic. Nonetheless, only 3% chose that English is somehow interfering with Arabic, which probably backs the majority who highlighted the total difference between the two writing systems.

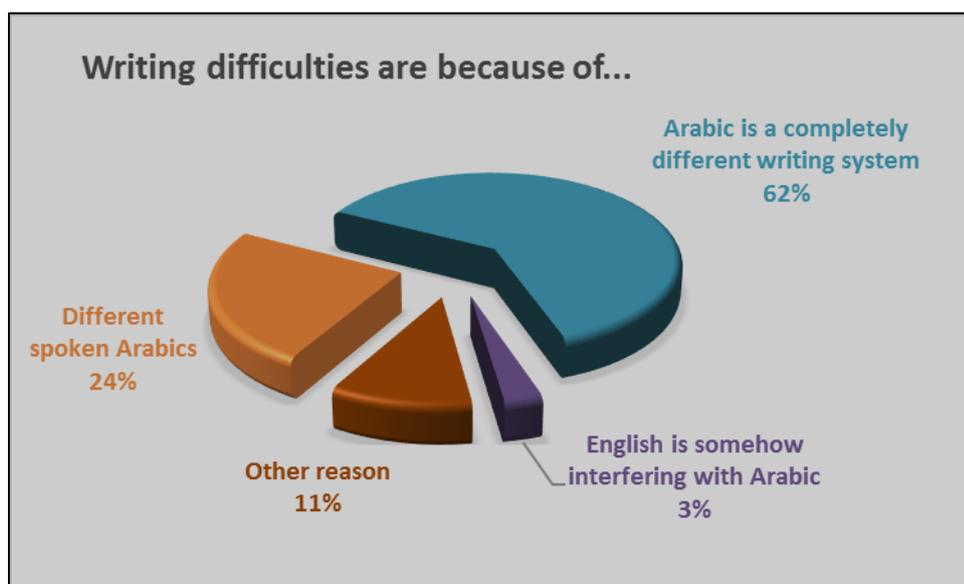


Figure 5.20 Causes of Writing Difficulties

‘Other reasons’ were selected by 11% of the respondents. Their reasons varied from orthographic reasons to phonological causes to blaming methods of learning or teaching to individual reasons. S54 said that the difficulty lies in ‘spelling of Arabic words’, for example. On phonological aspects, S23 said, ‘[I]t's difficult to learn to spell with completely different letter sounds...’ which is supported by S48 who said, ‘[F]or a non-native speaker, it is not always easy when hearing a word to tell how it is written’. ‘Lack of practise’, ‘lack of reading’, or ‘not concentrating’ were also mentioned as other reasons

for writing difficulties. S94 said, ‘Due to lack of reading, if I hear the same reading text simultaneously while reading, then our writing difficulties will become less’. S55 took it to another angle however when he said, ‘[E]very person writes differently. I write with my hand like a computer, and all my Arabic-speaking friends tell me that I'm writing incorrectly!’ This brings us back to the way that Arabic is written and how it is more like drawing than writing. Interestingly though, S37 who chose that difficulties stem from the fact that Arabic WS is totally different from English WS, yet he commented ‘[A]lthough I've noticed that many Arabs make the same mistakes that I do in writing’. As he is an advanced learner of Arabic who described his writing proficiency as ‘very good’, it does explain both his selection as well as his comment.

To verify a number of previous responses linked to writing issues, the respondents were asked to show whether they agree with 6 statements. The 6 statements, as in Figure 5.21, describe their attitudes towards 6 issues: similarity between L1WS and L2WS, directionality, letter-to-sound correspondence, letter dots, Alhamza as a predominant problematic spelling issue, and positional letter forms (letter graphemic differences). All of these have been discussed here and previously asked about in the questionnaire.

As we see in Figure 5.21, most (62%) did not agree with statement 1 about confusion between letters, or with statement 2 about direction (69%). The responses of the intermediate group regarding the first and the second statements are split between ‘strongly disagree’ and ‘disagree’. Many (43%) strongly agreed with statement 3 about confusing letter-sound correspondence, though there was a greater spread with 11% disagreeing and 9% strongly disagreeing. The intermediates are in line with the majority as they mostly agree with the statement. As Arabic WS includes completely different graphemes to the ones used in English WS, the sound system in both languages is also pretty different, as discussed in section 2.4.3. Although the voices were relatively scattered towards this statement, the overall verdict appears to agree. For statement 4, putting letter dots in their correct positions, the vast majority disagreed (45%) or strongly disagreed (47%) demonstrating that mastering dots is chiefly problematic. However, this was countered by the intermediate group as they mostly agreed that they can write letter dots correctly. Strangely enough nonetheless, about the third, including the majority of the intermediate group, agree to statement 5 that they find no difficulty writing Alhamza in its correct place. Because Alhamza is well-known to cause errors even for L1WS users, due to its complicated orthographic rules, this was supposed to be reflected in the L2WS

users. The vast majority also agree with statement 6 that they can choose the correct letterform according to the letter position, which signposts the size of the problem to be relatively small. Similarly, the intermediate learners agree with this statement.

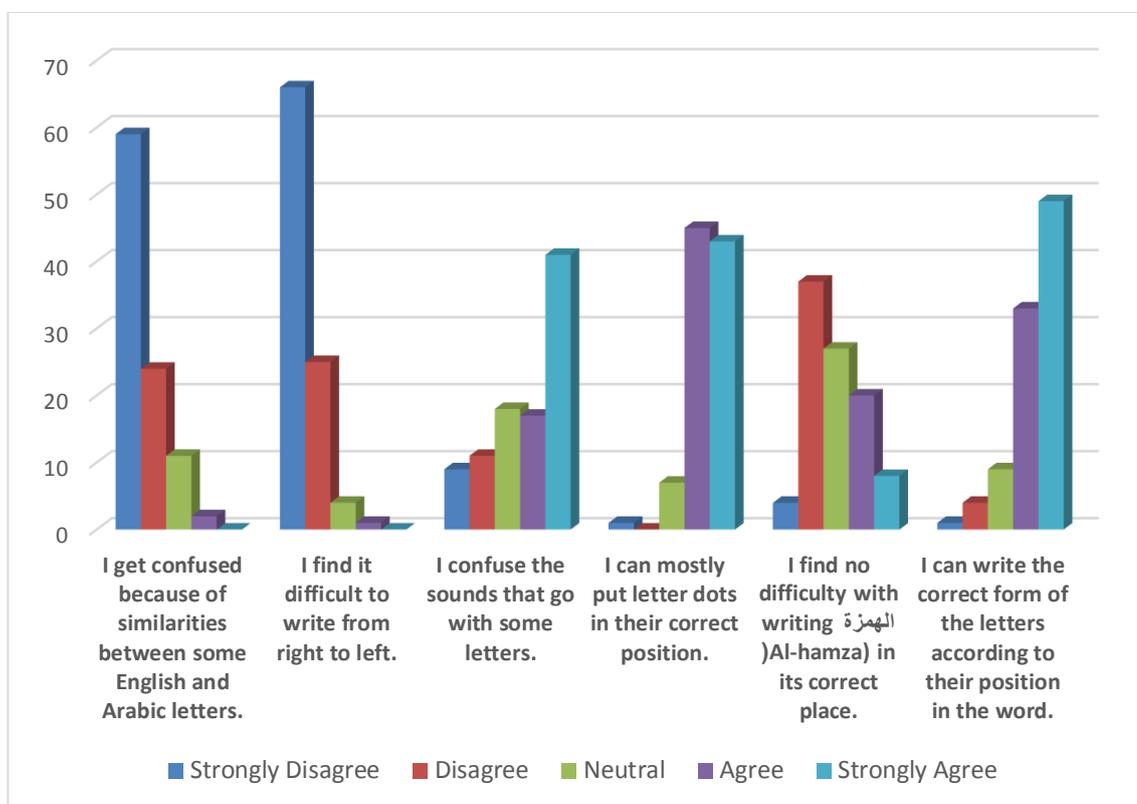


Figure 5.21 The Respondents' Attitudes towards Writing Issues

5.3.4.6 Checking Spelling

Checking spelling is one of main regular steps to learning a new WS. With all simple or complex orthographic information, and numerous spelling rules, on top of different irregularities, checking spelling becomes a necessity. Arabic WS is no exception. The respondents were asked how often they check the spelling while they are writing in Arabic as L2WS and what method they use/prefer to do so. As Table 5.14 explains, the majority, including the intermediate group, reported that they check their Arabic spelling either often (40%), very often (27%) or always (8%). However, 24% said that they check it less often whereas one learner claimed that he never did.

The respondents were given 4 options for the method they use to check spelling including the ability to define 'other' methods. The three predefined options were: word processor

applications, Arabic English dictionaries, and asking a teacher or a friend. These are the intuitive methods for quick spelling check as writing takes place, either in class or away. In classes it is more likely to be on computers, where they use word-processor applications, or they find how the word is written in dictionaries, which are normally available in L2WS classes. In other cases it may be through the help of a teacher or a classmate.

Most Arabic dictionaries are not easy to look into due to the fact that they are based on the word roots, which requires cognitive processing effort to figure out and find words as it was explained previously (section 2.4.1); some new dictionaries are alphabetic and easy to surf. This explains the 38% who preferred to use dictionaries for checking spelling, as summarised in Table 5.14. On the other hand, 24% are used to asking a friend or a teacher and surprisingly only 21% are using word processing applications. Of the intermediate group specifically, more than 60% prefer dictionaries, followed by asking friends/teachers. However, seventeen per cent of the respondents in general prefer other methods. Google Translate or online dictionaries in general were one of the most preferred methods amongst the other methods used to check spelling. As Google Translate can sometimes be misleading, S22 highlighted that learners should be cautious. ‘I would never use it if I had no idea’, she commented. Looking up in textbook, vocabulary lists, or vocab notebook are also other methods for checking spelling according to the respondents.

Table 5.14 Spelling-Check While Writing

How often?	Percentage	Using what way?	Percentage
Never	1%	Word-possessors application	21%
Less often	24%	Arabic-English dictionaries	38%
Often	40%	Asking a teacher or a friend	24%
More often	27%	Other ways	17%
Always	8%		

5.3.5 Other Student Opinions

The questionnaire also asked the respondents’ opinions towards specific issues that were not covered by direct closed questions. Other related issues could be revealed by two open-ended questions. The first question asked them to elaborate on their language background and whether they have anything to add which could be useful to the current study. Given that they had been introduced to the study and the researcher prior to taking

the tests and the questionnaire, the second question was very open as to add anything at all which they thought could be useful to the study. This section contains the students' comments and feedback in general, as well as other themes of the results.

5.3.5.1 General Feedback and Comments

Although MSA is rarely spoken in the streets of Arabic countries, it seems that the time learners spend in on one or more of the Arabic countries has a positive effect on their language proficiency. 'I studied Arabic when I lived for several years in Saudi Arabia, whilst working as an English Teacher. I developed friendships with my students and would spend a lot of time with them during the evenings and weekends; so I developed listening and speaking skills. I can also read and write in Arabic, but I rarely need to', S33 highlighted. However it could also be a kind of obstacle, as S40 put it: 'it's hard to use the Arabic we learn in class outside of the classroom with native Arabic speakers, because very few people actually use it enough to be able to hold a conversation'. In line with the last statement, S68 said, 'Although I have spent time in an Arabic-speaking country, interaction with people in Morocco has not helped to improve my spoken Arabic because the dialect is so far from MSA'. But does this have any influence on writing? With all Arabic spoken varieties, it appears that writing and reading is easier sometimes because it is always (apart from written conversations) in the MSA. 'I find it easier to read and write Arabic than when in dialogue', S74 said.

It also appears that living in an Arabic country creates or encourages the interest in learning Arabic regardless of the fact that Arabic is spoken differently in different areas. S32 said, '...learning in one country (KSA), I became familiar with that spoken dialect; upon going to a different country (Egypt), I could scarcely understand a word'. S7 who was 'born in Bahrain, lived there for 10 years but never spoke much Arabic' during that time has returned to learn Arabic later in college.

Motivation could also be brought by religious purposes. As the Quran is solely written in Arabic (the copies in other languages are only translations), many learners dedicate time and effort to learn the language in order to read and understand the Quran without the need for a translating medium. Several respondents highlighted that the only purpose of attending Arabic classes is to be able to read the Quran. S84 wrote, 'it is the most beautiful

language I have been blessed with and I am going to put my earnest effort to learn, speak and write it'. It seems that this is the case in informal or evening classes, though some of them also think that learning how to read the Quran was useful for generally learning the language itself. 'I think learning to read the Quran was a big help in my writing and reading', S85 commented.

In the end of the questionnaire, the respondents had been asked if they had any suggestions or notes they could add. Nearly 20% of the respondents gave interesting feedback. Two 4th year undergraduate students (S20 and S23) affirmed that native English speakers face difficulty in distinguishing between certain letters (e.g. between <ح> and <ه> /h/ or <أ> /ʔ/ and <ع> /ʕ/) even at this level. Although S30 complained about the 'different forms of each letter', she also highlighted the letter-sound correspondence, particularly the letters: <ث> /θ/, <ذ> /ð/, and <ظ> /ðˤ/. 'These all sound exactly the same to me and I just have to learn the spellings of words', S30 said. On the short vowels, which is also a phonological issue, S69 commented, 'what I find most difficult is that you learn the sound of all the letters, but then once you think that you have mastered that, you learn there are small vowels that change their pronunciation'. Probably, that is why dictation was specifically not easy to learners who took the writing tests. S69 added that, 'if I do not know the word, I find dictation extremely difficult, and I am never able to spell the word correctly'.

On writing appearance generally, S99 said, 'I think that it is much easier to write Arabic neatly on lined paper, not plain paper'. On transferring from L1WS specifically though S75 said, 'personally, the only problem I have encountered is wishing to write a 'j' sound but using the Arabic letter <ج> as it looks similar to the English letter j!'. Teaching methods were also mentioned by more than one respondent. A learner described the teaching methods they experienced as very poor or outdated. Another learner suggested that 'teachers should be patient with us because although we have lesson every day, the grammar and alphabet and pronunciation are still tricky'.

5.3.5.2 Other Dimensions - Overall Themes

Four themes have been sketched (using Nvivo 10) based on the open questionnaire responses. The themes include several aspects with evidence traceable on the respondents'

feedback. They namely are: 1) crosslinguistic issues; 2) difficult Arabic letters; 3) general writing issues; and 4) learning process matters. The themes are briefly discussed below, including their aspects with some quotes from the responses in Table 5.15.

In crosslinguistic issues, three aspects were spotted: differences between AWS and EWS, direction issues, and other language effects. The theme of difficult Arabic letters has retained about 21% of all the feedback, which is quite a big percentage. As the topic was covered in detail in section 5.3.4.1 and in other sections, there is no point of repeating the results here. However, it would probably be useful to list the 6 subthemes, which are: Letter positioning difficulties, letter shape, letter similarities, other individual difficulties, phonological difficulties, and specific letter difficulties. It is worth mentioning that two subthemes have the highest feedback, which are letter positioning difficulties and the letters <ص> and <ض> under the specific letter difficulties subtheme.

General writing issues entail 6 subthemes: anxiety of writing readability, Arabic calligraphy differences, spelling difficulties, writing fluency, writing like drawing, and writing as opposed to typing. Chunks of the references coded in these subthemes are demonstrated in the Table 5.15. It should be noted here that writing fluency and writing like drawing, both have had high feedback in this theme, which might be considered as an indication to the way Arabic is written compared to English. The researcher will reveal this aspect specifically in the subsequent interview results, which shed light on the difference between writing Arabic with its curves and drawing movements and writing English with its geometric shapes as described by one teacher.

Table 5.15 Overall Themes

Theme	Sub-theme	Learner comment 1	Learner comment 2
Cross-linguistic issues	Differences between AWS and EWS	Miim – hard to write when in the middle of a word, looks unnatural for English learners.	Personally, the only problem I have encountered is wishing to write a 'j' sound but using the Arabic letter ج as it looks similar to the English letter j...!
	Direction issues	The tail of 'mim' is difficult to write well, I think I write the whole letter backwards.	because of the way it doesn't flow that well from right to left
	Other language effects	Arabic has a profound effect on Swahili, another language I speak.	I speak and read Urdu, the writing system shares many of the same letters.

Theme	Sub-theme	Learner comment 1	Learner comment 2
Difficult Arabic letters	Letter positioning difficulties	When they are in the middle of words, I find it difficult to join them to the letters in front and following smoothly.	Jiim, Haa, Khah - hard to not make it look like 'ayn at the end of a word!
	Specific letter difficulties	It's hard to get the number of loops right with the س, I found the ط difficult at first but now I have no idea why, and with the ص it's very easy to forget the last loop!	It is difficult to distinguish between these in terms of sounds, so I find it difficult to know which is used in spelling certain words.
General writing issues	Anxiety of writing readability	It is hard to make them comprehensible to other people reading what I've written.	People often simplify letters/ words or write them slightly differently from the way a computer would, so I sometimes find it hard to distinguish all the letters.
	Arabic calligraphy differences	Writing 'seen' is a problem because in Urdu, it's written different (more like dewaani style) so, because I've been writing Urdu for a long time, I end up writing 'seen' in dewaani instead of naskh.	Can be written in so many different ways.
	Spelling difficulties	If I do not know the word, I find dictation extremely difficult, and am never able to spell the word correctly.	In order to understand a word someone says to me, I need to be able to visualise it written or I find it hard to understand.
	Writing fluency	The shape and swing of the letters is less fluent than others.	And ط ط putting in the down stroke interrupts the fluency of writing.
Learning	Writing like drawing	Where and when to take the pen off the paper.	Once you have learnt the alphabet and the rules for writing, it is just like learning any other code, or learning how to draw.
	Writing as opposed to typing	[letters] Most dependent on handwriting in Arabic.	Because when written by hand, often, they look entirely different from how they look when typed.
	Progress-related problems	Although I may have had problems in the past, I don't have any problems at the moment.	I don't find writing itself that difficult at this level (4th Year undergraduate student).

Theme	Sub-theme	Learner comment 1	Learner comment 2
	Teaching methods	Our teachers could not give us a standard way to write miim as they all write it differently.	Having learnt the written Arabic from day one of the course it helped a lot, rather than using transliteration instead.

The learning matters theme received about 20% of the overall feedback. Teaching methods vary a lot, depending on the institution and the place where Arabic is taught. They are also different from methods exploited in teaching most of the European languages, in which the latter are considered to be relatively advanced in comparison with the methods employed in teaching Arabic, especially in some parts of the Arabic countries.

This theme of the questionnaire embraces 7 subthemes, some of which have been covered in previous sections, namely: dialect effect, language exposure, learner attitude, other ways to checking spelling, progress related problems, teaching methods, and visualisation. Dialect effect, language exposure, and learner attitude have all been charted and discussed in the last section (section 5.3.5.1), amongst other sections in the questionnaire results. Other ways of spelling were also explored in section 5.3.4.6, where the learners talked about ways of checking spelling and how often they would check while they write in a L2WS context.

The progress-related problems contain different writing issues which have to do with progress either positively or negatively. Some writing issues, as discussed in section 3.4, are known to vanish or diminish with upper intermediate and advanced levels such as direction problems, the letter forms, and letter joining difficulties. Generally, the feedback seems positive, but there still are some persistent writing problems which accompany learners through years of learning, such as the differentiation of the letter sounds, the dots, letter joining with particular letters only and so on. The feedback here appears to be frustrated and sounds slightly negative. Table 5.15 recorded some of the 26 comments in this theme.

The 12 comments on subtheme of teaching methods mainly described current teaching methods that the learners experienced and suggested other methods to enhance the learning practice. Two comments are quoted in Table 5.15, for example. Visualisation

was mentioned by only one respondent who said, ‘in order to understand a word that someone says to me, I need to be able to visualise it written or I find it hard to understand’, which could be related to learner attitudes or teaching methods. As there was not much feedback on this, it could not be clarified more by the learners themselves. However, this was investigated further with teachers who participated for the study interviews.

5.4 Summary

Three tools have been exploited to collect data for this research: writing tests, a questionnaire, and interviews. The results concerning learners’ practice and perspective were presented in this chapter, whereas the teacher interviews will be discussed in the next chapter. The writing tests involved three tests: open-ended essay (OEET), dictation, and multiple-choice test (MCT), each of which have yielded valuable results. The information in this chapter has been extracted from data collected from 128 test sheets done by forty-four participants, and 82 questionnaires. The results have been presented both categorically and statistically. A summary of the common error types which resulted from each test was given at the end of the OEET (section 5.2.1), Dictation (section 5.2.2), and MCT (section 5.2.3).

The questionnaire was intended to explain how and why these common errors occur from the participants’ perspective. Apart from some problematic letters, the respondents found it easy to write Arabic letters and to join the letters in a word. The respondents reported no major problems with letterforms (graphemic forms) or direction. However, they reportedly have common orthographic errors, as well as problems with connecting letters to their sounds, letter teeth and dots, omission, and insertion. They also think that the difficulty in writing Arabic stems from the fact that it is very different from the EWS. They reported that often, they would check spelling as they write using Arabic-English dictionaries, both paper and electronic versions. The questionnaire participants expressed informative opinions which formed several themes and acknowledged positive as well as negative feedback, such as highlighting differences between AWS and EWS, direction issues, other language effects, letter positioning difficulties, anxiety of writing readability, Arabic calligraphy differences, spelling difficulties, writing fluency, and progress-related problems.

Chapter 6: Interview Results

English Speakers' Common Orthographic Errors in Arabic as L2WS

'Some of the differences are significant - for example, J is pronounced as G in Egypt, while Q is pronounced as G in the Gulf - and the result is that a single Arabic word, spoken by a Moroccan, an Egyptian and a Saudi could easily appear as three different words if written phonetically in the Roman alphabet.' (Whitaker, 2002)

Chapter 6: Interview Results

6.1 Introduction

This study investigates Arabic writing errors made by English-speaking learners in second language classes. In this investigation, the two writing systems, AWS and EWS, are analysed within the writing system theory. This involved a set of writing tests and a follow-up questionnaire, of the results of which were presented in the previous chapter, and teacher interviews, which will be presented in this chapter.

Unlike the other research instruments, which were geared towards learners, the interview technique was directed to teachers of Arabic as a second or foreign language. Teacher interviews were carried out in order to add density to the data collected from learners and afford an essential supplement to the rest of the results. As mentioned in section 4.7.3.2, the interview adopted a semi-structured face-to-face approach. Six teachers participated in different institutions in the UK, with each interview lasting for approximately one hour. Teachers spoke to the researcher, relaying their views and explanations of some writing error phenomena found in the tests. The interviews were recorded, transcribed and then analysed using the approach of thematic analysis, with the help of NVivo 10 as an effective means to analyse the interviews texts, as explained in detail in section 4.8.3. The teacher views are represented here with the letter T followed by a number from 1-6, which indicate the interviewees from teacher 1 to teacher 6. Beside other benefits, the interviews were mainly used to answer the research question of why the common errors made by English learners of Arabic as L2WS occur. As the interviews were (all except one interview) recorded in Arabic (the teachers' L1), the important coded chunks were translated into English for the results. The themes, in addition to their subthemes as emerged within Nvivo will be illustrated and explained in this chapter of results.

The teacher interview results are presented here in three main sections: firstly, a description of the interviewees; secondly, a review of the result of the interviews; and thirdly, the chapter is concluded with a quick summary. The first section provides an overview of various attributes of the interviewees, while the second summarises the teachers' answers to the questions. The third section is based on several standalone

opinions that were voiced as comments or suggestions on different but related specific topics other than the ones designed in the research interviews.

6.2 The Interviewees

Six teachers from three institutions agreed to participate in the interview. They were selected based on a sample frame (see section 4.6), which was designed purposefully for the research. All the interviewees are native Arabs except for one teacher who is an English speaker, born in England. The Arab teachers were born in different parts of the Arab world: two teachers were from Egypt, one was from an Arabic Gulf country, one was from North Africa, and one was from the northern Arabic peninsula. Each territory has its own Arabic dialect with different accents.

They were three males and three females. All of them, however, were within the age range 30-40 and are PhD holders except one who was a PhD candidate. Five interviewees have worked for their institutions as academic staff whereas one has been a researcher. Three of them know other languages such as Spanish, Urdu, Bengali, Farsi, and French. Two interviewees are specialists in linguistics, two in applied linguistics, and two in translation. Three have published several papers in their research interest. In addition to teaching Arabic to English speaking learners, all except one have also taught Arabic to speakers of other languages. Most of them have taught Arabic as L2 for 4-8 years and one has done so for more than 8 years. All have been teaching Arabic writing in their institutions.

6.3 Recurrent Themes

Amongst other minor themes, six salient themes emerged as broad topics in the interviews. Inside each theme there are several subthemes, which collectively form the comprehensive architecture of the themes. The six themes are divided into two general subjects (as shown in Figure 6.1): a) teaching/learning Arabic writing, which includes: 1) teaching methods, and 2) learning and teaching issues; and b) writing issues, which involves: 3) crosslinguistic Writing Systems, 4) long lasting Arabic writing phenomena, 5) what orthographic error is common, and 6) why it is common. We will deal with them as they were divided and listed here, but with each theme alone.

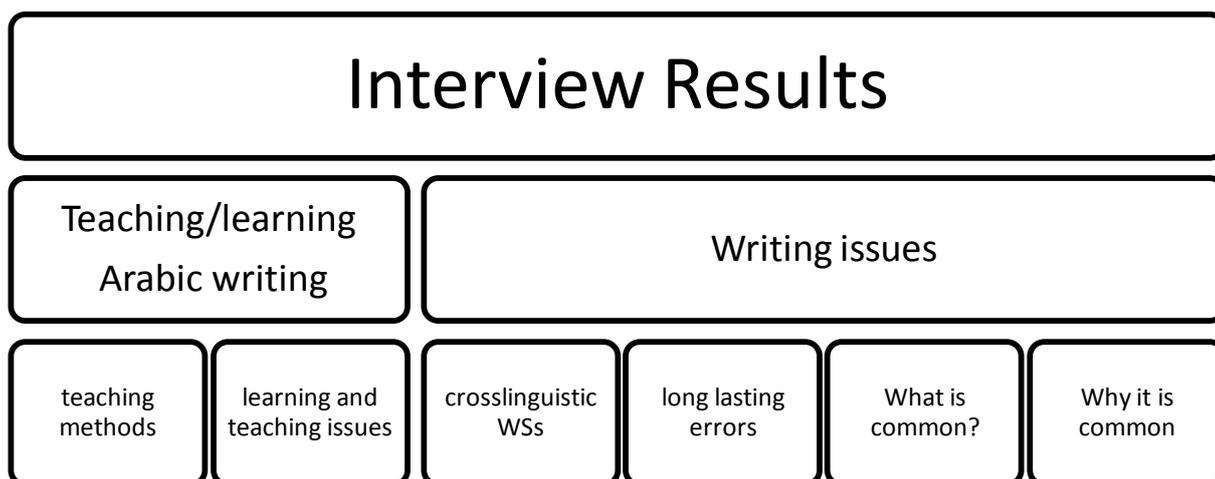


Figure 6.1 Interview Results Skeleton

6.3.1 Methods of Teaching Writing

This theme basically collected the answers to the questions of whether the interviewee has a specific method of teaching Arabic writing, and how he/she evaluates this method. Although most of the teachers use textbooks to teach writing, it seems every interviewee has their own method of teaching, as well as their own institutional selection of textbooks. In one institution there is *Al-Kitaab*, which was published by George Town University, USA. According to T2, the students listen to a story at the beginning of each chapter to learn new words and how to write them down. T1 seems to agree with the method T2 described. He reported that teachers rely on the textbook as a key source while they exploit other worksheets on writing that precisely facilitate letter ductus and direction. In his own practice, T1 had three steps going from: using the whiteboard to highlight direction, to intensive training, to presenting films and video clips. In a different institution, the methods generally remain the same. T4 and T5 reported that they use two main books amongst different textbooks, namely, *How to write in Arabic* (Lahlali, 2009) and *أدوات الربط في العربية المعاصرة* (Hassanein and Al-Waraq, 1984).

Showing videos, using word-processor or sketching programmes (e.g. MS Word and Paint), in which teachers can *show* them how they would write the letters from the beginning to the end, and employing computers, seemed to be agreed methods amongst the interviewees. T1 said: ‘I think using technology echoes vastly amongst students in learning. It has the ability to widely attract them because they are entertained as much as they are learning’. One of the ways, T4 highlighted, is to utilise computers to write essays,

short or long, by typing them on computers as assessments and then the teachers identify the errors and correct them in the classroom. However, this would raise the question of whether this is really helpful or in fact could be damaging their ability to write by hand. What is probably alarming is that some teachers, according to T4, actually bar students from writing by hand and downgrade their marks accordingly. T6, therefore, urges students to handwrite essays and then type them up. All in all, the interviewees collectively mentioned 9 means to teaching Arabic writing, though using textbooks appeared to be the main practice. In addition, they mentioned hand-outs, continuous assessments, an intensive 2 week writing course, multimedia and the Internet, simulation, word-processor programmes, setting writing rules, and writing words from a story.

In their assessment of their methods, strangely only two teachers thought that their methods are very good; whereas the rest of the informants said that they are either imperfect or even defective. The reasons as well as their justification seem to be different as well. For example, while using textbooks, which is seen as the key method for almost all the interviewees, is commended by one teacher, another teacher who works in the same institution said that the textbook they are using is unsuccessful. T2 assumed that the problem is associated with the particular book they use, and pointed out other good, recent textbooks in his opinion.

The best approach, T1 and T5 thought, is to combine and implement several teaching methods in what they called the ‘integrated method’. Designing a special textbook, as T2 prefers, which suits their own teaching/learning requirements seems a better way; though it requires teamwork and a dedicated fund. Focussing specifically on handwriting, T5 seems to agree with T6 on the need to using handwriting more often. However, they all seem to agree on logistic issues such as minimising numbers of learners in each group, and offering numerous activities, with ample time for practice.

The interviewees were invited to express suggestions based on their experiences teaching writing. T3 highlighted the effect of lacking research on Arabic writing on the current practice, calling for methodological reform in the TAFL teaching methods. She also asserted that ‘learners should start learning writing from the very beginning in a right way to save effort and time’. Phonologically, T1 as well as T3 emphasised the importance of teaching the Arabic sound system, concentrating on their L2 auditory perception as well

as on their production, which ultimately affect their orthographic output. Orthographically, T6 insisted on teaching them handwriting.

6.3.2 Teaching/Learning Issues

These issues involve language learning: how to learn the correct spelling, and particularly how to teach *Alhamza* to overcome its spelling problems in a L2WS context. T3 highlighted practical reasons such as the number of students, time, and teacher effort, whereas T1 was concerned about the complete orthographic foreignness. One of the interviewees touched, amongst several issues, on the teacher background and its effect on their teaching MSA, which is a very important issue.

Do dictionaries help students with spelling? T5 thought so but only to some extent, as she emphasised that most of the available dictionaries are monolingual, complicated, detailed, and not directed to L2 users or learners. T1 thought that dictionaries would show learners ‘the word shape and not how it is written, which is a jump for their language competences’. T2 seems to agree with T1’s last thought, as he thinks that electronic dictionaries do not really benefit students because writing differs from typing. Students would not be able to learn the ductus as they only see the word image, which could be helpful spelling wise only, T2 argued.

One persistent spelling difficulty as mentioned before (sections 2.4.5.3 and 3.4) is *Alhamza*. The question here is whether teaching/learning can offer solutions to this problematic character. T2 simply mentioned that teaching *Alhamza* is not part of the syllabus and thus students are not taught how it is written and its rules. Similarly, T5 remarked that teaching *Alhamza* is difficult. ‘It is inefficiently taught while the learners don’t really get it. The problem is difficult in general’, she added. That is why, according to her, teachers normally do not check whether *Alhamza* is written correctly.

6.3.3 Crosslinguistic Writing Systems

The entire purpose of this research falls into this topic as it investigates how two very different writing systems contact in a L2WS context and whether their differences cause specific difficulties. Hence, the researcher inspected the interviewees’ opinions and views

regarding several crosslinguistic aspects, such as the differences between the two WSs, similarities between errors made by users of the two WS, L1WS influence, difficulties in Arabic as L2WS, and other language effects. It seems that the interviewees are all aware of the differences between the two WSs (see section 2.4), as they all agreed on mentioning some of the obvious differences such as direction, dots, joining letters and the sound system or the letter-sound correspondence.

Indeed, coming from a very different writing system will show numerous differences but are there any noticeable similarities between errors made by English learners and native speakers or in other words between L1WS and L2WS? As we have seen, Alhamza is one of the errors that both users seem to make. T5 said that both L1WS and L2WS users make mistakes in doubling (or undoubling) letters, as well as in Al-shams lam and Al-qamar lam (see p.45). T2 summed it up, saying that, ‘All sorts of writing problems that native speakers suffer from, English speakers would do so as well’.

Generally, in terms of the English influence on the learners writing in Arabic, the interviewees pointed to several observations. ‘They think in English and they write in English’ T4 said. When I interrupted, trying to correct the statement, saying ‘They think in English and they write in Arabic’, she replied, ‘In Arabic but in English style! This is what they do, and it’s not Arabic any more’. Orthographic influence is the question here though. Despite T2 asserting that there are no influences based on the fact that the two languages are fundamentally different, he, as well as T1 and T3, stated that direction is the clearest prime influence. T1 and T3 also mentioned the influence of some English sounds such as the sound /q/ in Arabic for which they write /k/ instead, probably during dictation activities, because they transfer the sounds they know in their language, according to them.

If we compare the AWS to other WSs put into L2WS context, how would Arabic be perceived in second language classrooms? In other words, are the difficulties observed because of the WS itself, or are they results of the great difference between Arabic and English WSs? The interviewees think that direction and script are AWS-specific challenges from the English-speaking learners’ point of view. T3 said that some learners ‘spend half the term afraid of writing in Arabic so they use transliteration instead’. T4 highlighted the major difference in terms of letters (script) and dots as well as the calligraphic style used in writing. According to T3 and T4, the change in how letters are

written in different types of Arabic calligraphy (e.g. letter dots in Naskh and in Riq'a), which are normally used simultaneously in everyday reading and writing, appears to cause difficulty.

However, difficulties do tend to disappear as a result of routine and familiarity, T1 affirmed. According to T2, knowing more languages appear to leave a positive effect on learners as well, especially with sounds such as the Arabic sounds /x/ which is found in German and /y/ which is found in French. T5 is convinced that students with more languages are able to learn Arabic more easily. She observed that students with Polish and French languages as a second language find it easier to learn Arabic. T4 also remarked that students from Spain as well as Italian-speaking learners are brilliant in Arabic writing. They however offered no obvious explanation. T6 agreed that one can tell that learners who read/write languages, specifically those using the same script, are better, especially in handwriting.

6.3.4 Long Lasting Arabic Writing Phenomena

The teachers' observations made during their teaching experience is vital to this research. They chiefly reported an enduring confusion with four issues: directionality, dots, letterforms, and the Lam Alif (a combination or ligature of two letters Lam <ل> and Alif <ا> which are not considered as one letter but still they form a word like لا or comprise part of a word e.g. الإماماء). The question is whether the informants noticed some errors that students could easily overcome and pass. They seemed uncertain of their answers, which were also full of discrepancies. What matters here though is that they did not agree on a particular error that learners could pick up easily and learn not to make again or keep making the same mistake over and over again. Direction, for instance, was mentioned by T2 as a difficulty fading after the first or second month, while T3 and T6 confirmed seeing direction problems in the fourth level (the highest in their institution).

Probably every error mentioned in one category (i.e. easily overcome or longer lasting) were also mentioned in the other by the same or a different informant. The teachers did seem to agree that direction errors are not errors in writing letters or words, but should be seen as a difficulty in general. They also agreed that learners find more difficulty in dictation because they must write from memory or from what they think is correct according to their perception and reproduction ability. Also, none of the informants

denied the lasting difficulty with Alhamza. Clearly though, apart from Alhamza, there were no clear cut opinions amongst the interviewees on what is easy or difficult to overcome.

6.3.5 What Errors are Common?

As we investigated what errors are common amongst learners in the writing tests, and further examined their opinions against their common errors via the questionnaire, we had the opportunity to ask about the writing test results and to explore the teachers' opinions on what they think are common errors. Nine subthemes were formed from the conversations with the six teachers on this topic. Each subtheme represents a category of similar errors. They were recorded according to their number of mentions and discussions during the interviews. The 9 subthemes are: letter shapes, direction, dots, phonological issues, orthographic issues, connecting letters, problematic letterforms, doubled letters, along with other errors.

- Letter shapes

This category received the lengthiest discussion amongst the teachers (see the writing test results in sections 5.2.1 and 5.2.2). This indicates that letter shapes are fairly problematic for English-speaking learners of Arabic WS. It is obvious, as T1 observed, that the letter shape is odd. There is a major emphasis amongst the interviewees on the letter <ه> and its shapes and forms. The fact that it comes in different forms in the beginning, middle and in the end does not make it any easier. T1 commented that 'the multi shape letters such as <ه> /h/ in the middle which could be written in two different forms so which one they would choose?' But on top, it has several acceptable shapes along with calligraphic types, and it can be very confusing when it becomes too similar with the closed ta'. Although T4 noticed that learners easily write it as if it was the number 8 'because it is just two circles', others like T2 and T4 completely disagreed and put the <ه> as an example for letter shape difficulty. T6 firmly reported that <ه> is very difficult 'because of the circling'.

Other specific problematic letter shapes were mentioned, such as the Lam Alif, which has been discussed (in section 6.3.4). T4 noticed that <م> is sometimes written without going

down but like <ف> without a dot'. T6 briefly gathered several issues in his comment: 'When <خ ح ج> all of those when they end خرج so making that shape, roundish I think they find it difficult sometimes, some of the students. Sometimes <س> at the end or on its own so <س> and <ش> <ص> and <ض> any letters that have cusps'. In addition, T4, as well as T6, think that the sizes of the shapes vary a lot, which changes the look of letters and the adjacent letters. This touches on the handwriting styles and takes us back to the 'drawing or writing' argument. Due to the fact that Arabic script is used in other languages like Urdu, negative influences could occur. This influence does come with drawbacks, 'so <ع> may give them a problem and <ح>...when they're writing محمد', said T6.

Letter teeth problems, which are part of letter shape errors, are reportedly less common, similar to the findings of the questionnaire results (section 5.3.4.4). Letter tooth (or teeth depending on their number), in which the inherent teeth look like small tips, such as <س>, <ش> and <ص>, are not like the dots problem, according to T1. The errors could be either in the number of the teeth, in their places, or missing the teeth completely, as noticed by T4 and T6. The learners seem to be confused sometimes so they add teeth for un-teethed letters as if they overgeneralise. In addition, T5 drew attention to the impact of the different calligraphy types in which some types disregard the teeth.

- Direction

Although the writing tests (cf. Table 5.2 and Table 5.3) did not show this to be common, teachers seemed very aware of this issue as a result of observations. 'The effect of direction is pretty obvious', T1 said and added: 'They write Arabic but they write from left to right'. T3, T4, and T2 seemed to say the same. T2 remarked that some of the learners write <ط> /tʕ/ starting from the very end of the base to the left, going right, making the roundish movement to attach it again where they started and then they add the stick above. The flow of writing is undeniably interrupted as a result of failing to naturally compose in right-to-left direction. This does not even appear to fade with intensive practice or at the upper stages, as the teachers highlighted. T6 (who was formerly a learner of AWS and is currently an English speaking teacher of Arabic) returned much of the writing difficulty to direction, and remarked 'I think even with advanced levels, I mean I still have it!'

- Dots

Due to the fact that Arabic WS is full of dots and diacritics, which makes it slightly difficult to absorb, changing the number or the position of dots or mistakenly forgetting them can change the whole word or result in a different meaning of the word. We saw in the previous chapter (section 5.2.1) that dot errors were the third common error after letter shape and orthographic errors. Some teachers claim that dots are not a big problem, but they do acknowledge their persistence. Although learners know the difference between letters in terms of their dots, they tend not to put them on, T3 argued. T2, on the contrary said, ‘They have a big problem with dots even in the fourth level and when they graduate they forget the dots because it is unusual practice for them, even though it changes the word meaning’. T4, T6 and T1 also appear to generally agree that dot errors are widely common.

- Phonological issues

According to the results of this research, this issue now is known to cause numerous writing errors (sections 5.2.1 and 5.2.2 in the previous chapter). Differentiating sounds especially the emphatic sounds (e.g. /s^ʕ/, /d^ʕ/ and /t^ʕ/) or those that are absent from the English sound system, (e.g. /ʕ/ and /ʁ/) is challenging; thus, according to the interviewees, phonological issues are quite common. T2, for example, drew attention to students’ difficulty telling these sounds apart: <ء> /ʔ/ and <ع> /ʕ/; and <ه> /h/ and <ح> /ħ/, which meant they could not write them down. Differentiating the short and the long vowels, and between phonologically similar letters such as <ذ> /ð/ and <ظ> /ð^ʕ/, is problematic. T4, though she acknowledged the problem, underestimated its size. The interviewees highlighted that short vowels, which are not represented in letters but rather in diacritics, are known to cause phonological errors at least in early stages. Reportedly, there are more letters as a result of the short vowels issue, so they would write **موحمد** Moohammad instead of **محمد** Mohammad, she remarked. Most of the interviewees seemed to agree with all of these problematic sounds that, again, makes it difficult to write from what they hear or pronounce.

- Orthographic issues

What we mean by orthographic issues are the errors that occurred as a result of failing to follow the orthographic (spelling) rules of the AWS. Issues such as Alhamza, the article <ال> or *Alqamar lam* and *Ashams lam* (AL of sun and moon), and so forth, are problems resulting from either too complicated spelling rules or a too foreign system. Alhamza, for instance, is difficult in several aspects. The fact that native speakers or L1WS users make numerous Alhamza errors and find its rules difficult to understand, to remember, and to apply, as explained previously (sections 2.4.5.3 and 3.4), indicates that the problem lies in the orthographic system and not as a result of the differences between WSs. The interviewees totally agreed on the commonness of Alhamza errors. T3 said: ‘Alhamza is very difficult for them (English-speaking learners of Arabic WS) in the middle or the end of the word, they don’t know how to write it whether on <و> or <ي> or <ا>’. T6 also said: ‘I think conceptually one of the hard things is anything with Hamza, especially if it’s medial or in the end... words like بيئة (environment) and شيء (thing)’. Indicating Hamzat-ul-wasl, he also added: ‘Hamza where is not needed sometimes they put it there’.

Students are sometimes not able to differentiate between the two forms of Alif Almaqsourah (a type of Alif which is pronounced as the vowel /a:/ but it is written either <ا> or <ى>, see section 2.4.5.3), probably because they both come at the end of the words. T6 remarked that Alif Almaqsourah is a problem, ‘Because learners treat it like a <ي>, so they put the dots on. Apparently this is a predominant issue for the confusion between the two Alifs. T4 noticed that persistence as she described Alif Almaqsourah errors as ‘one of the errors that remain with them’. T6 stated that ‘vowelings’ confuses learners as they do not add Alif al wiqaya (the guarding ‘alif is used at the end of verbs in the plural form to guard the plural verb from being similar to plural nouns) to the verbs such as ذهبوا (they went). Further, Tanween (nunation is the /n/ sound by doubling the short vowel at the end of a word in which it grammatically functions to indicate indefinite article) reportedly causes errors as well. Teachers remarked that learners commonly write <ن> instead of the vowel’s diacritic. Several informants also mention the closed ʾa’ <ة> as an issue that needs to be highlighted. This has been discussed along with the LamAlif in the section ‘difficulties for English speakers’ (under section 6.3.4 this chapter).

- Connecting letters

As carefully explained in section 2.4.2, AWS is cursive. In each word, all the letters join together both the previous as well as the following letter, except the 6 non-connecting letters (i.e. ذ ر ز و ا) which join only the preceding letters. The interviewees observed that connecting letters issues appear common as well, at least in the first levels. T1 said: ‘The issue of one-way or two-way connectors is one of the issues that learner faces in which the groups of letters can be connected to the right and to the left or only to the right. This takes time especially in the beginning’. T3 specifically seemed annoyed by the error in connecting <د> to the next letter, while it is one of the non-connecting letters. T6 did also raise the same issue as he said: ‘They forget that these الأحراف المستبدة stubborn letters (or non-connecting letters), what they try to do with the <د> they’d connect the <د> to the next letter as in بدل it would be ببل; so <د> and <ذ>’. The positional letterforms seem to be confusing, especially in the middle. ‘The shape of <ع> /ʕ/ in the middle for example becomes confusing to them, because they could write it as <م> /m/ in the middle’, T1 explained.

- *Alqamar lam* and *Ashams lam*

In the AWS chapter, we mentioned that geminated consonants might cause assimilation and change the meaning of words involved. If a letter (consonant) was doubled as in خلل /xalal/ (fault), it would be wrong to combine the two consonant in one letter to be خل /xal/ (vinegar). However, if the consonant is assimilated into the preceding letter as in الطَّعام /attʕaʕa:m/ (food), it would be a mistake to write two letters as الططعام. The interviewees reported that this seems to be complicated to English speaking learners. T2 and T4 said students sometimes cannot differentiate between them and sometimes they add a third letter. T1, T5, and T6 reported that the problem occurs when the doubled letters involves *lam* <ل>; particularly *Alqamar lam* اللام القمرية and *Ashams lam* اللام الشمسية. This type in particular causes some puzzlement for native speakers as well. T6 commented: ‘The doubling of lam especially... anything with two lams الليل /ʔallayl/ (night); they make mistakes with those definitely’.

- Other errors

The interviewees mentioned other infrequent errors such as missing the diacritics, which indicates *shadda* and short vowels, or writing them but in the wrong direction. The study results show no evidence regarding this issue, though. Several issues associated with handwriting were reported as well.

6.3.6 Why These Errors are Common

After discussing what is common, the interviewer asked the interviewees why, in their opinions, those particular errors are common. They were shown the results of the questionnaire, as well as the writing tests, to allow them to comment on them based on their experiences. The reasons why teachers think specific writing errors are common can be grouped into several subthemes, namely: phonological differences; orthographic differences, spelling error causes; and other reasons.

- Phonological differences

It is probably inevitable that phonological errors are caused by phonological differences. Either incorrectly perceiving or wrongly producing sounds would cause writing errors of this category. Sounds absent from the English sound system are known to be the first and foremost reason for making these errors as suggested by the interviewees. T3 stated: ‘It is the difference between the Arabic and the English system, of course they face new letters that they pronounce for the first time in their lives such as <ح> /ħ/, <خ> /x/, <ط> /tʰ/, <ظ> /ðʕ/, <ع> /ʕ/, and <ق> /q/; the places of articulations are not trained’. If they were capable of receiving/producing the sound, they would be able to write it down as they have recognised it. This explains why some learners, when they appropriately receive and recognise the letter sound, they write it correctly even if they were unable to produce the same letter sound. For example, T2 confirmed that while some learners pronounce the sound /ħ/ incorrectly as /x/, they were still able to write the corresponding letter <ح> correctly.

An additional reason is the sound similarity (e.g. ʔ and ʕ) for English-speaking learners to the extent that is hard to distinguish and then to write. T1 said, ‘Letters that their sounds are similar or are articulated from the same place are the difficult sounds in writing’. One

more interesting issue is that some learners confuse the sounds from the same place of articulation altogether, which as a result would produce odd errors (e.g. أهلاً for أخلأ = mistaking <خ> /x/ for <ه> /h/). Probably there is some kind of generalisation as well according to T3. As they learn the sound, they overgeneralise and apply the sound to similar ones, even in English. T3 mentioned that they use the Arabic sounds in writing their own names, in the act of Arabization, so إدوارد Edward would be إضوارد Ed^sward'. As explained in the previous section, (p.181) they also lighten the emphatic consonant sounds and thus they make mistakes in writing them accordingly. Hence, <ص> /s^s/ becomes <س> /s/ because it is nearer to the English's <S> /s/, <ظ> /ð^s/ becomes <ز> /z/, and <ض> /d^s/ converts to <د> /d/, and so forth.

It remains an obstacle to properly perceiving the MSA sounds. The teachers interviewed, as well as people in Arabic countries, are not actually speaking MSA; rather, they speak their own dialects, which could be near or far from MSA's sounds (see section 2.4). The interviewees pointed out that teachers are naturally affected by their community and backgrounds in what they pronounce, and hence, speaking different Arabic dialects in classrooms may confuse learners, especially at the start, in their Arabic writing – their Arabic auditory system is disordered. T3 though, argued that the learners have videos of conversations in different dialects as well as in MSA in their syllabus and they are prepared to face this difficulty, which ultimately minimises the problem.

The Arabic letter-sound correspondence, as T1 remarked, in which the sound is only mapped to one letter, seemingly has a positive effect. When learners recognise the sound and its mapped letter, T1 explained, they do not have to worry about it appearing in different shapes. In English, sounds have different graphemes; /f/ appears in writing <ph> or <f> for example, and /ʃ/ is frequently found written differently in words such as *share*, *sure*, *session*, and *direction*. Arabic, on the other hand, has no such divergences. This, according to T1, positively affects learners, as they know there are aspects of Arabic writing that are easier than in English.

- Orthographic differences

It is a simple fact that apart from the small <i> and the small <j> along with rare sporadic words, English does not utilise dots. In Arabic though, T1 says, 'You have groups and pairs of letters <س ش ص ض ط ظ>... as long as it is a simplicity factor it does form a

difficulty for them because they are coming from a language that does not adopt this addition onto the script and that is a fundamental reason of errors in writing dots'. Furthermore, interviewees highlighted that dots in Arabic have a fairly complicated system, whether in their position (e.g. above, below and inside) or in their number (i.e. one, two, or three), in addition to the calligraphy variations in which dots sometimes become hyphens or triangles.

Similarly, many factors are thought to be causing letter shape errors. 'There are details student cannot master unless they take enough time and that's one of the reasons', said T2. The details, T2 indicated, involve the letter size and dimension, letter ductus and cusp, as well as letter teeth. Errors in each aspect could cause some ambiguity or completely prevent readers from understanding what is written. T1 thought that letter shape errors are either due to the word size or the interchanging movement between writing horizontally and vertically, which causes instability in drawing the shape or grasping the size. It apparently goes down to the roundish loops, cusps, and curves of many Arabic letters. The letter teeth errors are due to poor teaching methods, according to most of the interviewees. Another possible reason mentioned by three interviewees is that some learners step ahead and learn another variation of Arabic calligraphy (e.g. Riq'a) which allows the writer to transfer some teeth strokes. Direction errors on the other hand are results of a combination of inefficient teaching, the intense influence of L1WS direction, and psychological and spatial recognition.

- Spelling error causes

The interviewees mentioned three reasons behind making orthographic errors. One is the fact that learners are not properly taught the rules (Alhamza is not even part of the syllabus according to T2). The second reason is the fact that some rules (e.g. Alhamza sections 2.4.2, 2.4.5.3, and 3.4) are complicated in all aspects: their laborious orthographic rules, how to simplify and teach them, and the different opinions and theories concerning them amongst teachers as well as Arabic linguists. The third reason is purely phonological, as in the failure in realisation of differentiation between few sounds such as <ء> /ʔ/ and <ع> /ʕ/, the <ن> /n/ and *tanween* (see p.182), or the article <ا> AL or *Alqamar lam* and *Ashams lam* (AL of sun and moon) etc.

- Other reasons

Omission and insertion seem to be very similar to substitution in the sense that the reason is mostly phonological. ‘If a student couldn’t catch the sound or caught it but is unable to pronounce, it would lead to deletion’, said T1. Insertion on the one hand probably results from exaggerating the short vowel into a long vowel. ‘Short vowels are problematic so they would write **موحمد** Moohammad instead of **محمد** Mohammad’ T3 explained. Omission, on the other hand, could occur due to adjacent identical letters such as **تتكلم** Tatakallam (speaks) or **الليبيين** Allibiyeen (Libyans), so, according to T3, they would only write one of the twin letters. Gemination and doubled letters are obviously too difficult for learners, as teachers observed, even in reading. ‘I taught them this year the rule of doubled verb such as **استعددتُ** /istaʕdadtu/ (I’m ready) and **استعدَّ** /istaʕadda/ (he is ready) and they fail to write it correctly’ T3 reported. Direction problems seem to be due to unprofessional teaching methods, the intense influence of L1WS direction, and mind-set. T6 commented on directionality: ‘I think even with advanced levels, I mean I still have it’. T1 also remarked that the ‘learners come from a language written in a different direction, and that takes a cognitive effort to change’.

6.4 Summary

At least in Arabic as L2, writing has not been taken seriously by both teachers and researchers, whereas handwriting specifically is almost neglected. The interviews returned six themes in addition to ‘specific opinions’, which involved scattered but valuable teacher views regarding handwriting differences amongst other issues. The six themes are: teaching methods, learning and teaching issues, crosslinguistic Writing Systems, teachers’ observations, common errors, and reasons underlie their commonness.

Chiefly, the interviewees reported that they exploit the textbooks adopted by their institutions, as well as using other sources such as the Internet, hand-outs, multimedia, intensive rapid starting courses etc. Although they were not all happy about their teaching methods, they reported a consensus for using different methods of teaching writing and switching between them every now and then. Several suggestions have been voiced to develop the teaching methods of writing Arabic, such as allowing learners to start writing immediately, teacher training, teaching them handwriting styles, and encouraging researchers to investigate this field. In terms of teaching and learning issues, the

informants highlighted a number of aspects like the fact that learners come from a very different WS, and that teachers also come from different Arabic backgrounds, along with general class management and teaching issues.

Given their specialisations, the interviewees appeared to be aware of the errors that relate to differences between the two WSs and those that could be linked to difficulties of the L2WS itself, such as Alhamza. As the learners become multi-competent (using two different WS), the interviewees observed that L1WS could affect their L2WS in a few ways where directionality is the clearest influence. Numerous difficulties seem to face the English speaking learner of Arabic as L2WS, as mentioned by the interviewees, such as the move from a fairly dot-free system into a dot-full system, and *drawing* the letters as well as mastering their positional forms. It has been said that learners differ in their learning of Arabic writing according to their background and it is probably notable that learners with an Islamic background find it easier to write Arabic from the beginning, as they are more familiar with the Quran, which is written in the Arabic script.

In answering the question of which errors are common, the interviewees mentioned and gave examples of 9 categories: 1) letter shape including teeth and size; 2) direction, 3) dots, 4) phonological issues, 5) orthographic issues, 6) letter connecting, 7) letter doubling, 8) letterforms, and 9) other errors. The informants tried to afford explanation as to why each of these particular errors occurs. The reasons, according to the teachers, are a collection of phonological differences, orthographic differences, spelling error causes, as well as other reasons. The most predominant and persistent in general were direction and Alhamza. In some specific opinions, handwriting ambiguity, (calligraphic) differences, and writing as opposed to drawing, in conjunction with ways to raise the importance and develop methods of teaching writing, were highlighted.

Chapter 7: Discussion

English Speakers' Common Orthographic Errors in Arabic as L2WS

'Philologists, historians, educationalists, perceptual and cognitive psychologists, cultural anthropologists, typographers, computer programmers, and linguists all have their own interest in writing based in their disciplines' specific understanding of how writing works, what functions it serves, and which methods can be applied to its investigation'.(Coulmas 2003, p.2)

Chapter 7: Discussion

7.1 Introduction

As described in section 3.2.3, since the 1970s, researchers have investigated issues between the two writing systems – Arabic and English. Literature is rich in research inspecting the context of Arabic-speaking learners of EFL, yet it should be noted that those issues were mostly phonological. Conversely, orthographic characteristics have not grabbed equal attention. Thus this research focuses on the latter issue, accounting for the question: What are the common orthographic errors that English-speaking learners make in Arabic as L2WS? And why are these errors being made? This section will discuss the study results presented in the previous two chapters. Since this study investigates common Arabic writing errors, in a L2WS context, which are specifically made by users of L1WS English, this discussion will weigh and compare the study results to the existing and related literature.

The focus of this study has been on writing errors. Errors are significant, according to Corder (1967), who is one of EA's foremost figures, for three reasons: (a) they tell the teachers what they should teach or focus on, (b) researchers find them very useful as a source of information on the stage/process of learning, and most importantly, (c) they are a device in the learners' hand to test their L2 hypotheses. It was hypothesised for this study (in section 1.5) that English-speaking learners of Arabic make almost the same common orthographic errors that natives do. While English-speakers might share certain errors with learners of Arabic as L2WS in general, they however might show their own common orthographic errors, which specifically relate to the differences between the two WSs.

This chapter, then, discusses where all of the research results lead to in light of the literature, in order to afford a clearer look at the research problem. Error types, and their proportions are discussed first. The reasons as expressed by both learners and teachers are considered subsequently. The question of whether native Arabic speakers do make some of these errors, and whether speakers/writers of other languages as reported in literature make the same errors, is discussed next. Then, the ways to limit making those errors, as voiced by the participants, and suggested in previous studies, are reviewed.

7.2 English-speaking Learners' Common Errors

The comparison of native users and English-speaking learners (as was explained in section 5.2.4), confirmed that the natives perform differently on such writing tests. The writing errors in the OEET recorded less frequency than in dictation. The first obvious reason is that in the OEET learners would write what they already know and what they are familiar with in terms of spelling, whereas, in the dictation, the words were methodologically selected as stimuli (see section 4.7.1.3). Below, I compare the results of OEET, dictation as well as the MCT results, finalising the common errors made by English-speaking learners of L2WS Arabic, and addressing them in light of the literature. It is worth noting here that the literature scope on L2WS Arabic errors is quite limited (see section 3.4). Other issues such as the most difficult letters to write (as seen by the participants), and handwriting difficulties will be also discussed in this section.

7.2.1 What Types of Orthographic Errors are Common?

One of the two main questions that the research journey has begun to answer is why these orthographic errors are common. What are the orthographic errors that English-speaking learners of L2WS Arabic make frequently? As the details were laid in the results, we will only discuss the key points here. In this study, a *common* writing error is any error scored 5%+ occurrences, as explained in section 4.3. Hence, whichever errors exceeded 15% would be considered as the most common, 9% to 15% as common, and any error registers 9% - would be labelled less common. Any errors recorded less than 5%, however, are not regarded as *common* but rather *individual* errors. We will deal generally with common errors as resulted from the writing tests, and link them with what the interviewees had to say, before comparing them with previous studies.

The majority of the intermediate English-speaking learners did not have major difficulties in writing Arabic. Still they made common errors which their total represented 10% in the OEET, 21% in the dictation and only 26% in the MCT. Looking at the study results, as shown in Table 7-1, the OEET showed that letter ductus (24%), and orthographic errors (23%) are the most common, followed by dots (10%) and phonological issues (10%) together. Medial (6%) and initial grapheme errors (5%), along with direction problems

(5%), are less commonly made. Dictation, on the other hand, exhibited that phonological errors (27%) are the most common errors, whereas orthographic errors (14%), letter ductus (11%), missing letters (11%), and letter substitution (9%) are considered common errors. Dot errors (7%), and insertion (6%) appeared to be relatively less common. In the MCT however, letter ductus (21%), and orthographic issues (19%) were the most common errors. Phonological errors (14%) were quite common. Dots (10%), omission and insertion together (10%) were common as well, whereas final grapheme (6%), medial grapheme (5%), and gemination (5%) were found to be less common in this test.

Table 7-1 Error Commonness in Writing Tests

	OEET	%	Dictation	%	MCT	%
1	Letter ductus	24%	Phonological	27%	Letter ductus	21%
2	Orthographic	23%	Orthographic	14%	Orthographic	19%
3	Dots	10%	Letter ductus	11%	Phonological	14%
4	Phonological	10%	Missing letter	11%	Dots	10%
5	Grapheme (M)	6%	Substitution	9%	Missing letter or Insertion	10%
6	Grapheme (B)	5%	Dots	7%	Grapheme(E)	6%
7	Directionality	5%	Insertion	6%	Grapheme(M)	5%
8	Missing letter	4%	Grapheme (M)	3%	Gemination	5%
9	Substitution	3%	Gemination	3%	Substitution	4%
10	Grapheme (E)	3%	Other errors	3%	Grapheme (B)	3%
11	Transfer from L1WS	2%	Grapheme (B)	2%	Transfer from L1WS	2%
12	Insertion	2%	Directionality	2%	Directionality	1%
13	Other errors	2%	Transfer from L1WS	1%		
14	Gemination	1%	Grapheme (E)	1%		

From the table above, we can tell that letter ductus (i.e. shape, size, and teeth), orthographic, as well as phonological errors, are the most common errors across the three tests. Dot errors, graphemic (letterform) errors, especially the middle grapheme, and missing letters, are considered common. Substitution, and insertion errors seem to be less common. Although direction as well as gemination errors are thought to be uncommon (less frequent) errors, they appear to be made by numerous individual participants (direction errors made by 32.6%, and gemination errors made by 53.6% participants), which elevate them again to be considered relatively common. In section 4.3, I mentioned that an error would be also described as common when it was made by 20+% of the

participants. As the letter ductus came at the top of the list, we will discuss specific letter difficulties in the next section. The list of common errors mentioned above appears fairly consistent when compared to the participants' answers in the questionnaires and the interviews.

Because Arabic is calligraphic in the sense that it is written as if it were drawn, learners struggle sometimes to master the letter size in proportion to other adjoining letters. Additionally, some letters differ in size based on their positional forms and so, when written by learners, they sometimes become very big or very small compared to other letters in normal writing. Half of the questionnaire respondents reported letter size as less common, which reflects the writing test samples, as letter size errors in particular were rather rare. However, since letter ductus is not only about size, but also involves letter shape and letter teeth (some letter slants as in the letter Seen <س> /s/, as explained in section 2.4.5), respondents replied as expected. One third of the learners believe that letter teeth errors are common, while letter shape came at the top, as a source of orthographic difficulty in writing Arabic letters. Likewise, the respondents revealed that the letter-to-sound correspondence (phonological) issues tend to be common. This indeed reveals consistency.

Similarly, the majority of the respondents feel that there are considerably fewer errors linked to omission, insertion, substitution, gemination/Shadda, and direction. This also concurs with the writing-test results. Letter dot errors, on the contrary, were reported by the respondents as less common, while it is clear, looking at the table above, that they are quite common and, according to the interviewees, fairly predominant. Besides, we find that only one third reported letterform errors as less common, whereas graphemic (letterform) errors, based on the writing tests, were actually considered as common. The discrepancy can only be attributed to learning-problem awareness, as most linguistic processing is not available to the conscious mind (Ericsson and Simon, 1993), in which case we may reject their *opinions* in favour of the *solid* data in hand.

On the other hand, the interviewees mentioned categories in which letter ductus came at the top as well. They also highlighted letter teeth (which is part of the letter ductus category), orthographic issues (Alhamza precisely), phonological errors, letter-joining difficulties (which have to do with letterforms), direction problems, dot errors, and letter-doubling issues. The teacher comments effectively support the study's writing-test

findings, as explained above. On the contrary though, the obtainable literature does not describe the learners' problems as they were carefully outlined here.

Given that the literature has been very limited, as clarified in section 3.4, Al-Ani (1972-1973) and Rammuny (1976) mentioned that orthographic and phonological errors were common amongst English-speaking learners of Arabic. Rammuny specified that these account for 222 errors of the total 1520 errors he found; meaning that orthographic and phonological errors registered only 14.6% made by 115 English-speaking learners of Arabic. Although this tells a relatively different story, the study was not actually focused on orthography; instead it collected different writing errors including lexical errors, structural errors, and stylistic errors. Rammuny (1976), however, managed to identify 121 phonological errors caused by emphatic sounds and vowel length (e.g. short and long vowels), along with 101 orthographic errors such as Alhamza, closed and open Taa, and Alif Maqsourah along with letter dots, definite articles (i.e. Alqamar lam and Ashams lam), defective words, and metathesis (i.e. learners transposition). What is probably interesting here is that phonological errors in his study overpassed orthographic errors even though none of the tests he had undertaken were dictation-based.

Although this is not too different from our results, his study slightly differs in the sense that he completely overlooked letter shape errors. Rammuny's results, after all, appear relatively similar, as they showed that phonological errors accounted for 54.5%, spelling errors for 19%, dots for 11.2%, and transposition for 6.7%. The only odd result is that Alhamza registered only 10 (4.5%) errors, which indicates either that the classification/recognition of particularly Alhamza errors is quite unique, or that learners were, surprisingly, very good at Alhamza. This substantially varies from most studies, including this study, in which Alhamza was calculated differently and proved to be predominant, as also demonstrated in sections 7.3.1.2 and 7.4.1. Apart from this peculiar deduction, the two studies, then, afford similar findings in general, as they highlighted orthographic and phonological errors, being key error categories in general. However, the two studies did not mention letter ductus issues, letterform errors, or even omission problems, which were found as common. Although they took the lead in such investigations at that time, these two studies did not actually offer much insight.

7.2.2 Most Difficult Letters to Write

We have seen in section 5.3.4.1, that learners focused on five letter groups plus two letters: (<ص/> /s^s/, <ض/> /d^s/); (<ط/> /t^s/, <ظ/> /ð^s/); (<ج/> /dʒ/, <ح/> /h/, <خ/> /x/); (<ع/> /ʕ/, <غ/> /ɣ/ or /ʁ/); (<ر/> /r/, <ز/> /z/); the letters <ه/> /h/, and the letter <م/> /m/. The respondents' justifications emphasised six factors: joining and letterform difficulty, letter similarity (in each group), letter ductus (including writing movements and direction), phonological difficulties, handwriting issues, and other individual difficulties (e.g. calligraphic differences). If we look carefully at these different factors, we notice that they indeed are in line with the findings of both the writing tests, as we have seen, and the teacher interviews, as we will see.

The interviewees acknowledged that learners, especially beginners, are fairly unaware of the linguistic differences between the two languages. They believe that in terms of the difference between spoken and written Arabic, writing is definitely difficult to some learners. The teachers think that the great difference between the two WSs' scripts may confuse learners. That is why letter positioning (letterforms/allographs), as well as letter ductus, were the first reported common-error areas by the questionnaire respondents. The script is very new to the English speaker.

Letter similarity as a factor seems self-explanatory; without their dots the 5 letter groups would look identical. Direction and phonological differences is no exception. T3, for example, remarked that learners spend half the term anxious of Arabic writing. Although it was found that only 2% reported that direction of Arabic writing is either difficult or very difficult, which matches the test results in error frequency, direction errors were actually made by almost one third of the participants. Moreover, direction is probably a key issue here (concerning the most difficult letters to write), as these letters require more difficult manoeuvres. Phonologically, the sounds of these letters seem to be difficult for the English speaker, as mentioned by several researchers (e.g. Healey, 1990; Saadah, 2011) and as detailed in section 2.4.3. Four of these are pharyngealized sounds, which baffle English speakers. For example, attempts to distinguish <س> /s/ from <ص> /s^s/, which is quite a wide-spread problem. I will expand this argument in the discussion of common error reasons in section 7.3.

7.2.3 English Orthographic Influence on L2WS Arabic

Based on the topic of this study, I am only concerned here with orthographic influence and orthographic transfer. Although problems of directionality, as well as transfer from English, were relatively uncommon amongst English speaking learners of L2WS Arabic, direction and transfer errors still exist and need to be addressed. We pointed out that learners from different WS backgrounds may vary in terms of their writing errors based on the similarity/differences between the two WS.

The difference in direction has a lasting impact. Even advanced writers cannot resist sometimes writing from left to right in Arabic, though it is probably not noticeable after-writing (looking at already written text). That is why direction errors were less common according to their number of occurrences, but were actually common in terms of the number of error-makers. Direction errors were made by 44% in the OEET, and by 47% in the dictation, whereas they were made by 32.6% of the participants, on average, across all tests. The informants observed numerous students write letters and marking diacritics in the opposite direction. While joining certain letters together, learners do them in a left-to-right movement. The letters: <ر>, <ط>, <ظ>, and <ل> are such examples where students start from the far left end, pencilling the letter shape to the right. Writing this way indubitably interrupts the writing flow due to loss of direction. This brings us to discuss the influence of ductus of English as L1WS on L2WS Arabic.

Writing, or more adequately *drawing*, the letters is slightly negatively influenced by English. Given that EWS mainly depends on geometric shaped letters (e.g. F, L, A) (Goodnow *et al.*, 1973), while AWS letters are roundish, overlapping and calligraphic (e.g. هـ, ج, ق), the ductus of Arabic letters made by English-speaking learners may be non-nativelike. This may produce English-like letters (Osborn, 2008). The letter <ز> and sometimes <ل> were written similar to the English letter <j>, while another learner wrote the letter <ط> very similarly to the , and the combined letter <لا>, as if it was the English <X>.

7.3 Why Do These Errors Occur?

It is part of the EA approach to afford explanation of the phenomena in question. It is the third stage after recognition, and description (Corder, 1981), which, if followed, would

probably lead to an insightful piece of research. In general, participants were asked to choose one of three possible sources of difficulty that they think would be the main cause of errors. The three options were: Arabic variations (MSA and many dialects); the AWS itself; and interference between the L1WS English and L2WS Arabic. Their responses were mainly focused on the first two. The majority attributed difficulty to the nature of AWS – being a completely different WS to them. As a second major source, respondents thought that Arabic has far too many spoken forms. As explained (in section 2.4), Arabic is diglossic; it has the high form, which is the MSA (the formal written and spoken form), and various low spoken Arabic forms in different regions of the Arab world. The difference between the two forms is quite significant at different linguistic levels (Abdelhadi et al., 2011). To learners, this indeed causes some confusion. As many learners go abroad every year to learn Arabic, I have been told by several participants that Arabic as they know and have learnt has nothing to do with what is spoken in Arabic countries. The two reasons of difficulty that respondents chose are entirely understandable and were supported by the interviewees' views as well.

To verify the learners' answers, teachers were asked how Arabic is perceived as L2WS in their classes. They mentioned different factors that ultimately coincide with the learners' responses. Factors such as: direction, writing anxiety, transliteration, phonological difficulties, orthographic differences, and calligraphy and dialect variations, are basically related in different ways to the WS variances. Dealing with causes of specific errors however, I examine here possible reasons for the common errors identified above. In line with what was discovered by the tests and resulted from both the questionnaire and the interviews, I differentiate between most common, common, and less common errors. I discuss first why the most common errors occur, and then I consider common and less common errors. This discussion will be linked and compared to the available literature in the discussion of possible reasons for other speakers' common errors in section 7.4.

7.3.1 Most Common Errors

Teachers, as well as learners, were asked to reveal their opinions towards what common reasons they think might be behind error-making. I review their thoughts on letter ductus, orthographic (spelling), and phonological errors here.

7.3.1.1 Letter-Ductus Errors

This category came at the top of the list of common errors; similarly it received many comments. Learners think most issues here are results of the foreignness of the WS and its odd-shaped letters. Several letters are hard to write and difficult to master as we explained in section 7.2.2. Even if written and mastered, a few learners were still anxious about their writings' readability. The nature of some Arabic letters, being almost identical without dots, in addition to the hard ductus of others, such as the loop of <ه> /h/, as reported by both students as well as teachers, basically means that writing is not a simple task. One teacher remarked that the multi forms of <ه> are exceptionally confusing. That is why two interviewees asserted that the <ه> is a clear example of letter-shape difficulty. Others explain this statement by specifically pointing out the ductus differences between the <ه> (which is built on gyrating movement) and English letters generally, which are mainly geometric. The fact that a few letters are too similar with others, such as the <ه> when it takes the form <ه> /h/ and the closed ta' <ة> /t/ (in continuous speech) or the <ي> /j/ and Alif Maqsourah <ى> or <ا> /a:/, adds orthographic as well as phonological problems. All of this slows and sometimes interrupts the flow of writing, which interviewees also reported.

Learners mentioned other problematic letter shapes, such as the ligature <لا> and <م>. Again, one interviewee identified the roundish shape in these letters <ح>, <ج>, and <خ>, as being difficult for students sometimes. The errors can therefore apparently be put down to the roundish loops, cusps, and curves of many Arabic letters. The so-called 'cup letters' are known to be problematic for learners of Arabic script (Alfi *et al.*, 1992). This study showed that handwriting difficulties are relatively persistent as a result of combining AWS characteristics (e.g. direction, writing movement, letter connectivity, baseline letters, letter size, and letter teeth) with personal approaches. It is not an AWS-specific issue, as many scripts have their own complicated characteristics which, when implemented by individuals, will yield similar results, though this explains the comments of some learners who complained about Arabic handwriting differences. Of course, calligraphic differences do not help either. As mentioned in sections 7.2.1 and 2.4.5.2, letter teeth and letter sizes vary even amongst the calligraphic everyday styles. I argue here that letter ductus is not just about how the letters 'look' or 'sound' but also how they are 'drawn' and not *written*.

Moreover, AWS employs the Arabic script, which is also used in other languages (as explained in section 2.3.3). Therefore, learners who write Urdu, for example, are negatively influenced by the way that Urdu is written. Although Arabic is too different from English and so transfer from LIWS was probably the least problem to English-speaking learners of LIWS Arabic, it was reported by students that Arabic letters sometimes look like English letters. According to the informants, letter similarity, if any, between the two WS' letters is also used by some teachers to teach English speakers the Arabic Alphabet. The problem is that this may leave some learners very confused, as discussed in section 7.2.3.

7.3.1.2 Orthographic (Spelling) Errors

When isolated, these types of errors are not new news. In other words, most spelling errors are related to the difficulty of the system itself and not to the learner's competence or the teaching methods. Alhamza, Alif maqsourah, closed and open Taa, are just examples of extremely problematic spelling areas for learners of Arabic writing, regardless of their backgrounds. They all, apart from Alhamza unusually, are reported as common errors by Rammuny (1976), who studied American learners' errors in Arabic. Alhamza, <ء> the glottal stop, has different letterforms, which are dependant not only on their position in the word but also on their consonant sounds (vowelisations), as mentioned in section 2.4.5.3. Even the preceding and sometimes following letters are involved in laborious obscure rules for deciding the appropriate letterform it should take. Yet, these rules are not commonly accepted by Arabic scholars and councils (AsShallaal *et al.*, 2009). This error is particularly persistent.

As for problems with other Alifs, learners struggle with the differentiation between two forms of Alif Almaqsourah (section 2.4.5.3). The problem is that learners would either write Alif Almaqsourah as if it was <ي>, putting the dots on or write <ا> as they hear 'alif. Teachers reported that apparently, this is also predominant even at advanced levels, which implies factors other than learning progression. Open <ت> and closed Taa are also orthographically challenging. Open Taa is always pronounced /t/, whereas closed Taa is only pronounced /t/ in continuous speech. Otherwise, it would be pronounced /h/, and that is the source of the problem (see section 6.3.3).

From what this study has shown, and the literature of native's common errors as we will see in section 7.4.1, these types of errors are commonly made by Arabic writers. Some of these errors can eventually completely disappear, once students get the grasp of it, while others, Alhamza in particular, are very hard to master.

7.3.1.3 Phonological Errors

This category's errors are basically related to the essential differences between the two languages' sound systems. I discussed the characteristic of the Arabic sound system and how it differs specifically from the English sound system in section 2.4.3. Although Arabic is relatively (consonant-wise) transparent, it has sounds that are non-existent in English and students may find it difficult to pronounce, recognise, and write their corresponding letters. Moreover, it entails the five pharyngealized/emphatic sounds, /s^ʕ, d^ʕ, t^ʕ, ð^ʕ/, and /χ/, which substantially affect the whole word they are part of (Elmahdy *et al.*, 2009).

Hence, some learners, especially at advanced levels, stated that writing itself is (orthographically) not an issue anymore, while distinguishing certain letter sounds is still difficult. Obviously, the recognition and reproduction of sounds affect writing. This is also supported by Rammuny (1976), who showed that English-speaking learners opt for the non-emphatic instead of the emphatic consonants. Several respondents reported that the differentiation between the /ʔ/ and /ʕ/, for example, lasts for a long time, first because /ʕ/ does not exist in the English sound system, and second because students get confused when choosing the corresponding letter, either <ء> or <ع>. Two of the three Arabic sounds, /θ, ð, and ð^ʕ/, are English sounds resembled in the grapheme <th>, which is pronounced /θ/ in *theory* and /ð/ in *the*. However, an English-speaking learner has described these as all sounding exactly the same. That is why dictation results showed much higher phonological errors (27%) compared to the MCT (14%) and OEET (10%). It is hard for students 'when hearing a word to tell how it is written', as one learner put it.

It tends to become even more complicated when short and long vowels are used in conjunction with Arabic dialects. In Arabic, long vowels are represented by letters, whereas short vowels are signified by diacritics and more often are neglected, as explained in sections 2.4.3 and 2.4.4. A short vowel, therefore, might be incorrectly

inserted or a long vowel might be inappropriately omitted. Mostly, however, as one interviewee remarked, more letters are inserted as a result of the short vowels issue. This is due to the opaque nature of vowels in Arabic particularly. Though the AWS is shallow in terms of consonants only, based on the Orthographic Depth Hypothesis (Katz and Frost, 1992), Arabic is primarily considered deeper than English. In comparison, the English Sound System has nearly three times as many vowel sounds as Arabic (Newman, 2006). The extra-long vowel /a:./ is also problematic as it is not orthographically represented either. However, the extra-long vowel issue does not last long and it is not as persistent as short and long vowels issues, mainly because it involves only a few specific words.

The dialects, on the other hand, add more complexity because certain sounds are pronounced differently within the Arab world. So *tha'* /θ/ would be pronounced /s/ in some parts of Egypt, whereas /d^s/ would be pronounced /ð^s/ in the Gulf and so on. English speaking students in each country would probably learn the sounds of the MSA differently, just like learners in the UK who are taught by different dialect-speaking teachers. Colloquial Arabic dialects were identified long ago as a key source of errors (Rammuny, 1976). The interviewees also described this as a relatively major problem, certainly for beginners and intermediates.

7.3.2 Common Errors

As said earlier, common errors are those writing errors that were committed by 20% of learners or occurred frequently more than 9% on average amongst all errors. Collectively, those error categories are graphemic errors (11.3%), and dot errors (9%).

7.3.2.1 Graphemic (Letterform) Errors

This category combines all three of the graphemic errors (GB, GM, and GE), made by choosing the wrong letterform at the beginning, middle, or end of the word. Letterforms are allographs of mostly each Arabic letter that are needed to begin a word or connect to another letter in the word, as explained in section 2.4.2. Although learners seem unaware of the size of the problem (reported as averagely easy in the questionnaire), they left numerous comments explaining that this sometimes causes difficulty and confusion.

Their comments seem to reflect the study's results, which have proven that graphemic errors are common, at least for non-advanced learners. Many letters (e.g. <م>, <ع>, <ج>, and <خ>) are described by learners as problematic in letter-joining.

Letter joining to compose a word in Arabic is quite similar to the way in which English is written cursively, though in the opposite direction. Even though the English Writing System (EWS) uses cursive (letter-connecting) writing as an alternative choice, it is the only way to write in Arabic. What may complicate the rule, however, is that while there are 6 letters that cannot be joined to the following letter, still they can be connected to the preceding letter. Additionally, although some letters are found to be easy to write, they remain difficult to join or to join to, as we saw in section 5.3.4.1.

I would say however, that this most likely concerns the middle grapheme, in which it is connected to the preceding and the following letters. According to the results, the medial position was the most challenging type (43% of all grapheme errors). Though it needs more investigation, the notion of a U-shaped curve of retrieval memory might afford an explanation— letterforms at the middle are poorly recalled cognitively because of their position. This is typical of memory for words in a free-recall paradigm in which people can recall the beginning and the end of a wordlist relatively well compared to those words in the middle (cf. Atkinson and Shiffrin, 1968; Cowan *et al.*, 2008). Besides, according to the interviewees, it does not seem to be a stubborn issue. I believe that it has to do with two factors: remembering what the letterform looks like in a certain position, and the ability to connect or more accurately write/draw the letter. As Arabic letters typically have 3 allographs for the three positions, apart from the unused-in-writing isolated form, it is probably hard for learners to remember each letterform during the first weeks of study. This however can be managed by practice, which in turn explains why the issue does not persist too long.

7.3.2.2 Dot Errors

Dots are one of the key differences between AWS and EWS. Fundamentally, dots, apart from the <i> and the <j>, along with very few words, do not exist in the learners' L1WS. This is one reason behind the errors: moving from a full-of-dot system to a mainly free-of-dot system. In comparison, Arabic essentially utilises dots. Fifteen letters are dotted

by one, two, or three dots in various places, which makes it even more complicated, as explained in section 2.4.2. Their essential role is to differentiate letters that, without their dots, would be totally identical, such as <ب>, <ت>, and <ث>. Now, if we change the number or the place of the dots in one of these letters, it would change the letter itself, which ultimately would change the word. Because students mainly *forget* dots, mistakes can change the whole meaning of the words/phrase. Hence, the complex characteristics of dots in AWS are the other reason for their failure.

Although several participants claimed that dots are not a major issue, they have proven here, as in the literature (cf. Al-Ani, 1972-1973; Rammuny, 1976), to be a common issue which can last until advanced levels, as clarified by teachers. Despite the fact that the students said it is less common, they clearly disagreed with the statement: ‘I can mostly put letter dots in their correct position’, which may hint that they know the letter has dots but they forget *where* to put them, as in the difference between these three letters: <ج>, <ح>, and <خ>. It is basically a practice and familiarity issue, which is not properly addressed by teachers, according to the interviewees.

7.3.3 Less Common Errors

It was found that Shadda and direction errors were less frequent in number of occurrences, though numerous learners commonly made these errors. Shadda errors were made by 53.6%, whereas direction errors were made by 32.6% of the participants. Although I mentioned less common errors in section 7.2.1, it is important to talk about reasons that underlie errors in Shadda, direction, omission, insertion, and substitution.

7.3.3.1 Missing Letter, Insertion, and Substitution Errors

Missing letter errors were made more than insertion and substitution errors. The average of omission errors in all tests was 8.3%. The respondents recognised the issue and reported it, along with insertion errors, as less common as well. Some interviewees think that whatever learners can pronounce, they would write, and whatever they cannot pronounce, they either would incorrectly write it (substitution) or would not write it at all (omission). They sometimes become confused when it came to silent letters, for which

they would *miss* the letter, and unwritten sounds, for which they would *insert* a letter. Exaggerating an unwritten short vowel, for example, changes it to a long vowel, which would be expressed as a letter inserted. Omission could occur due to adjacent identical letters, where learners choose not to double-write the letter. Deletions, then, as well as insertions, are most likely to occur as a result of phonological misconception.

Substitutions, along with transposition, on the other hand, are also attributed to misleading phonological perception or reproduction, in which minimal pairs specifically are to blame here. The word *استطعنا* /istatʔaʕna/ (we were able), for example, was written by a student as /istaʕatna/, substituting the corresponding letter to the unfamiliar /tʕ/ with the letter to the familiar /t/; and trans-positioning the sequence /tʔaʕ/ with the /ʕat/. Substituting Alhamza <ء> /ʔ/ with <ع> /ʕ/ is very common as well, which obviously is due to phonological realisation. After all, similar sounds are confusing (especially when one sound is a non-English sound) for which learners would mostly substitute with the nearest sounds (to them) and consequently write their corresponding letters. Emphatic consonants in particular are very confusing to English-speaking learners, as discussed in phonological-error reasons (section 7.3.1.3). For example, many novice students would write Seen <س> /s/ instead of Sad <ص> /sʕ/ because they cannot tell them apart properly.

Although orthographic reasons are seemingly not the key reasons here, they do have an effect in terms of letter dots when the difference between letters is only the number of dots, if any. The finding showed that a student was writing <ح> /ħ/ continuously as <ج> /dʒ/ which indicates she thinks that <ح> has a dot inside. Teaching and learning issues are not blameless too. However, I will lay down teaching/learning issues within the implication of the study in the conclusion.

7.3.3.2 Letter-Doubling (and Shadda) Errors

Doubling letters takes place when either a) two similar consonants come in a row, such as the <ل> in *بلل* /balal/ (wet); b) a consonant followed by a similar long vowel, such as *ليبين* /li:bijji:n/ (Libyans); or c) when the consonant is doubled, such as the <ل> in *مُعَلِّم* /muʕallim/ (teacher). In the case of (a) and (b), as explained in section 2.4.4, AWS doubles the same letter so they are actually written as they are pronounced – two letters. In case of (c), however, the consonant is written as one letter, and a small diacritic <ّ>,

called *Shadda*, is optionally (but often) added above to indicate the assimilation, as in السلام /ʔassala:m/ (peace).

Therefore, doubled letter errors may occur because of the adjacent identical letters, such as in تتكلم /tatakallam/ (you speak), in which the repetition of the letter <ت> /ta/ is confusing. Twinning may also be challenging if a similar long vowel follows a consonant, such as the consonant-letter <ي> /j/, which is followed by the vowel-letter <ي> /i:/ in the word أوروبيين /u:ru:bi:ji:n/ (Europeans). Learners would sometimes only write one of the twin letters because they cannot tell whether there are two letters and whether they should both be written. The *shadda* is where things become too difficult, as mentioned, because the two sounds are written as one letter, such as النَّاس /ʔ/ anna:s/ (people). Teachers reported that *Shadda* is too difficult for learners to notice, even in reading.

Differentiating between *Alqamar lam* اللام القمرية and *Ashams lam* اللام الشمسية stimulates errors because of the assimilated sounds on the latter. This doubling would be type (d), in which the second letter, whether is pronounced or assimilated, is still written. Both (*Alqamar lam* and *Ashams lam*) come as the article <ال> (the). The difference nonetheless, is that *Alqamar lam* is pronounced as it is written, while *Ashams lam* is a silent letter, which makes it sometimes difficult to infer the embedded lam. So students would normally miss the assimilated Lam <ل> /l/ in *Ashams* and write it اشمس* and not الشَّمس. This doubling type is challenging even for native speakers, as discussed in section 7.4.1. Moreover, it is worth mentioning here that any two doubled Lams, such as اللبن /ʔ/ al-laban/ (milk) or اللحم /ʔ/ al-laħm/ (meat), would be difficult and thus are likely errors, for native speakers as well. Although this seems to be relatively puzzling to English-speaking learners, results showed that *shadda* errors are less common than it is thought, but still made by a relatively high number of learners.

7.3.3.3 Other Less Common Errors

I discuss here the causes of two error types: direction and transfer from L1WS (English). The latter in particular is relatively uncommon, but I highlight some of their causes as mentioned by teachers interviewed, who seemed very aware of these issues (especially direction issues). Arabic writing flows right-to-left, which is the opposite direction of English. We hypothesised that because of the direction difference between the two WSs,

this could be a source of writing problems. ‘They write Arabic but they write from left to right’. This description by one interviewee summarised the issue in direction, as beginning learners would still write in the L1WS’s direction for some time. Actually, this study showed that 32.6% of intermediate learners made at least one directional error. They are used to reading and writing in a particular direction and it is not easy for them to switch to the opposite direction. So they would literally write the word from left to right, mimicking the Arabic writing, but in the wrong direction. This tends to fade in time, though some individual errors become habitual with particular letters, such as writing the letter <ط> /tʰ/ starting from the very end to the left, going right and rotating to attach it again where they started. A probably infrequent but common occurrence in direction errors is writing the diacritics left-to-right. According to the interviewees, such errors are quite long-lasting.

Orthographic transfer from L1WS errors involve letters which were written similarly to English letters, as in writing the letter <ج> /j/, for example, in a peculiar form, which is very similar to the English’s <J>. These sorts of errors were proven to be infrequent and very uncommon.

7.4 Natives and Other speakers’ Common Errors

I mentioned that Arabic native speakers have their own common errors that have been investigated by many researchers. Moreover, there have been various studies, as reviewed in section 3.4, which investigated writing errors in L2WS Arabic, disregarding their L1WSs. Prior to tackling this study, I hypothesised that a) English-speaking learners would make almost the same orthographic errors that are commonly made by native speakers; b) that English-speakers might also make orthographic errors that are shared with learners from different L1WS; and c) that English-speaking learners of Arabic probably have their own common orthographical errors that relate specifically to the differences between the two writing systems. Based on the results of this research, studies of native speakers’ orthographic errors, and empirical studies of writing errors made by learners of Arabic in general, this section discusses whether the study hypothesis is accepted or rejected.

7.4.1 Are Natives Known to Make Such Errors?

The researcher conducted a quick checking test to investigate whether the writing tests designed and utilised by this study are valid and reliable; in other words, whether native Arabic speakers/writers would make similar errors, and as many, as English speakers did. Therefore, four Arabic native speakers took the three writing tests under relatively identical settings to the research instruments, for the sake of quick comparison. The results evidently showed (as detailed in section 5.2.4) that native writers made very few orthographic errors compared to the L2WS users. The types of errors they made were mainly spelling and letter-shape errors. I think that even the natives' letter-shape errors are owed to handwriting issues and not to linguistic knowledge or performance. The spelling errors, on the other hand, are both expected from such tests within limits and documented in the literature. This significant difference between the L1WS users and L2WS users confirms that L2WS users performed very differently; yet it also confirms our first hypothesis – that English-speaking learners actually made almost the same orthographic errors that L1WS users (natives) made in the test.

Since this checking test of native speakers was not meant for large-scale studies (but only for checking whether the tests themselves are valid), I ought to verify the hypothesis with the literature. Various studies, within the large volume of literature, (e.g. Alhamad, 2004; Zayed, 2006; Shalabi, 2008; Fragman, 2013; Khateb *et al.*, 2013; Tannenbaum, 2014) showed that Arabic native speakers in general (adults, children, normal, and dyslexic) fall short in a number of orthographic issues that chiefly relate to some complicated spelling rules (see section 3.4). In fact, native Arabic-speakers' errors are rarely categorised out of these five types: Alhamza <ء>, the closed <ة> and open ta' <ت>, the sun and moon Laams <ال>, Al'alif Almaqsora <ى>, along with a few phonological errors (Al-Shalaan, 2008), such as transfer from dialects (e.g. writing <ض> /dʕ/ for <ظ> /ðʕ/), missing silent letters in some sporadic irregular words (e.g. مائة /miʔah/, عَمْرُو /ʔamr/, أُولُو /ʔulu:/) and inserting letters for very few unwritten long vowels (e.g. هذا /ha:ða/, لكن /la:kin/). More importantly, I found that Alhamza-related errors were always at the top of the list in all the studies I reviewed regarding natives spelling errors (e.g. Shahata, 1978; Mujawer, 1983; Samak, 1998; Alkhateeb, 2004; Shahata, 2004; Zayed, 2006; Al-Shalaan, 2008; Alam, 2008; Hammad and Alghalban, 2008; Barakat, 2009; Abdulrahim, 2010; Awwad, 2012).

We have seen in the study results that all of the five errors that natives made were also made by English-speaking learners of L2WS Arabic. In fact, these errors (especially Alhamza <ء>) were quite problematic and very predominant orthographic errors for English speakers as we discussed in section 7.2.1. Even though there were few phonological errors amongst natives compared to other orthographic types, Abu-Rabia and Taha (2006) claim that they form one of the key problems in early stages of language learning at primary schools, especially amongst bilingual Arabs (Abu-Rabia and Taha, 2004; Abu-Rabia and Sammour, 2013). Moreover, they stated that ‘phonology poses the greatest challenge to students developing spelling skills in Arabic’ (Abu-Rabia and Sammour, 2013, p. 60). I argue, however, that their statement is rather misleading as they categorised the three types: Alhamza, including Hamzatu-lwasl <أ>; the closed <ة> and open ta’ <ت>; and Al’alif Almaqsora <ى>, all as phonological errors, which explains why this category was the most common errors in their findings. In their discussion of the ‘phonetic errors’, they highlighted that ‘pupils in this study had difficulty choosing the right form of the Hamza’ (Abu-Rabia and Sammour, 2013, p. 64), which clearly groups Alhamza errors as phonological, just like they did with other spelling errors. It is thus a matter of taxonomy and not a matter of discrepancy.

Overall, this again confirms that the study’s hypothesis, that English-speaking learners of Arabic make almost the same orthographic errors that native speakers usually make in their own WS. Bahloul (2007) conducted a study on spelling errors made by Arab learners of English in which he found that many of the errors were similar to those made by native speakers as part of their developmental stages. In other words, L2WS learners are expected to make errors similar to those of natives’, because making these errors are evidence of their linguistic development, which determines their ability (Bahloul, 2007).

7.4.2 Do Speakers of Other Languages Make These Errors?

This is the second hypothesis of this study, which states that English-speakers might also make orthographic errors that are considered common amongst learners of Arabic from different L1WS backgrounds. I discuss and verify here, based on the existing literature, whether speakers of other languages in general make errors similar to those identified in this study and discussed in section 7.2.1.

It appears that letter ductus, including letter teeth (discussed in section 2.4.5) and graphemic difficulties (letterform errors), as well as letter-dot errors, are very common amongst Arabic L2 writers (Masry, 1994). Alfi *et al.* (1992) reported that letter-shape problems accounted for 50.8% of all errors made by learners of Arabic as a foreign language, and 80% of the 50.8% were letter-teeth-and-dots errors. These sorts of errors were described as common by several researchers, such as Al-Faouri (2009) who found them to account for 15% and Abu Al-Rub (2007), who reported letter shape errors as 16.24% and dot errors as 19.15%. Thus, letter teeth and dots are apparently known to be challenging to learners of L2WS Arabic generally, and not just with English-speaking learners.

Amongst orthographic errors, Alhamza appears as one of the most prominent errors. It was reported as the first problem, within spelling errors, accounting for nearly a third of all errors in different studies (e.g. At-tall, 1989; Al-Faouri and Abu-Amshah, 2005; Abu Al-Rub, 2007; BaniAmer, 2009). This was no surprise given that the orthographic rules of Alhamza are undoubtedly too complicated even for native speakers, as just discussed in section 7.4.1. This also goes for other spelling errors that are known to be made by native speakers, meaning that they are also found to be common amongst learners of Arabic in general (Masry, 1994). Alfi and colleagues (1992), revealed in their study that five letter groups, namely (<ب> /b/, <ت> /t/, <ث> /θ/); (<س> /s/, <ش> /ʃ/); (<ي> /j/, <ه> /h/); (<ص> /sʰ/, <ض> /dʰ/); and (<ن> /n/), are proven to be problematic, whereas they house most writing errors, for non-native speakers of Arabic. In comparison, we found that English-speaking learners encounter five letter groups plus two letters: (<ص> /sʰ/, <ض> /dʰ/); (<ط> /tʰ/, <ظ> /ðʰ/); (<ج> /dʒ/, <ح> /ħ/, <خ> /x/); (<ع> /ʕ/, <غ> /ɣ/ or /ʁ/); (<ر> /r/, <ز> /z/), the letters <ه> /h/, and the letter <م> /m/. As we discussed in section 7.2.2, three different factors may play a part in this difference, such as letterform difficulty, letter similarity (in each group), and letter ductus. This, however, shows that only one group (<ص> /sʰ/, <ض> /dʰ/) and one letter <ه> /h/ are thought to be in common between English speakers and other speakers in Arabic writing.

Phonologically, Al-Faouri and Abu-Amshah (2005) remark that learning specific sounds (e.g. <ع> /ʕ/, <ه> /h/, <ح> /ħ/, and <ق> /q/) in Arabic is certainly problematic, in addition to the short and long vowels phenomenon, *tanween* (i.e. nunation: phonologically produces the /n/ sound at the end of words, grammatically indicates indefinite article, and orthographically has its own diacritics; discussed in section 6.3.4), and the pharyngealized

sounds; which all seem to be special characteristics of Arabic. Phonological errors have a strong presence in all empirical studies dealing with L2WS Arabic errors (cf. Alfi *et al.*, 1992; Abu Al-Rub, 2007; BaniAmer, 2009). Just like Al-Ani (1972-1973) and Rammuny (1976), who investigated English-speaking learners, this study found that English speakers similarly have serious phonological issues, especially at non-advanced levels, which were discussed and explained at length.

7.5 Solutions of Common Orthographic Errors

The literature is of an average standard when it comes to solutions for writing errors in L2WS Arabic, though they tend to be general and vague. Studies that end up suggesting teacher-development and urging advanced teaching methods to be embraced are just as helpful as any learner comment. Researchers such as Al-Faouri (2009) and Abu Al-Rub (2007), who did the most recent studies, did not actually offer specific, helpful, and informative feedback. As this study is linguistically focussed and not investigating pedagogical situations, it is not the intention here to offer a full and educationally comprehensive suggestion. Though, it is probably useful to comment and discuss what the informants had to say, in addition to what is already published.

The most important notes, I believe, should be made about the so-called persistent errors, which are thought to last longer than others. Common errors that are made by middle and advanced students should be addressed here. According to learners, the difficulty in Arabic writing stems from the fact that it is very different from the EWS. The orthographic as well as the phonological systems are very different, as explained. This massive difference between the two WSs may even cause psychological drawbacks, as Al-Ani (1972-1973) noted. This fact should be the title under which all suggestions to solve English-speaking learners' errors in L2WS Arabic should be enclosed. As Masry (1994), for example, highlights, the Arabic unique letters and the difference between diacritics and letters (resembling short and long vowels); dots, letter ductus; and phonological differences between EWS and AWS specifically, should be revealed and explained to students in the UK. It is essential for educators to know which errors are shared with natives, and those errors that are common amongst other speakers, and distinguish these from the errors that seem to be English-speakers specific. If the English <i>, which is one of two only dotted letters, was supposedly responsible for three quarters

of illegibility cases (Pressey and Pressey, 1927), what dot errors would account for this in AWS, which has 15 dotted letters with different numbers of dots in different places? (Alfi *et al.*, 1992).

This suggests a tailored curriculum in which both educators and linguists are invited to have their input. As a matter of fact, one informant who called for a curriculum reform in their institution suggested this, but the call was not echoed due to financial issues. Since the 70s, there has been an invitation for a systematic and graded linguistic-based writing programme in order to understand the Arabic script and literary Arabic clearly (Rammuny, 1976). Further, learners should be given a suitable amount of time to process a very new WS. One interviewee suggested the first two weeks of the writing course should be allocated to introducing the letters, their forms, ductus, direction, and sounds. These need some time to absorb, whereas teachers tend to speed the process up, as remarked by learners, in a way they cannot actually follow. As said before, teacher training, which involves having them realise the basic differences between the two WSs, would afford much understanding and thus much patience from the teacher side. Moreover, more attention should be given towards the most difficult letters, the five groups plus two letters discussed in section 7.2.2, which have proven to be problematic for English speakers. Introducing calligraphic variations, just like dialects, may be confusing at the start, but advanced learners should know that Arabic can be written in different styles, and thus learners are expected to recognise at least the everyday calligraphic styles.

7.6 Summary

This study has investigated common orthographic errors made by intermediate English-speaking learners of Arabic as L2WS. This study may fill a gap in the literature, contributing towards AWS research especially in the context of learning L2WS Arabic. Though previous studies were insightful in their time, the two, seemingly only, empirical studies that investigated writing errors made by English speakers did not reveal details nor did they discuss learners' performance in the light of WS theory.

The study results have shown that letter ductus, orthographic and phonological errors are most common; dot errors, graphemic errors, and missing letters are common; and

substitution and insertion along with direction and gemination errors seem to be less common. The suggested reasons for making such errors were discussed in detail according to the error commonness. It should be highlighted here that learners believe that most issues were results of the AWS foreignness, which the study has evidently supported. Different factors seem to play a part in the domain of causes; however, apart from certain errors, they may be linked to the differences between the two WSs.

The study found that English-speaking learners consider five letter groups in addition to two letters (i.e. <ص> /s^s/, <ض> /d^s/); (<ط> /t^s/, <ظ> /ð^s/); (<ج> /dʒ/, <ح> /ħ/, <خ> /x/); (<ع> /ʕ/, <غ> /ɣ/ or /ʁ/); (<ر> /r/, <ز> /z/; the letters <ه> /h/; and the letter <م> /m/) as challenging. Furthermore, several phonological errors (e.g. in the five pharyngealized sounds, and in differentiation between the /ʔ/ and /ʕ/) along with the most orthographically difficult letters appear to be English-specific. Direction errors and transfer from L1WS errors, though the latter have demonstrated minimal effect, are probably unique to English speakers as well.

Although the literature is relatively limited, the solutions offered are inclined to be very general. This study, based on the results, suggests a personalised curriculum in which both educators and linguists pay attention to English speakers' errors in Arabic writing and highlight differences between the EWS and AWS, especially what have been confirmed to be common issues such as dots, letter ductus, orthographic and phonological errors. Training teachers is also crucial so they can be familiar with errors made by natives, and by other speakers, distinguishing the errors which appear to be specific to English-speakers.

Chapter 8: Conclusion

English Speakers' Common Orthographic Errors in Arabic as L2WS

"The best way out is always through." Robert Frost

Chapter 8: Conclusion

8.1 Introduction

Thus far, I have discussed the AWS' characteristics in detail (Chapter 2), paving the way to explore the topic of L2WS Arabic (Chapter 3), in which I surveyed the available literature and examined empirical studies on L2 Arabic writing errors. The study methodology was then carefully explained (Chapter 4) before I laid down the study results in two chapters (Chapters 5, and 6). This study has argued that the research scope on Arabic Writing System generally is quite inconclusive (see section 3.2.3). However, the research scope on errors of L2WS Arabic against a certain L1WS seems very narrow. Involving the title of the study, I may claim that apart from the very few studies which considered English as L1WS in the 70s (e.g. Rammuny, 1976), there perhaps are no studies that have been orthographically focused, researching Arabic writing errors and exploiting the approach of L2WS. Long ago, Rammuny (1976) remarked that the existing literature was too limited and offered very restricted information; yet the situation has been the same ever since (Alhawary, 2009).

The present study was designed to determine the effect of the differences between the Arabic and English Writing Systems applied in a SLW context. The main goal was to identify, analyse, describe, and explain common orthographic errors (see section 4.3 for my definition of *common* and *error*) in Arabic writing amongst English-speaking learners. The study sought to answer this question: what are the common orthographic errors that English speaking learners make in Arabic as L2WS? And why are these errors being made? Using a set of writing tests, a questionnaire directed at learners, and an interview aimed at teachers, the study was set out to explore actual orthographic errors, learners' perceptions, and teachers' opinions, so that the phenomenon has been investigated within different institutions in the UK. This method has afforded a seemingly proper integrated conceptualisation in which error types, learners' difficulties, and error causes have been identified, categorised, and discussed. Based on the current theoretical inadequate literature, it has been hypothesised that a) English-speaking learners of Arabic would make common orthographic errors that are nearly the same as those of native speakers; b) English-writers fall short in Arabic writing sharing different common orthographic errors with other learners of AFL (Arabic as a second/foreign language); and c) English-

speaking learners of Arabic possibly have their own common orthographic errors that are specifically linked to the differences between the two WSs.

In the following sections, I summarise the findings of the study, examine theoretical implications, and draw attention to the sort of role that Arabic as L2WS teaching methods are playing at the moment and could play in the future (especially in the UK). I also evaluate the impact of this research, its contribution, its limitations and generalizability, before I recommend further research trends.

8.2 Empirical Findings

The investigation of English-speakers' orthographic errors in L2WS Arabic has shown that letter ductus (letter-shape difficulty), orthographic and phonological errors are the most common. Dot errors, and graphemic (i.e. letterform) errors are considered common as well. However, substitution, and insertion errors, in addition to direction and gemination errors seem to be less common. That said, direction and gemination (shadda) issues particularly are made by more than 33% participants, which indicates that they are commonly made despite their number of occurrences. These findings concur with Rammuny (1976) study, in which he highlighted phonological errors (e.g. emphatic sounds and vowel length errors), orthographic errors (e.g. closed and open ta' and Alhamza errors), dot errors, and gemination errors (e.g. Alqamar lam and Ashams lam). His study, however, lacked an investigation of the letter ductus errors, and emphasising Alhamza errors. The latter in particular were found to be very common in this study, in consensus with most studies of errors in Arabic writing as L2 (e.g. Abu Al-Rub, 2007; BaniAmer, 2009).

One of the significant findings to emerge from this study is that five letter groups in addition to two letters are particularly challenging to English-speaking learners (i.e. <ص> /s^s/, <ض> /d^s/); (<ط> /t^s/, <ظ> /ð^s/); (<ج> /dʒ/, <ح> /ħ/, <خ> /x/); (<ع> /ʕ/, <غ> /ɣ/ or /ʁ/); (<ر> /r/, <ز> /z/; the letters <ه> /h/; and the letter <م> /m/). Furthermore, it confirmed results of other works (e.g. Rammuny 1976) in which phonological errors (e.g. errors in the five pharyngealized/emphatic sounds, and in differentiation between the /ʔ/ and /ʕ/) were found to be relatively enigmatic. As a result, English-speaking learners opt for the non-emphatic instead of the emphatic consonants in their writing.

Different factors, as also shown, (e.g. direction, phonological difficulties, orthographic differences, calligraphic styles, writing anxiety, transliteration, and dialect variations) seem to play in the domain of error causes. Apart from certain errors, which are also made by natives, the errors made might be linked to the differences between the two WSs, as also suggested by the learners themselves. These findings suggest that, in general, these errors are caused by chiefly four causes: script confusion, orthographic difficulties, phonological realisation, and teaching/learning strategies. The Arabic dot system, the direction which opposes that of English, along with the AWS letter similarity and its beautiful but large calligraphic variances, all account for script confusion. Orthographic difficulties involving laborious spelling rules and numerous letterforms of Alhamza are another example. The Arabic pharyngealized sounds, in conjunction with the Arabic dialects, account for challenging phonological realisation. Teaching/learning methods are responsible for transliteration and poorly adapting-to-the-script strategies, which prolong unfamiliarity with the script. I would remark here that although these findings relatively harmonise with Rammuny's (1976), he stressed the colloquial Arabic dialects as a key source of errors, while this study has found them to be an insignificant cause.

As discussed, the study hypothesised at first that: a) English-speaking learners are more likely to make the same orthographic errors natives do; b) English-speakers make some similar orthographic errors that are made by other speakers; however c) English-speaking learners of Arabic probably make their own orthographic errors. The three hypotheses are proven to be true. The five errors (i.e. Alhamza <ء>, the closed <ة> and open ta' <ت>, the sun and moon Laams <ل>, Al'alif Almaqsora <ى>, and certain phonological errors), which were considered to be common amongst natives, are actually common amongst English-speaking learners of L2WS Arabic as well.

Moreover, the sort of errors described by a number of researchers as common amongst learners of Arabic as a foreign language (e.g. letter ductus, letterform, letter-dot, and some phonological errors) are also made by English-speaking learners of AWS. However the study revealed that only one letter group (<ص> /sʕ/, <ض> /dʕ/), along with the letter <ه> /h/, are thought to be in common between English speakers and other speakers in Arabic L2 writing. This confirms both the second as well as the third hypotheses, as English speakers share some errors, yet they have their own difficulties amongst learners of L2WS Arabic in general.

Returning to the question posed at the beginning of this study, it is now possible to state that, according to the results, the most orthographically difficult letters, and L1WS transfer errors, though the latter have shown minor effects, are probably unique to English speakers.

8.3 Impact of Research and its Limitations

The study has offered an investigative look into the linguistic writing competence of English-speaking learners of Arabic as L2. Conducted in programmes such as TAFL (Teaching Arabic as Foreign Language), which are wide-spread worldwide, the study examined courses and programmes at different institutions (e.g. universities, and private institutes) in various places (e.g. Durham, Leeds, Newcastle) throughout the UK. Despite its exploratory nature, it is thought that this is the very first study to embark on writing errors in the AWS by L1WS English users in the UK. Additionally, the study has presented a constructive perspective of learning strategies and orthographic difficulties that British learners encounter during such courses. Likewise, it sketched teachers' views on linguistic challenges, orthographic notes, teaching methods, and learner attitudes. A direct impact of the study would be on AWS learning/teaching in the UK, which would help both educators and linguists at these institutions and similarly others throughout the country.

That said, the use of EA approach has its limitations (see section 4.8.1) which consequently limits the outcomes of such research. One limitation is the identification of errors, especially when the EA involves the analysis of handwritten text, which is the case of this study. Detecting errors in such a case is difficult and sometimes ambiguous, though the researcher made the utmost effort to clarify and explain the sort of *error* recognised and categorised in this study (section 4.3). Another prime weakness is the incomplete and indefinite explanation of errors, and hence, studies utilising the EA approach cannot be certain of describing the error source for example. Although this weakness has been partially resolved by employing other supplementing tools in this study, still, EA is not able to offer sociolinguistic or psycholinguistic explanations. Probably other methods (e.g. eye-tracking, observation) would provide a wider understanding of the nature of L2WS Arabic and its difficulties as seen by English-speaking learners. This also would be an opportunity for further research outlined below.

Although the current study is based on different sampling strategies, as explained in section 4.6 with regards to each research tool's participants, one obvious limitation lies in the fact that its writing samples are written by a relatively small number of participants. Understandably, numerous institutions were quite reluctant to involve their students in such investigation. Notwithstanding this limitation, the study suggests that the generalizability of its findings is rather acceptable for three reasons. While the samples were compiled from 44 learners, more than 120 writing samples were still gathered. Second, the data-collection had been conducted at several institutions in different parts of the UK. Third, the results are relatively similar to the findings yielded from previous studies (e.g. Al-Ani 1972-1973, and Rammuny 1976, conducted in the US).

8.4 Implications

As it appeared in the writing-test results as well as within the responses to the questionnaire, some common orthographic errors made by English-speaking learners are quite persistent due to several factors discussed in sections 6.3.5 and 7.3. These errors, along with speedy confusing initial stages of learning, as described by learners, imply that certain issues in learning the AWS need to be tackled and addressed by linguists, as well as educationalists. Research is crucial. As long as the policy makers at Arabic institutions keep their current methods and strategies, however, studies will have been merely theoretical additions. One of the key points made by all of the interviewees is that teaching methods need much more attention from educators and pedagogical researchers. Here, I examine theoretical and practical implications of the study's results.

8.4.1 Theoretical Implication

A distinctive contribution of this study is that it is perhaps the first study exploiting the EA analysis in a WS approach within this context. In addition, it provides statistical as well as descriptive information on English-speaking learners' errors in L2WS Arabic. The indication from this study suggests that although previous studies (i.e. Al-Ani, 1972-1973; Rammuny, 1976) were quite limited and that the time gap since they were conducted accumulates nearly forty years, the results of this study are not very far from what they yielded. As this study confirmed most of previous studies' results, however, it

has also revealed ‘the most orthographically difficult letters to write’, as briefly displayed in the empirical finding section (8.2).

Moreover, this study highlights one neglected key issue, that is, the letter ductus error. This was classified as one of the most common errors in which English speakers encounter difficulty learning and performing Arabic letters, especially at pre-advanced levels. Further, it has identified several other orthographic problems (i.e. direction and L1WS-transfer errors), which are considered additional features of this study. It also has been proven that Rammuny 1976, one of the two prominent related studies, was not accurate, specifically regarding Alhamza problems. While he described them as uncommon, this conclusion is not in line with most relevant studies. Lastly, it can be drawn from the present study that the WS approach has afforded the study much insight in its investigation whereby the four error causes listed (script confusion, orthographic difficulties, phonological realisation, and teaching/learning strategies) are quite precise and relatively comprehensive.

8.4.2 Teaching Methods of L2WS Arabic

The results of this study indicate that teaching Arabic writing has not really been easy for teachers. The large diversity amongst textbooks, the lack of interest in teaching the AWS basics (e.g. letters, letter ductus, mapping letters to sounds), the time in which learners are supposed to squeeze lots of information in, are only some pieces of the puzzle. The participating teachers, for example, were required to use certain textbooks, which, they think, are sub-standard when compared to other textbooks. One college teacher had asked his institution management to change the textbook into something more relevant to the needs of their students; but his request was rejected. They are therefore obligated to exploit other sources such as YouTube, hand-outs, and intensive personally-made starting courses in an attempt to compensate and modify the course for their learners.

A reasonable approach to a solution might be updating textbooks, learning strategies, and teaching methods. Al-Faouri (2009), who studied Chinese speakers’ errors, noticed that Beijing University has no specific syllabus to teach Arabic but a very old one that teachers used to operate with. Implementing new scientific SLA-based approaches to writing (Cf. Weideman, 2006), in conjunction with the WS theory, seems to be mandatory required change. Training teachers accordingly is also needed. Teachers need to know about

writing issues within an orthographic approach so that they may be able to at least recognise the very basics of the learner's L1WS and then handle writing issues accordingly. They also need to know how their different dialects of Arabic affect learners. Equipping teaching writing with useful multimedia along with the benefits of the internet is also a necessity. Long ago, Rammuny (1973) introduced a method that he later evaluated and proved to be successful. It was a course in modern literary Arabic phonology and script in which he involved very useful methods in teaching writing. Using guidelines to provide learners with techniques for accurately producing the letter shapes in their appropriate sizes proved to be an effective method (Rammuny, 1973). This is still advocated by teachers, though they use different ways to achieve the same goal.

Learners were not happy as well. They explained that teachers could not provide a standard method for teaching writing. Some students think that current methods are not acceptable from their point of view. With a clock ticking over the teacher's head as they try to speed things up, because the syllabus, as reported, cannot be squeezed in the allowed time, learners become lost. As a result, teachers observed that transliteration appears to be the learners' favourite means for writing in class. 'Familiarity is the key' as one teacher pointed out. Students are not expected to solve their orthographic problems while they use transliteration, due to extended unfamiliarity.

Seemingly there is a disagreement amongst researchers as to when to start teaching writing in L2WS Arabic classes. Some researchers think it is better to postpone teaching both reading and writing until speaking and conversation have been taught (Masry, 1994). Others argue it should be introduced at the course onset (At-tall, 1989), which to me, is rather sensible as it would solve numerous problems that will otherwise occur. Al-Ani (1972-1973) mentioned that the students, after 3 semesters of Arabic learning, are expected to write properly, yet they have not done any systematic writing. The teachers I interviewed urged starting with writing, both typing and handwriting, immediately. Further, it is perhaps important to emphasize the time frame given for students to learn and practise Arabic writing. While English-speaking learners find it rather easier to study French and Spanish as they can rely heavily on their composition experience in their native language (and their L1WS), for example, they cannot do the same with Russian, Chinese, or Arabic, which necessitates substantially more time to process writing instruction (Reichelt *et al.*, 2012).

8.5 Further Research and Recommendations

As said, the literature is in need of research, both in the recently branching L2WS discipline generally and in the L2WS Arabic specifically. I briefly outlined several topics (e.g. WS typology, orthographic analysis, spelling issues in L1WS as well as in L2WS, WS quality, sociolinguistic approaches to WSs, word recognition, and directionality) that have been discussed in the literature (section 3.2.2). Nevertheless, topics such as WS transferability effect on both L1WS and L2WS, the connection between orthographic variations amongst WSs and erroneousess (this study's subject), typographical, handwriting, and calligraphic studies, amongst others still need to be well explored.

On researching L2WS Arabic in particular, it is strongly recommended, considering the poor status of the literature, that further research is undertaken in the following areas:

- a) AWS spelling reform studies and theories, as they seem the best solution to the orthographic conundrums (e.g. Alhamza, Alif maqsourah), which are common amongst all: natives, English speakers, and other speakers. They are proven to be unsystematic across the Arab world, and orthographically complicated. Despite the attempts of Arabic councils in Cairo, Damascus, Baghdad, and others to unify the rules or to regulate their views, there are still numerous rule variations in practice. One of the latest unifying/regulating endeavours, as it seems, was by AsShallaal *et al.* (2009), yet Alhamza rules, for example, are still orthographically obscure and laborious, not to mention the regionally characteristics of this guide. Although there have been several attempts to start this process (cf. Al-Athari, 1956; Alam, 2008; AsShareef, 2012), they have not been successful for either being superficial, incohesive, or recklessly individualistic.
- b) Focused case studies, which consider one L1WS against Arabic as L2WS. It is crucial that more case studies and further investigations are carried out at a global level to attain better understanding and probably afford other dimensions to the difficulties in learning Arabic as L2WS. Studies such as Gwarzo (1985), who examined Hausa learners' writing errors, Oladosu (1997), who investigated writing errors made by Yoruba (Nigerian) learners of Arabic, and Al-Faouri (2009), who inspected Chinese learners of L2WS Arabic, are much needed.

However, such studies need to be more specific and detailed. It is not enough to gather writing errors: lexical, phonological, spelling, grammatical, mechanical, morphological, structural, and stylistic errors, all in one basket. Focused studies in L2WS Arabic should follow up to emphasise, and deeply discuss and explain, errors employing the theory of WS and the latest approaches in L2WS.

- c) Comparison studies which compare results of common errors made by varying L1WS (e.g. Chinese and Hindi) users as learners of L2WS Arabic. Further research in this field would be of great help.
- d) Observational cross-sectional studies which investigate actual L2WS Arabic classes. Most research have been done in this area are test-based and EA-based studies. Further research might explore *how* errors occur especially in terms of direction errors, which are relatively hard to identify and infer from writing samples.
- e) Longitudinal studies are also needed in order to evaluate each error type's persistency across learners' progression. Investigating the underlying reasons for specific errors that are considered persistent (e.g. dot errors) would afford better understanding.
- f) Further research is needed to account for the variation effect of Arabic dialects and calligraphic styles. The current study, as well as previous ones, could identify that these are challenging to English speakers and cause them to make errors. However, the extent to which dialects and everyday styles of calligraphy are affecting learners of L2WS Arabic needs more investigation.
- g) TAFL curriculum analysis specifically orthographically, which examines how teaching the AWS as L2WS is being laid out in terms of time allowance, textbook(s), teaching methods, and course levels. This may involve analysis of learner-orthographic needs, and whether the same errors are made both in typing as well as in handwriting. Examining the first weeks of learning L2WS Arabic, which obviously have an immense effect on learners later on, would offer a clearer picture. Whether in the UK, the present study's field, and whether in an English-speaking country or not, there is further serious work that needs to be done.

8.6 Conclusion

While the study of L2WS English in particular tends to be dominant in the field, exploring other contexts has been appealing and growing lately. This requires research on Arabic as L2WS to follow the trend, considering its position in the world's languages and WSs. As noted, the literature offers a very small amount of knowledge on this issue, and that novel area is what this study has intended to contribute to. I may remark here that parts of this thesis have been presented by the author at different international conferences, with the intention of eventual publication.

Although the literature has examined English-speaking learners of L2WS Arabic, in which several orthographic issues have been highlighted, this study emerges to confirm what has already been found and to reveal and emphasise other orthographic issues. The letter ductus errors, effect of direction, and L1WS transfer are investigated for probably the first time within this context. As mentioned before (section 3.2.1), the WS orientation is deeply implanted in the cognitive system of the native WS user; this matter makes it very difficult to adapt to another WS's direction, which this study has found to be true (see pages 129, 181, 189, and 207 for example). The hint to the difference between typing and handwriting errors is worth careful investigation as remarked in the last section. Taking learner's perceptions and attitudes into account has also been valuable to the research that the study sought for and contributed to the current knowledge. It is hoped that the findings of this study will help reinitiate the study of L2WS Arabic, embracing new approaches and theories in the field. It is also trusted that this study, as well as others to follow, will open the door for linguists, educators, and policy makers to benefit from their findings and suggestions.

REFERENCES

- Abandah, G.A. and Khedher, M.Z. (2009) 'Analysis of Handwritten Arabic Letters Using Selected Feature Extraction Techniques', *International Journal of Computer Processing Of Languages*, 22(1), pp. 1-25.
- Abdallah, A.S. (2005) 'The Arabic Sound System and Teaching Pronunciation', *3rd International Conference*. SOAS, London. CETL.
- Abdelhadi, S., Ibrahim, R. and Eviatar, Z. (2011) 'Perceptual Load in The Reading of Arabic: Effects of Orthographic Visual Complexity on Detection', *Writing Systems Research*, 3(2), pp. 117-127.
- Abdolhaleem, L.M. (2006) أصل الأرقام العربية [The Origins of Arabic Numerals]. Alexandria: Dar Alhedayat for Publishing & Distribution.
- Abdul Sattar, S. and Shah, S. (2012) 'Character Recognition of Arabic Script Languages', *Taibah University International Conference on Computing and Information Technology (ICCIT 2012)*. Al-Madinah Al-Munawwarah, Saudi Arabia. Taibah University.
- Abdullah, A. (2003) تحليل الأخطاء الإملائية لدى تلاميذ المدرسة السودانية التركية في مرحلة الأساس [Analyzing Spelling Errors Made by Learners at Turkish Sudanese School]. Unpublished.
- Abdulmalik, A. (2002) تحليل الأخطاء اللغوية التحريرية لدى الطلاب الإندونيسيين بجامعة إفريقيا العالمية [Analyzing Writing Errors of Indonesian Learners at International University of Africa]. Unpublished.
- Abdulrahim, M. (2010) الأخطاء الإملائية الشائعة لدى المعلمين [Teachers' Common Spelling Errors]', *Anjaal AlQassim*. Ministry of Education, Buraidah.
- Abu-Rabia, S. (1997) 'Reading in Arabic Orthography: The Effect of Vowels and Context on Reading Accuracy of Poor and Skilled Native Arabic Readers in Reading Paragraphs, Sentences, and Isolated Words', *Journal of Psycholinguistic Research*, 26(4), pp. 465-482.
- Abu-Rabia, S. (1997) 'Reading in Arabic orthography: The effect of vowels and context on reading accuracy of poor and skilled native Arabic readers', *Reading and Writing: An Interdisciplinary Journal*, (9), pp. 65-78.
- Abu-Rabia, S. (2000) 'Effects of Exposure to Literary Arabic on Reading Comprehension in A Diglossic Situation', *Reading and Writing: An Interdisciplinary Journal* (13), pp. 147-157.
- Abu-Rabia, S. (2001) 'The Role of Vowels in Reading Semitic Scripts: Data from Arabic and Hebrew', *Reading and Writing: An Interdisciplinary Journal*, 14, pp. 39-59.
- Abu-Rabia, S. (2002) 'Reading in a Root-Based-Morphology Language: The Case of Arabic', *Journal of Research in Reading*, 25(3), pp. 299-309.

REFERENCES

- Abu-Rabia, S. and Sammour, R. (2013) 'Spelling Errors' Analysis of Regular and Dyslexic Bilingual Arabic-English Students', *Open Journal of Modern Linguistics*, 3(1), pp. 58-68.
- Abu-Rabia, S. and Siegel, L.S. (2002) 'Reading, Syntactic, Orthographic, and Working Memory Skills of Bilingual Arabic-English Speaking Canadian Children', *Journal of Psycholinguistic Research*, 31(6), pp. 661-678.
- Abu-Rabia, S. and Taha, H. (2004) 'Reading and Spelling Error Analysis of Native Arabic Dyslexic Readers', *Reading and Writing: An Interdisciplinary Journal*, (17), pp. 651-689.
- Abu-Rabia, S. and Taha, H. (2006) 'Phonological Errors Predominate in Arabic Spelling Across Grades 1-9', *Journal of Psycholinguistic Research*, 35(2), pp. 167-188.
- Abu-Rass, R. (2011) 'Cultural Transfer as an Obstacle for Writing Well in English: The Case of Arabic Speakers Writing in English', *English Language Teaching*, 4(2), pp. 206-212.
- Abu-Zaid, S. (2012) قواعد الإملاء والترقيم [Rules of Spelling and Punctuation]. Amman: Massira Publication.
- Abu Al-Rub, M. (2007) 'Writing Errors Analysis Related to Dictation Level for Learners of Non-Arabic Native Speakers', *Dirasat: Human and Social Sciences*, 34(2), pp. 1-14.
- Abuhakema, G., Faraj, R., Feldman, A. and Fitzpatrick, E. (2008) 'Annotating an Arabic Learner Corpus for Error', *International Conference on Language Resources and Evaluation*. Marrakech, Morocco. LREC.
- Abuhakema, G., Feldman, A. and Fitzpatrick, E. (2009) 'ARIDA: An Arabic Interlanguage Database and Its Applications: A Pilot Study', *Journal of the National Council of Less Commonly Taught Languages (JNCOLCTL)*, 7, pp. 161-184.
- Abulhab, S. (2006) 'Typography: Behind the Arabetic Calligraphy Veil', *Visible Language*, 40(3), pp. 294-307.
- ACARA (2013) *F10: Australian Curriculum: Languages: Arabic*. Australian Curriculum Assessment and Reporting Authority
- Afifi, F.S. (1988) الخطبة موسوعة الكتابة [The Encyclopedia of Written Calligraphy]. Egypt: Mamdouh Library.
- Ahmed, J.A. (2003) الأخطاء الإملائية في الكتابة العلمية [Spelling Errors in Scientific Writing]. Cairo: Cairo University.
- Aiken, L.R. (1997) *Questionnaires and Inventories: Surveying Opinions and Assessing Personality*. New York: J. Wiley.
- Akamatsu, N. (2005) 'Effects of Second Language Reading Proficiency and First Language Orthography on Second Language Word Recognition', in Cook, V. and Bassetti, B. (eds.) *Second Language Writing Systems*. Clevedon: Multilingual Matters Ltd.

REFERENCES

- Al-Abdan, A. and Addweesh, R. (1998) 'استراتيجيات تعلم اللغة العربية بوصفها لغة ثانية' [The strategies of learning Arabic as a second language]', *The Magazine of Umm Alqura University*, (17), p. 169.
- Al-Ani, S.H. (1970) *Arabic Phonology: An Acoustical and Physiological Investigation*. The Hague: Mouton.
- Al-Ani, S.H. (1972-1973) 'Features of Interference in The Teaching of Arabic Composition', *An-Nashra*, V-VI, pp. 3-13.
- Al-Athari, M.B. (1956) 'رأي في قواعد رسم اللغة العربية: مقدمة توثيقية' [An Opinion in Arabic Orthography: A Documentary Introduction] ', *The 22nd Conference of Arabic Council*. Cairo.
- Al-Batal, M. (ed.) (2008) *The Teaching of Arabic as a Foreign Language: Issues and Directions*. Washington, DC: Georgetown University Press.
- Al-Buainain, H. (2006) 'Students' Writing Errors in ESL: A Case Study ', *The 2nd International AUC OXF Conference on Language and Linguistics*. Cairo.
- Al-eman.com (2013) الكتاب [The Book]. Available at: <http://www.al-eman.com> (Accessed: 13/01/2014).
- Al-Faouri, A. (2009) 'Fourth Year Students Writing Mistakes in The Arabic Department at Chengchi University in Taiwan: An Analytical Study', *Journal of The Jordan Academy of Arabic*, 81.
- Al-Faouri, A. and Abu-Amshah, K. (2005) 'Teaching Arabic as A Second Language: Problems and Solutions, University of Jordan as a Model', *Dirasat: Human and Social Sciences*, 32(3), pp. 487 - 497.
- Al-Hamad, M. (1994) 'تحليل أخطاء التعبير الكتابي لدى طلاب المستوى المتقدم من دارسي العربية غير الناطقين بها في جامعة الملك سعود' [Analyzing Writing Errors of Advanced Non-Native Learners of Arabic in KSU], Manuscript.
- Al-Hamlawi, M. (2013) 'الأرقام العربية الأصيلة' [The Authentic Arabic Numbers]', [Online]. Available at: <http://www.cairodar.com/lesson/details/899> (Accessed: 21/6/2014).
- Al-Humidi, H. (2003) *Arabic Writing for Occupational Purposes (AWOP): Strategies of Teaching Writing*. PhD thesis. University of Leeds.
- Al-Jayousi, M.T. (2011) *Spelling Errors of Arab Students: Types, Causes, And Teachers' Responses*. Master of Arts thesis. American University of Sharjah.
- Al-Majed, H. (1996) *An Analysis of Grammatical and Associated Errors Found in the Writing of Third Grade Saudi Male Students in Four High Schools In the City of Riyadh* '. PhD thesis. The University of Hull.
- Al-Naasir, A.M.a. (1985) *Siibawaih The Phonologist: A Critical Study Of The Phonetic And Phonological Theory Of Siibawaih As Presented In IFEs Treatise AL KITAB*. PhD thesis. University of York (UK).

REFERENCES

- Al-Qufaan, T.M.M. and Al-Faouri, A.S. (2012) 'The Influence of Linguistic Duality (Standard and Colloquial Arabic) in Teaching Arabic to Speakers of Other Languages', *Dirasat: Human and Social Sciences*, 39(1), pp. 1-16.
- Al-Quraadi, A.K. (2002) الأسس النحوية والإملائية في اللغة العربية [The Grammatical and Orthographical Fundamentals in Arabic]. Cairo: Addaar Almisriyah Allubnaniyah.
- Al-Rasheed, A., Franklin, A., Drivonikou, G. and Davies, I. (2014) 'Left Hemisphere Lateralization of Categorical Color Perception among Roman and Arabic Script Readers', *Psychology*, 5, pp. 255-270.
- Al-Shalaan, R. (2008) الأخطاء الإملائية الشائعة: أسبابها وعلاجها [Common Spelling Errors: Causes and Solutions].
- Al-Shammeri, Z. (1992) تحليل الأخطاء الدلالية لدى دارسي اللغة العربية من غير الناطقين بها في التعبير الكتابي [Analyzing Semantic Errors in Writing of Non-Native Learners of Arabic]. Unpublished.
- Al-Shehri, A. (2009) 'Motivation and Vision: The Relation Between the ideal L2 self, Imagination and Visual Style', in Dörnyei, Z. and Ushioda, E. (eds.) *Motivation, Language Identity and The L2 Self*. Bristol: Multilingual Matters, p. pp. 164.
- Al-Ssaied, A. (1982) تحليل الأخطاء الإملائية لتلاميذ الصف السادس الابتدائي بمنطقة سنكات مديرية البحر الأحمر [Analyzing Spelling Errors of Sixth Grade Learners at Senkat Area, The Red Sea District]. Unpublished.
- Al-Wer, E. and de Jong, R. (eds.) (2009) *Arabic Dialectology*. Leiden, The Netherlands: Koninklijke Brill NV.
- Al-Zwairi, A. (2014) Why British Students Learn Arabic in the UK? Personal Communication.
- Alam, Y.M. (2008) 'قواعد الإملاء في ضوء جهود المحدثين' [Spelling Rules in Light of Modern Research]', *The 7th Conference of The Council of Arabic Language*. Damascus, 2008. Available at: http://www.alukah.net/literature_language/0/5166/#ixzz3EuZL1MCs.
- Albrow, K.H. (1972) *The English Writing System: Notes Towards a Description*. London: Longman.
- Alderson, J.C. and Banerjee, J. (2002) 'Language Testing And Assessment (Part 2)', *Language Teaching*, 35(02), pp. 79-113.
- Alfaifi, A. and Atwell, E. (2012) 'المدونات اللغوية لمتعلمي اللغة العربية: نظام لتصنيف وترميز الأخطاء اللغوية' [Arabic Learner Corpora (ALC): A Taxonomy of Coding Errors]', *The 8th International Computing Conference in Arabic (ICCA 2012)*. Cairo, Egypt.
- Alfaifi, A. and Atwell, E. (2013) 'Arabic Learner Corpus v1: A New Resource for Arabic Language Research', *Second Workshop on Arabic Corpus Linguistics*. Lancaster, UK. White Rose Research.
- AlfaseehNet (2010) *Arabic Letters 28 Or 29?* Available at: <http://www.alfaseeh.com/vb/showthread.php?t=63665&s=7a2b93d6b4c0d66f608cd2f1bfb31b46>. (Accessed: 28/03/2013).

REFERENCES

- Alfi, M.Y., Abdulaziz, N.M. and Gad, A.A. (1992) 'الأخطاء الشائعة في خطوط دارسي العربية ' [Common Errors in the Handwritings of Learners of Arabic as a Foreign Language]', *Journal of King Saud University*, 4(1), pp. 127-177.
- Alfozan, A.I. (1989) *Assimilation in Classical Arabic: A phonological study*. PhD thesis. University of Glasgow.
- AlFusha (2010) *Alhamza, Sound or Letter?* Available at: <http://www.alfusha.net/t9768.html> (Accessed: 29/03/2013).
- Alhamad, G. (2004) *علم الكتابة العربية [The Arabic Writing Science]*. Amman: Dar Ammar.
- Alhamouz, M. (2011) *الصعوبات الإملائية في الخط العربي [Spelling Difficulties in Arabic Script]*. Amman: Doroub.
- Alhaqbani, A. and Riazi, M. (2012) 'Metacognitive Awareness of Reading Strategy Use in Arabic as a Second Language', *Reading in a Foreign Language*, 24(2), pp. 231–255.
- Alhawary, M.T. (2009) *Arabic Second Language Acquisition of Morphosyntax*. New Haven and London: Yale University Press.
- Alhussaini, H. (1988) *الأخطاء اللغوية الشائعة في كتابات الدارسين في برنامج تعليم اللغة العربية للناطقين بلغات أخرى : دراسة ميدانية [Common Linguistic Errors in The Learners' Writing at TAFL Programme: A Field Study]*. Unpublished MA Dissertation. Mansoura University.
- Ali, Z.A. (2012) 'A Phonological Study of English and Arabic Assimilation :A Contrastive Study', *Journal of College of Languages, IASJ*, (25), pp. 148-172.
- Alkhateeb, M.I. (2004) 'الأخطاء الإملائية الشائعة لدى طلبة الجامعة في الأردن [Common Spelling Errors Made by University Learners]', *Jordanian Journal of Applied Sciences*, 7(1), pp. 48-61.
- Alkitaabtextbook.com (2015) *The Al-Kitaab Arabic Language Program*. Available at: <http://www.alkitaabtextbook.com/books/>.
- Almusa, N. (2003) *التناقضات في قضايا اللغة العربية من عصر النهضة إلى عصر العولمة [Dual Issues on Arabic From The Enlightenment Period to The Period of Globalization]*. Jordan: Alshuruk Post.
- Alosh, M. (2009) *Ahlan Wa Sahlan: Functional Modern Standard Arabic for Beginners: Sound and Script Workbook*. 2 edn. New Haven: Yale University Press.
- Alqasemi, A. (1991) *علم اللغة وصناعة المعجم [Language science and the production of dictionary]*. Riyadh: King Saud University.
- Alshomali, A. (2000) 'أثر برنامج تدريبي لمعلمي اللغة العربية في تحصيل طلابهم لقواعد النحوية' [The effect of a Course for Arabic Language Teachers in the Student Acquisition of Grammar]', 25(14), (المجلة التربوية بجامعة الكويت).
- Alwan, T.A. (1984) *The Common Grammatical Errors of The High School Students (Third Grade)*. M.A. unpublished thesis. University of Alexandria.

REFERENCES

- Ancientscripts.com (2012) *Arabic*. Available at: <http://www.ancientscripts.com/arabic.html> (Accessed: 20/12/2013).
- Anderson, R. (1983) 'Transfer To Somewhere', in Gass, S. and Selinker, L. (eds.) *Language Transfer in Language Learning*. Rowley, MA: Newbury House.
- Aronoff, M. (1992) 'Segmentalism in Linguistics: The Alphabetic Basis of Phonological Theory', in Downing, P., Lima, S.D. and Noonan, M. (eds.) *The Linguistics of Literacy*. Amsterdam: John Benjamins.
- Arrajhi, S. (2000) الشائعة فيها في قواعد الكتابة العربية والأخطاء *[The Basics of Arabic Writing and Its Common Errors]*. Alexandria: Dar Alma'rifa Aljaame'iyah.
- As-Saqaa, K. (2008) 'Introduction', in Al-shaalan, R. (ed.) أساليب عملية لعلاج الأخطاء الإملائية عند الصغار والكبار *[Practical Approaches to Treat Adult and Children Spelling Errors]*. Riyadh: King Fahad National Library.
- Asaad, H. and Eviatar, Z. (2013) 'The Effects of Orthographic Complexity and Diglossia on Letter Naming in Arabic: A developmental study', *Writing Systems Research*, 5(2), pp. 156–168.
- AsShallaal, A., AlQuwaifly, M., AsShamrani, A., Alhasan, S., AsSalaamah, H. and AlQahtani, J. (2009) دليل توحيد ضوابط الرسم الإملائي للكتابة العربية *[The Guide to Unifying Orthographic Rules of Arabic Writing]*. Kuwait: AlMarkaz AlArabi [Arabic Centre for Educational Research].
- AsShareef, K. (2012) (3) في ظلال مجلة مجمع دمشق *[In The Shadows of Damascus Arabic Council Journal]*. Available at: http://www.alukah.net/literature_language/0/46817/?utm_source=dlvr.it&utm_medium=facebook (Accessed: 12/10/2014).
- Association-for-Language-Learning (2014) *Free Online Arabic Course For Beginners*. Available at: http://www.all-languages.org.uk/news/news_list/free_online_arabic_course_for_beginners.
- At-tall, A.A. (1989) من غير الناطقين بها تحليل الأخطاء الكتابية لدى متعلمي اللغة العربية *[Analysis of Written Errors by Learners Of Arabic Who are Speakers of Other Languages]*. MA thesis. Yarmouk University.
- Ateyyah, M.A. (2007) مهارة الرسم الكتابي: قواعدها والضعف فيها *[Handwriting Skills: Rules and Weakness]*. Amman: Dar Almanajej.
- Atkinson, D. (1987) 'The Mother Tongue in the Classroom: A Neglected Resource?', *ETL Journal*, 41(4), pp. 241-247.
- Atkinson, D. (2003) 'L2 Writing in The Post-Process Era: Introduction', *Journal of Second Language Writing*, 12(1), pp. 3-15.
- Atkinson, D. and Connor, U. (2008) 'Multilingual Writing Development', in Bazerman, C. (ed.) *Handbook of Research on Writing: History, Society, School, Individual, Text*. New York: Lawrence Erlbaum Associates.

REFERENCES

- Atkinson, R.C. and Shiffrin, R.M. (1968) 'Human Memory: A Proposed System and its Control Processes', in Spence, K.W. and Spence, J.T. (eds.) *The Psychology of Learning and Motivation*. New York: Academic Press.
- August, D. and Shanahan, T. (2008) *Developing Reading and Writing in Second-Language Learners*. New York: Routledge.
- Awwad, F.I. (2012) الأخطاء الإملائية أسبابها وطرائق علاجها [Spelling Errors: Causes and Ways of Solution]', *Dirasat: Human and Social Sciences*, pp. 217-250.
- Aziz, Y. (1974) 'Some Problems of English Consonant Sounds For The Iraqi Learners', *English Lanpoge Teaching Journal*, (28), pp. 166-168.
- Bachman, L.F. and Palmer, A.S. (1996) *Language Testing in Practice: Designing And Developing Useful Language Tests*. Oxford University Press, USA.
- Badawi, E.-S. (2009) *Al-Kitab Al-asasi: A Basic Course for Teaching Arabic to Non-native Speakers*. Cairo: The American University in Cairo Press.
- Bahloul, M. (2007) 'Spelling Errors of Arab Learners: Evidence of Intergraphic Mapping', in Coombe, C. and Barlow, L. (eds.) *Language Teacher Research in The Middle East*. Mattoon: United Graphics, Inc.
- Balasubrahmanyam, S.N. (2001) 'Dyslexia and Intercultural Comparisons', *Current Science*, 81(8), pp. 872-875.
- BaniAmer, A. (2009) الأخطاء والتداخلات الإملائية لدى متعلمي العربية من الناطقين بغيرها [Orthographical and Interlingual Errors of Non-native Arabic Learners]', *International Conference of Teaching Arabic to Non-Arabic Speakers*. Riyadh. King Saud University.
- Baothman, F. (2002) *Phonology-Based Automatic Speech Recognition For Arabic*. PhD thesis. University of Huddersfield.
- Barakat, Z. (2009) 'An Analysis and Cross - Sectional Study of Spelling Errors among (1-5) Grades of Elementary Palestinian Students in Tulkarm City ', *Al-Quds Open University Journal*, 36(3), pp. 1-16.
- Bardovi-Harlig, K. and Dörnyei, Z. (1998) 'Do Language Learners Recognize Pragmatic Violations? Pragmatic Versus Grammatical Awareness in Instructed L2 Learning', *TESOL Quarterly*, 32, pp. 233-262.
- Bassetti, B. (2005) 'Effects of Writing Systems on Second Language Awareness: Word Awareness in English Learners of Chinese as a Foreign Language', in Cook, V. and Bassetti, B. (eds.) *Second Language Writing Systems*. Clevedon: Multilingual Matters Ltd.
- Bassetti, B. (2008) 'Orthographic Input and Second Language Phonology', in Piske, T. and Young-Scholten, M. (eds.) *Input Matters in SLA*. Clevedon, UK: Multilingual Matters.
- Bassetti, B. (2012) 'Bilingualism and Writing Systems', in Bhatia, T.K. and Ritchie, W.C. (eds.) *The Handbook of Bilingualism and Multilingualism*. Hoboken, NJ: John Wiley & Sons.

REFERENCES

- Bassetti, B. and Atkinson, N. (2013) 'Effects of Orthographic Representations on Pronunciation in Experienced Instructed Second Language Learners', *EUROSLA 2013*. University of Amsterdam.
- Bassetti, B., Escudero, P. and Hayes-Harb, R. (2013) 'Second Language Phonology at the Interface Between Acoustic and Orthographic Input', *EUROSLA 2013*. University of Amsterdam.
- Bassetti, B., Vaid, J. and Cook, V. (2012) 'Interdisciplinary Approaches to Second Language Writing Systems', *Writing Systems Research*, 4(1), pp. 1-7.
- Bauer, T. (1996) 'Arabic Writing', in Daniels, P.T. and Bright, W. (eds.) *The World's Writing Systems*. Oxford: Oxford University Press.
- BBC (2014) *A Guide to Arabic*. Available at:
http://www.bbc.co.uk/languages/other/arabic/guide/videos/learning_arabic.shtml
(Accessed: 24/04/2014).
- Bebout, L. (1985) 'An Error Analysis of Misspellings Made by Learners of English as a First and as a Second Language', *Journal of Psycholinguistic Research*, 14, pp. 569-593.
- Beesley, K.R. (1998) 'Consonant Spreading in Arabic Stems', *36th Annual Meeting of the Association for Computational Linguistics and 17th International Conference on Computational Linguistics, COLING-ACL Proceedings of the Conference*. Université de Montréal. Morgan Kaufmann Publishers, pp. 117-123.
- Bellamy, J. (1989) 'The Arabic Alphabet', in Senner, W. (ed.) *The Origins of Writing*. Lincoln and London: University of Nebraska Press.
- Berman, R. (1994) 'Learners' Transfer of Writing Skills Between Languages', *TESL Canada Journal* 12(1), pp. 29-46.
- Birch, B.M. (2007) *English L2 Reading: Getting to The Bottom*. 2 edn. Mahwah, NJ: Lawrence Erlbaum.
- Blom, E. and Unsworth, S. (eds.) (2010) *Experimental Methods in Language Acquisition Research*. Amsterdam: John Benjamins Publishing Company.
- Bloomfield, L. (1935) *Language*. London: Allen & Unwin.
- Bordens, K. and Abbott, B. (2011) *Research Design and Methods : A Process Approach*. 8 edn. New York: The McGraw-Hill Companies, Inc.
- Borgwaldt, S.R. and Joyce, T. (2013) 'Typology of Writing Systems: Introduction', in Borgwaldt, S.R. and Joyce, T. (eds.) *Typology of Writing Systems*. Amsterdam: John Benjamins Publishing.
- Broadfoot, P.M. (2005) 'Dark Alleys And Blind Bends: Testing The Language of Learning', *Language Testing*, 22(2), p. 123.
- Brooks, G., Gorman, T.P. and Kendal, L. (1993) *Spelling It Out: The Spelling Abilities of 11- and 15-year-olds*. Slough, UK.

REFERENCES

- Brosh, H. (2013) 'Motivation of American College Students to Study Arabic', *International Journal of Humanities and Social Science*, 3(19), pp. 27-38.
- Brown, H.D. (2000) *Principles of Language Learning and Teaching*. 4th edn. White Plains: Longman.
- Brown, H.D. (2004a) *Language Assessment Principles and Classroom Practices*. San Francisco: Longman.
- Brown, J.D. (2001) *Using Surveys in Language Programs*. Cambridge: Cambridge University Press.
- Brown, J.D. (2004b) 'Research Methods for Applied Linguistics: Scope, Characteristics, and Standards', in Davies, A. and Elder, C. (eds.) *The Handbook of Applied Linguistics*. Malden: Blackwell Publishing Ltd.
- Brown, M. (1990) *A Guide to Western Historical Scripts : From Antiquity to 1600*. London: British Library.
- Brustad, K., Al-Batal, M. and Al-Tonsi, A. (1995) *Alif Baa: An Introduction to Arabic Sounds And Letters*. Washington D.C.: Georgetown University Press.
- Burnaby, B. (1998) 'Writing Systems and Orthographies', in Corson, D. (ed.) *The Encyclopedia of Language and Education*. The Netherlands: Kluwer: Dordrecht.
- Burns, A. (2009) 'Action Research', in Heigham, J. and Croker, R.A. (eds.) *Qualitative Research In Applied Linguistics*. Hampshire: Palgrave Macmillan.
- Calderhead, C. (2011) 'Arabic The Writing of the Islamic World', in Calderhead, C. and Cohen, H. (eds.) *The World Encyclopedia of Calligraphy: The Ultimate Compendium on the Art of Fine Writing-History, Craft, Technique*. New York: Sterling.
- Campbell, G. and Moseley, C. (2012) *The Routledge Handbook of Scripts and Alphabets*. 2 edn. London: Routledge.
- Cartledge, H.A. (1968) 'A Defence of Dictation', *ELT Journal*, 22(3), p. 226.
- CASAW (2014) *The Centre for the Advanced Study of the Arab World*. Available at: <http://www.casaw.ac.uk/> (Accessed: 24/04/2014).
- Chan, A. (2010) 'Toward a Taxonomy of Written Errors: Investigation into the Written Errors of Hong Kong Cantonese ESL Learners', *TESOL Quarterly*, 44, pp. 295-319.
- Chan, T.T. and Bergen, B. (2005) 'Writing Direction Influences Spatial Cognition', *In Proceedings of the Twenty-Seventh Annual Conference of the Cognitive Science Society*.
- Chang, E. (2005) 'Tongue Twisters', *The Washington Post* (edn). [Online] Available at: <http://www.washingtonpost.com/wp-dyn/content/article/2005/08/05/AR2005080501296.html>.
- Chapelle, C. and Duff, P.A. (2003) 'Some Guidelines for Conducting Quantitative and Qualitative Research in Tesol', *TESOL Quarterly*, 37(1), pp. 163-168.

REFERENCES

- Chen, F. (2006) 'Interplay Between Forward and Backward Transfer in L2 And L1 Writing: The Case of Chinese ESL Learners in The Us', *Studies in Linguistics*, 32(1), pp. 147-196
- Cisero, C.A. and Royer, J.M. (1995) 'The Development and Cross-Language Transfer of Phonological Awareness', *Contemporary Educational Psychology*, (20), pp. 275-303.
- CLS (2014) *Critical Language Scholarships for Intensive Summer Institutes* Available at: <http://www.clscholarship.org/> (Accessed: 05/09/2014).
- Clumeck, H. (1976) 'Patterns of Soft Palate Movements in Six Languages', *Journal of Phonetics*, 4(4), pp. 337-351.
- Cohen, L., Manion, L. and Morrison, K. (2011) *Research Methods in Education*. 7th edn. London: Routledge.
- Cohen, L., Manion, L., Morrison, K. and Morrison, K.R.B. (2007) *Research Methods in Education*. Psychology Press.
- Collins, L.M. (2006) 'Analysis of Longitudinal Data: The Integration of Theoretical Model, Temporal Design, and Statistical Model', *Annual Review of Psychology*, 57, pp. 505-528.
- Comesaña, M., Sánchez-Casas, R., Soares, A.P., Pinheiro, A.P., Rauber, A., Frade, S. and Fraga, I. (2012) 'The Interplay of Phonology and Orthography in Visual Cognate Word Recognition: An ERP Study', *Neuroscience Letters*, 529, pp. 75-79.
- Communicaid (2014) *Business Arabic Course*. Available at: http://www.communicaid.com/business-language-courses/arabic/#.U1ufB_mwLzl (Accessed: 25/04/2014).
- Conlin, J. (2010) 'For American Students, Life Lessons in the Mideast', *The New York Times* (edn), 08/08/2010. [Online] Available at: http://www.nytimes.com/2010/08/08/fashion/08Abroad.html?pagewanted=all&_r=1&.
- Cook, V. (2002) 'Background to the L2 User', in Cook, V. (ed.) *Portraits of the L2 User*. Clevedon: Multilingual Matters Ltd.
- Cook, V. (2004) *The English Writing System*. London: Oxford University Press.
- Cook, V. (2008) *Second Language Learning and Language Teaching*. 4th edn. London: Oxford University Press.
- Cook, V. (2010) 'Multicompetence and SLA: A Brief Outline of The Concept of Multi-Competence in Second Language Acquisition' [Video]. 20/3/2014. Available at: <http://www.youtube.com/watch?v=LF7zmsqtIUQ>.
- Cook, V. (2012) *Multi-competence: 'Knowledge of Two or More Languages in the Same Mind'*. Available at: <http://homepage.ntlworld.com/vivian.c/SLA/Multicompetence/index.htm> (Accessed: 20/3/2014).

REFERENCES

- Cook, V. (2013) *Working Definition of Multi-Competence: 'The Overall System of A Mind or A Community That Uses More Than One Language'*. *Monolingual and Bilingual Perspectives*. Available at: <http://homepage.ntlworld.com/vivian.c/SLA/Multicompetence/index.htm> (Accessed: 20/3/2014).
- Cook, V. and Bassetti, B. (2005) 'An Introduction to Researching Second Language Writing Systems', in Cook, V. and Bassetti, B. (eds.) *Second Language Writing Systems*. Clevedon: Multilingual Matters Ltd.
- Cook, V.J. (1993) *Linguistics and Second Language Acquisition*. Basingstoke: Macmillan Press.
- Cook, V.J. (1997) 'L2 Users and English Spelling', *Journal of Multilingual and Multicultural Development*, 18(6), pp. 474-88.
- Cook, V.J. (2003) *Effects of the Second Language on the First*. Clevedon: Multilingual Matters.
- Cook, V.J. (2007) 'Multi-competence: Black Hole or Warmhole for SLA Research?', in Han, Z. (ed.) *Understanding Second Language Process*. Clevedon: Multilingual Matters.
- Cook, V.J. (2011) 'Language User Groups and Language Teaching', in Cook, V. and Wei, L. (eds.) *Contemporary Applied Linguistics: Language Teaching and Learning*. London: Continuum.
- Corder, S.P. (1967) 'The Significance of Learner's Errors', *International Review of Applied Linguistics in Language Teaching*, 5(1-4), pp. 161-170.
- Corder, S.P. (1981) *Error Analysis and Interlanguage*. Oxford: Oxford University Press.
- Coulmas, F. (1989) *The Writing Systems of The World*. Oxford: Basil Blackwell.
- Coulmas, F. (1996) *The Blackwell Encyclopedia of Writing Systems*. Oxford: Blackwell.
- Coulmas, F. (2003) *Writing Systems: An Introduction to Their Linguistic Analysis*. Cambridge: Cambridge University Press.
- Coulmas, F. (2014) 'Writing Systems and Language Contact in the Euro- And Sinocentric Worlds', *Applied Linguistics Review*, 5(1), pp. 1-21.
- Couper, M.P., Traugott, M.W. and Lamias, M.J. (2001) 'Web Survey Design and Administration', *Public Opinion Quarterly*, 65(2), p. 230.
- Cowan, N., Morey, C.C., Chen, Z., Gilchrist, A.L. and Saults, J.S. (2008) 'Theory and Measurement of Working Memory Capacity Limits', *Psychology of Learning and Motivation*, 49, pp. 49-104.
- Crocker, R.A. (2009) 'An Introduction to Qualitative Research', in Heigham, J. and Crocker, R.A. (eds.) *Qualitative Research in Applied Linguistics*. Hampshire: Palgrave Macmillan.

REFERENCES

- Crompton, P. (2011) 'Article Errors in the English Writing of Advanced L1 Arabic Learners: The Role of Transfer', *Asian EFL Journal*, 50, pp. 4-35.
- Dahmani, D. and Awadh, A. (1998) 'الأخطاء الإملائية لدى تلاميذ المرحلة المتوسطة بمحافظة مكة [Spelling Errors at Middle School Learners in Makkah and The Error Relation to Orthographic Rules]', - مجلة البحث في التربية وعلم النفس - (1) كلية التربية - جامعة المنيا 12
- Dai, J., Ibrahim, R. and Share, D. (2013) 'The Influence of Orthographic Structure on Printed Word Learning in Arabic', *Writing Systems Research*, 5(2), pp. 189-213.
- Daniels, P.T. (1992) 'The Syllabic Origin of Writing and The Segmental Origin of The Alphabet', in Downing, P., Lima, S.D. and Noonan, M. (eds.) *The Linguistics of Literacy*. Amsterdam: John Benjamins.
- Daniels, P.T. (1996a) 'Aramaic Scripts for Aramaic Languages', in Daniels, P.T. and Bright, W. (eds.) *The World's Writing Systems*. Oxford: Oxford University Press.
- Daniels, P.T. (1996b) 'Middle Eastern Writing Systems: Introduction to Part VIII', in Daniels, P.T. and Bright, W. (eds.) *The World's Writing Systems*. Oxford: Oxford University Press.
- Daniels, P.T. (1996c) 'The Study of Writing Systems', in Daniels, P.T. and Bright, W. (eds.) *The World's Writing Systems*. Oxford: Oxford University Press.
- Daniels, P.T. (2006) 'On Beyond Alphabets', *Written Language and Literacy*, 9(1), pp. 7-24.
- Daniels, P.T. (2013) 'The Arabic Writing System', in Owens, J. (ed.) *The Oxford Handbook of Arabic Linguistics*. New York: Oxford University Press.
- Daniels, P.T. and Bright, W. (eds.) (1996) *The World's Writing Systems*. Oxford: Oxford University Press.
- DeAngelis, G. and Dewaele, J.-M. (eds.) (2011) *New Trends in Crosslinguistic Influence and Multilingualism Research*. Bristol: Multilingual Matters.
- deBot, K., Lowie, W. and Verspoor, M. (2005) *Second Language Acquisition : An Advanced Resource Book*. London: Routledge.
- deBot, K., Lowie, W. and Verspoor, M. (2007) 'A Dynamic Systems Theory Approach to Second Language Acquisition', *Bilingualism: Language and Cognition*, 10(1), pp. 7-21.
- DeFrancis, J. (1989) *Visible Speech: The Diverse Oneness of Writing Systems*. Honolulu: University of Hawaii Press.
- Devlin, H. (2007) *What is Functional Magnetic Resonance Imaging (fMRI)?* Available at: <http://psychcentral.com/lib/what-is-functional-magnetic-resonance-imaging-fmri/0001056> (Accessed: 25/3/2014).
- Dickinson, M., Brew, C. and Meurers, D. (2013) *Language and Computers*. Hoboken, N.J.: John Wiley & Sons.

REFERENCES

- Dörnyei, Z. (2007) *Research Methods in Applied Linguistics : Quantitative, Qualitative, and Mixed Methodologies*. Oxford ; N.Y.: Oxford University Press.
- Dörnyei, Z. and Taguchi, T. (2010) *Questionnaires in Second Language Research: Construction, Administration, and Processing*. New York: Routledge.
- Duff, P.A. (2008) *Case Study Research in Applied Linguistics*. New York: Lawrence Erlbaum.
- Duff, P.A. (2013) 'Case Study', in Chapelle, C.A. (ed.) *The Encyclopedia of Applied Linguistics*. Oxford: Blackwell Publishing Ltd.
- Dulay, H.C., Burt, M.K. and Krashen, S.D. (1982) *Language Two*. New York: Oxford University Press.
- Durgunoğlu, A.Y. and Hancin, B.J. (1992) 'An Overview of Cross-Language Transfer in Bilingual Reading', in Harris, R.J. (ed.) *Cognitive Processes in Bilinguals*. Amsterdam: North Holland.
- Dussias, P.E. (2010) 'Uses of Eye-Tracking Data in Second Language Sentence Processing Research', *Annual Review of Applied Linguistics*, 30, pp. 149-166.
- Dweik, B.S. and AbuAl-Hommos, M.D. (2007) 'The Effect of Arabic Proficiency on the English Writing of Bilingual - Jordanian Students', [Online]. Available at: <http://files.eric.ed.gov/fulltext/ED497505.pdf> (Accessed: 8/4/2014).
- Effective-Language-Learning (2013) *Language Difficulty Ranking*. Available at: <http://www.effectivelanguagelearning.com/language-guide/language-difficulty> (Accessed: 16/07/2014).
- EL-Aswad, A. (2002) *A Study of the L1 and L2 Writing Processes and Strategies of Arab Learners With Special Reference to Third-Year Libyan University Students*. PhD thesis. Newcastle University.
- El-Imam, Y. (2004) 'Phonetization of Arabic: Rules And Algorithms', *Computer Speech and Language*, (18), pp. 339-373.
- El-Seidi, M. (2000) 'Metadiscourse in English and Arabic Argumentative Writing: A Cross Linguistic Study of Texts Written by American and Egyptian University Students', in Ibrahim, Z., Aydelott, S. and Kassabgy, N. (eds.) *Diversity in Language: Contrastive Studies in Arabic and English Theoretical and Applied Linguistics*. Cairo: The American University in Cairo Press.
- El-Wakai, K. (2014) Why Students Learn Arabic at IHNNewcastle. Personal Communication.
- Ellis, R. (2008) *The study of Second Language Acquisition*. Oxford: Oxford University Press.
- Elmahdy, M., Gruhn, R., Minker, W. and Abdennadher, S. (2009) *The International Conference On Acoustics (Nag-Daga)*. Rotterdam, The Netherlands.

REFERENCES

- Embarki, M. (2013) 'Phonetics', in Owens, J. (ed.) *The Oxford Handbook of Arabic Linguistics*. Oxford: Oxford University Press.
- Encyclopædia-Britannica (2015) 'Arabic Alphabet', in Britannica, T.E.o.E. (ed.) *Encyclopædia Britannica*. Encyclopædia Britannica Online: [Online]. Available at: <http://www.britannica.com/EBchecked/topic/31666/Arabic-alphabet>.
- Ennaji, M. (2005) *Multilingualism, Cultural Identity, and Education in Morocco*. New York: Springer.
- Ericsson, K.A. and Simon, H.A. (1993) *Protocol Analysis Verbal Reports as Data*. Cambridge, Massachusetts: Massachusetts Institute of Technology.
- Eviatar, Z. (1995) 'Reading Direction and Attention: Effects on Lateralized Ignoring', *Brian and Cognition*, 29(2), pp. 137-150.
- Eviatar, Z. and Share, D. (2013) 'Processing Semitic Writing Systems: Introduction to a Special Issue of Writing Systems Research', *Writing Systems Research*, 5(2), pp. 131–133.
- Fakhri, M. (1994) *اللغة العربية أداء و نطقا و إملاء و كتابة [Arabic Language: Performing, Speaking, Spelling, and Writing]*. Mansurah, Egypt: Dar Alwafaa.
- Falhasiri, M., Tavakoli, M., Hasiri, F. and Mohammadzadeh, A. (2011) 'The Effectiveness of Explicit and Implicit Corrective Feedback on Interlingual and Intralingual Errors: A Case of Error Analysis of Students' Compositions', *English Language Teaching*, 4(3), pp. 251-264.
- Fayed, W. (2014) 'مجامع اللغة العربية [The Arabic Language Councils]'. Available at: <http://uqu.edu.sa/page/ar/155267>.
- Fayyād, S.n. (1998) *Istikhdāmāt al-hurūf al-'Arabīyah : mu'jamīyan, ṣawṭīyan, ṣarfīyan, naḥwīyan, kitābīyan [The Use of Arabic Letters: Lexically, Phonologically, Morphologically, Syntactically, and Orthographically]*. al-Riyāḍ: Dār al-Mairīkh lil-Nashr.
- Ferguson, C.A. (1959) 'Diglossia', *Word-Journal of The International Linguistic Association*, 15(2), pp. 325-340.
- Fischer, S.R. (2001) *A History of Writing*. London: Reaktion Books.
- Fisiak, J. (1981) *Contrastive Linguistics and the Language Teacher*. New York: Pergamon.
- Flege, J.E. and Port, R. (1981) 'Cross-Language Phonetic Interference: Arabic to English', *Language and Speech*, 24(2), p. 125.
- Fontana, A. and Frey, J. (2005) 'The Interview: From Nature Stance to Political Involvement', in Norman, K.D. and Yvonna, S.L. (eds.) *The Sage Handbook of Qualitative Research*. California: Sage Publications, Inc.
- Fragman, A. (2013) 'Spelling Accuracy of Consonants in Arabic among Negev Bedouin Students', *Open Journal of Modern Linguistics*, 3(4), pp. 330-336.

REFERENCES

- Gaad, M.A. (2003) صعوبات تعلم اللغة العربية [Arabic Language Learning Difficulties]. Amman: Dar Alfikr Publication.
- Gass, S.M. and Selinker, L. (2008) *Second Language Acquisition: An Introductory Course*. New York and London: Rotledge.
- Gelb, I. (1963) *A Study of Writing*. 2 edn. Chicago: University of Chicago
- Gillham, B. (2008) *Developing A Questionnaire*. 2nd edn. London: Continuum.
- Goldsmiths (2014) *PGCE (Secondary) Flexible Programme*. Available at: <http://www.gold.ac.uk/pgce/secondary-flexible/> (Accessed: 24/04/2014).
- Goodnow, J., Friedman, S.L., Bernbaum, M. and Lehman, E.B. (1973) 'Direction and Sequence in Copying: The Effect of Learning to Write in English and Hebrew', *Journal of Cross-Cultural Psychology*, 4(3), pp. 263-282.
- Goswami, U. (2006) 'Orthography, Phonology, and Reading Development: A Cross-Linguistic Perspective', in Joshi, R.M. and Aaron, P.G. (eds.) *Handbook of Orthography and Literacy*. New Jersey: Lawrence Erlbaum Associates.
- Goswami, U., Ziegler, J., Dalton, L. and Schneider, W. (2001) 'Pseudohomophone Effects and Phonological Recoding Procedures in Reading Development in English and German', *Journal of Memory & Language*, (45), pp. 648-664.
- Goswami, U., Ziegler, J.C. and Richardson, U. (2005) 'The Effects of Spelling Consistency on Phonological Awareness: A Comparison of English and German', *Journal of Experimental Child Psychology*, 92(4), pp. 345-365.
- Gottardo, A., Yan, B., Siegel, L.S. and Wade-Woolley, L. (2001) 'Factors Related to English Reading Performance in Children with Chinese as A First Language: More Evidence of Cross-Language Transfer of Phonological Processing', *Journal of Educational Psychology*, (93), pp. 530-542.
- Gramley, S. and Gramley, V. (eds.) (2008) *Bielefeld Introduction to Applied Linguistics*. Bielefeld: Aisthesis.
- Grosjean, F. (2001) 'The Bilingual's Language Modes', in N, J.L. (ed.) *One Mind, Two languages: Bilingual Language Processing*. Oxford: Blackwell, pp. 1-22.
- Guest, G., MacQueen, K.M. and Namey, E.E. (2011) *Applied Thematic Analysis*. Thousand Oaks: SAGE Publications.
- Gwarzo, G.M. (1985) *Grammatical, Mechanical and Lexical Errors Made by Hausa Students of the Arabic Language in Arabic Post Primary Schools of Kano Municipal*. Bachelors Research Project. Bayero University.
- Hagberg, L.R. (2006) *An Autosegmental Theory of Stress*. SIL International.
- Haladyna, T., Downing, S. and Rodriguez, M. (2002) 'A Review of Multiple-Choice Item-Writing Guidelines for Classroom Assessment', *Applied Measurement in Education*, 15(3), pp. 309-333.

REFERENCES

- Hamdan, S. (1993) 'دراسة تقييمية للأخطاء الإملائية لدى معلمي المرحلة الابتدائية أثناء تأهيلهم للمستوى' [Investigation of Spelling Errors Made by Primary School Teachers], *مجلة كلية التربية بقنا*, 1 (5).
- Hammad, S. and Alghalban, S. (2008) 'الأخطاء الإملائية الشائعة لدى الدارسين بجامعة القدس' [Common Spelling Errors by Learners at Al-Quds Open University in Arabic Module], *Al-Quds Open University Journal*, (4), pp. 145-168.
- Hammarberg, B. (1979) 'The Insufficiency of Error Analysis', in Nehls, D. (ed.) *Studies in Descriptive Linguistics (SDL)*. Heidelberg: Julius Groos Verl., p. pp. 121 + 108 pp.
- Hansen, G.F. (2010) 'Word Recognition in Arabic as a Foreign Language', *Modern Language Journal*, 94(4), pp. 567–581.
- Harris, R. (1986) *The Origin of Writing*. London: Duckworth.
- Harris, R. (1995) *Signs of Writing*. London: Routledge.
- Harris, R. (2000) *Rethinking Writing*. Bloomington: Indiana University Press.
- Hashem-Aramouni, E. (2011) *The Impact of Diglossia on Arabic Language Instruction in Higher Education: Attitudes and Experiences of Students and Instructors in the U.S.* Ed.D thesis. California State University.
- Hashim, K. (1991) 'تحليل أخطاء التعبير الكتابي لدراسات دورة ملاوي - بالمركز الإسلامي الأفريقي' [Analyzing Writing Errors of Malay Middle-Level Course at The Islamic African Center]. Unpublished.
- Hassanein, A.T. and Al-Waraq, N.N.i. (1984) *Adawat Al-Rabt Fi Al-Arabiyya Al-Mu'asira*. Cairo: American University in Cairo.
- Hassanin, S., Anneel, H. and Merghani, A. (1994) 'طلاب المعهد وتحليلها، الأخطاء الشائعة لدى' [Analysing Common Errors Made by The Arabic Language Institute Students in Imam Muhammad Ibn Saud University]. Unpublished.
- Healey, J. (1990) *The Early Alphabet*. London: British Museum Publications.
- Hellmuth, S. (2013) 'Phonology', in Owens, J. (ed.) *The Oxford Handbook of Arabic Linguistics*. New York: Oxford University Press.
- Helmuth, L. (2001) 'Dyslexia: Same Brains, Different Languages', *Science*, 291(5511), pp. 2064-2065.
- Henning, G. and Huizhong, Y. (1987) *A Guide to Language Testing: Development, Evaluation, Research*. Newbury House.
- Hermanns, H. (2004) 'Interviewing as an Activity', in Flick, U., Kardorff, E. and Steinke, I. (eds.) *A Companion to Qualitative Research*. London: SAGE Publications Ltd.

REFERENCES

- Hill, A.A. (1967) 'The Typology of Writing Systems', in Austin, W.M. (ed.) *Papers in Linguistics in Honor of Léon Dostert*. The Hague: Mouton.
- HO, D.G.E. (2013) 'Interviews', in Chapelle, C.A. (ed.) *The Encyclopedia of Applied Linguistics*. Oxford: Blackwell Publishing Ltd.
- Holes, C. (2004) *Modern Arabic: Structures, Functions, and Varieties*. Washington, D.C.: Georgetown University Press.
- Hollenbeck, K. (2002) 'Determining When Test Alterations Are Valid Accommodations or Modifications for Large-Scale Assessment', in Tindal, G. and Haladyna, T.M. (eds.) *Large-Scale Assessment Programs for All Students: Validity, Technical Adequacy, and Implementation*. New Jersey: Lawrence Erlbaum Associates.
- Holliday, A. (2013) 'Validity in Qualitative Research', in Chapelle, C.A. (ed.) *The Encyclopedia of Applied Linguistics*. Oxford: Blackwell Publishing Ltd.
- Holstein, J. and Gubrium, J. (2004) 'The Active Interview', in Silverman, D. (ed.) *Qualitative Research: Theory, Method and Practice*. London: Sage Publications.
- Hood, M. (2009) 'Case Study', in Heigham, J. and Croker, R.A. (eds.) *Qualitative Research in Applied Linguistics: A Practical Introduction*. Houndmills, Hampshire, UK: Palgrave Macmillan.
- Hughes, A. (2003) *Testing for language teachers*. Cambridge Univ Pr.
- Huthaily, K.Y. (2008) *Second Language Instruction with Phonological Knowledge: Teaching Arabic to Speakers of English*. PhD thesis. The University of Montana.
- Hyland, K. (2002) *Teaching and Researching Writing*. London: Longman.
- Hyland, K. (2003) *Second Language Writing*. Cambridge: Cambridge University Press.
- IAAO (2004) *IslamicArt.com*. Available at: <http://islamicart.com/main/calligraphy/index.html> (Accessed: 17/02/2014).
- Ibn-Jabal (2014) *Ibn Jabal Institute*. Available at: <http://www.ibnjabal.com> (Accessed: 24/04/2014).
- Ibn-Jinni (1985) سر صناعة الإعراب [Sirr Šinā‘A Al-Iraab] (2 vols). Damascus: Dar AlQalam.
- Ibn Khallikan, A. (1972) وفيات الأعيان وأنباء أبناء الزمان [Ibn Khallikan's Biographical Dictionary]. Beirut: Dar Sadir.
- Ibrahim, A. (1975) الإملاء و الترقيم في الكتابة العربية [Spelling and Punctuation in Arabic Writing]. Cairo: Ghareeb Publication.
- Ibrahim, R. (2013) 'Reading in Arabic: New Evidence for the Role of Vowel Signs', *Creative Education*, 4(4), pp. 248-253.

REFERENCES

Ibrahim, R. and Aharon-Peretz, J. (2005) 'Is Literary Arabic a Second Language for Native Arab Speakers?: Evidence From Semantic Priming Study', *Journal of Psycholinguistic Research*, 34(1), pp. 51-70.

International-Career-Institute (2009) *Arabic Language Course*. Available at: <http://www.icieducation.co.uk/learn-a-new-language-course/arabic-language-course.htm> (Accessed: 25/04/2014).

Ismail, S.A.A. and Alsheikh, N.O. (2012) 'Second Language Learners' Performance and Strategies When Writing Direct and Translated Essays ', *International Education Studies*, 5(5), pp. 173-184.

Ismail, Z. (1990) 'التحصيل اللغوي لدى تلاميذ المرحلة الابتدائية: دراسة تقييمية' [Linguistic Acquisition at Primary Schools: Evaluative Study]', *حولية كلية التربية, Qatar University*, 7(7).

Ivankova, N.V. and Creswell, J.W. (2009) 'Mixed Methods', in Heigham, J. and Croker, R.A. (eds.) *Qualitative Research in Applied Linguistics: A Practical Introduction*. Houndmills, Hampshire, UK: Palgrave Macmillan.

James, C. (1981) *Contrastive Analysis*. Harlow: Longman.

James, C. (1998) *Errors in Language Learning and Use : Exploring Error Analysis*. London ; New York: Longman.

James, C., Scholfield, P., Garrett, P. and Griffiths, Y. (1993) 'Welsh Bilinguals' Spelling: an Error Analysis', *Journal of Multilingual and Multicultural Development*, 14(4), pp. 287-306.

Jarvis, S. and Pavlenko, A. (2008) *Crosslinguistic Influence in Language and Cognition*. New York: Routledge.

Jassem, J. (2000) *Study on Second Language Learners of Arabic: An Error Analysis Approach*. Kuala Lumpur: A.S. Noordeen.

John, W., Oiler, J. and Streiff, V. (1975) 'Dictation: A Test Of Grammar-Based Expectancies', *ELT Journal*, 30(1), p. 25.

Jones, A. (1998) 'The Dotting Of A Script And The Dating Of An Era: The Strange Neglect Of PERF 558', *Islamic Culture*, LXXII(4), pp. 95-103.

Joyce, T. (2013) 'The Significance of The Morphographic Principle for The Classification of Writing Systems', in Borgwaldt, S.R. and Joyce, T. (eds.) *Typology of Writing Systems*. Amsterdam: John Benjamins Publishing.

Joyce, T. and Borgwaldt, S.R. (2011) 'Typology of Writing Systems', *Written Language and Literacy* 14(1), pp. 1-11.

Jun, Z. (2008) 'A Comprehensive Review of Studies on Second Language Writing', *HKBU Papers in Applied Language Studies*, 12, pp. 89-123.

REFERENCES

- Kapatsinski, V. (2010) 'What Is It I Am Writing? Lexical Frequency Effects in Spelling Russian Prefixes: Uncertainty and Competition in an Apparently Regular System', *Corpus Linguistics and Linguistic Theory*, 6(2), pp. 157-215.
- Karan, E. (2006) *Writing System Development and Reform: A Process*. Master thesis. University of North Dakota.
- Kasper, G. (1997) 'The Role of Pragmatics in Language Teacher Education', in Bardovi-Harlig, K. and Hartford, B.S. (eds.) *Beyond Methods: Components of Language Teacher Education*. New York: McGraw-Hill.
- Katbi, H.K. (2012) 'Arabic Language as a Second Language: Challenges Facing Foreign Learners', *Damascus University Journal*, 28(2), pp. 425-455.
- Katz, L. and Frost, R. (1992) 'The Reading Process is Different for Different Orthographies: The Orthographic Depth Hypothesis', in Katz, L. and Frost, R. (eds.) *Orthography, Phonology, Morphology, and Meaning*. Amsterdam: Elsevier North Holland Press.
- Kaye, A. (1996) 'Adaptation of Arabic Script', in Daniels, P.T. and Bright, W. (eds.) *The World's Writing Systems*. Oxford: Oxford University Press.
- Kaye, A. (2009) 'Arabic', in Comrie, B. (ed.) *The World's Major Languages*. London: Routledge.
- Keatley, C., Chamot, A.U., Greenstreet, S. and Spokane, A. (2004) *Learning Strategies of Students of Arabic*. Washington, DC: National Capital Language Resource Center.
- Kellerman, E. (1983) 'Now You See It, Now You Don't', in Gass, S. and Selinker, L. (eds.) *Language Transfer in Language Learning*. Rowley, MA: Newbury House.
- Kellerman, E. (1995) 'Crosslinguistic Influence: Transfer to Nowhere?', *Annual Review of Applied Linguistics*, (15), pp. 125-150.
- Khaldieh, S.A. (2000) 'Learning Strategies and Writing Processes of Proficient vs. Less-Proficient 1 Learners of Arabic', *Foreign Language Annals*, 33, pp. 522-533.
- Khansir, A.A. (2013) 'Error Analysis and Second Language Writing', *Theory and Practice in Language Studies*, 3(2), pp. 363-370.
- Khateb, A., Taha, H.Y., Elias, I. and Ibrahim, R. (2013) 'The Effect of The Internal Orthographic Connectivity of Written Arabic Words on The Process of The Visual Recognition: A Comparison Between Skilled and Dyslexic Readers', *Writing Systems Research*, 5(2).
- King's-College-London (2014) *Languages We Offer: Arabic*. Available at: <http://www.kcl.ac.uk/artshums/depts/mlc/about/languages/arabic.aspx> (Accessed: 25/04/2014).
- Kiparsky, P. (2003) 'Syllables and Mora in Arabic', in Féry, C. and Vijver, R.v.d. (eds.) *The Syllable in Optimality Theory*. Cambridge, UK: Cambridge University Press.

REFERENCES

- Kobayashi, H. (2005) 'Rhetorical Decisions in L1 And L2 Writing: How Do Novice Writers Differ?', *Language and Culture Study*, (31), pp. 43-73.
- Kohler, R. (2008) 'Quantitative Analysis of Writing Systems: An Introduction', in Altmann, G. and Fengxiang, F. (eds.) *Analyses of Script: Properties of Characters and Writing System*. Berlin: Walter de Gruyter.
- Kono, N. (2013) 'Ethics in Research', in Chapelle, C.A. (ed.) *The Encyclopedia of Applied Linguistics*. Oxford: Blackwell Publishing Ltd.
- Kopečná, P. (2008) *Interlingual and Intralingual Errors in L2 Speakers of English*. BA thesis. Masarykova univerzita [Online]. Available at: http://is.muni.cz/th/180075/ff_b/ (Accessed: 1/04/2014).
- Krejcie, R. and Morgan, D. (1970) 'Determining Sample Size for Research Activities', *Educational and Psychological Measurement*, (30), pp. 607-610.
- Kroll, B. (2003) *Exploring the Dynamics of Second Language Writing*. Cambridge, England: Cambridge University Press.
- Kroll, J.F. and Sunderman, G. (2008) 'Cognitive Processes in Second Language Learners and Bilinguals: The Development of Lexical and Conceptual Representations', in Doughty, C.J. and Long, M.H. (eds.) *The Handbook of Second Language Acquisition*. Oxford: Blackwell Publishing Ltd.
- Kurpius, S.E. and Stafford, M.E. (2005) *Testing And Measurement: A User-Friendly Guide*. Thousand Oaks: Sage Publications.
- Kurzon, D. (2013) 'Diacritics And The Perso-Arabic Script', *Writing Systems Research*, 5(2), pp. 234-243.
- Kvale, S. (2007) *Doing interviews*. London: Sage Publications Ltd.
- Kvale, S. (2008) *InterViews. An Introduction to Qualitative Research Interviewing* 2edn. Thousand Oaks, CA: Sage Publications.
- Lado, R. (1957) *Linguistics Across Cultures; Applied Linguistics for Language Teachers*. Ann Arbor, MI: U of Michigan P.
- Lado, R. (1960) 'English Language Testing: Problems of Validity and Administration', *ELT Journal*, 14(4), p. 153.
- Lahlali, M. (2009) *How to Write in Arabic*. Edinburgh: Edinburgh University Press.
- Lamb, M. (2013) 'Language Learning and Teaching: Mixed Methods', in Chapelle, C.A. (ed.) *The Encyclopedia of Applied Linguistics*. Oxford: Blackwell Publishing Ltd.
- Lau, L.H.-S. and Liow, S.J.R. (2005) 'Phonological Awareness and Spelling Skill Development in Bilingual Biscrptal Children', in Cook, V. and Bassetti, B. (eds.) *Second Language Writing Systems*. Clevedon: Multilingual Matters Ltd.

REFERENCES

- Lazaraton, A. (2005) 'Quantitative Research Methods', in Hinkel, E. (ed.) *Handbook of Research in Second Language Teaching and Learning*. Mahwah, N.J: Erlbaum Associates.
- Lazaraton, A. (2013) 'Ethics in Qualitative Research', in Chapelle, C.A. (ed.) *The Encyclopedia of Applied Linguistics*. Oxford: Blackwell Publishing Ltd.
- Levin, I., Aram, D., Tolchinsky, L. and McBride, C. (2013) 'Maternal Mediation of Writing and Children's Early Spelling and Reading: The Semitic Abjad Versus The European Alphabet', *Writing Systems Research*, 5(2), pp. 134-155.
- Levin, I., Saiegh-Haddad, E., Hende, N. and Ziv, M. (2008) 'Early Literacy in Arabic: An Intervention Study Among Israeli Palestinian Kindergartners', *Applied Psycholinguistics*, 29, pp. 413-436.
- Lewis, M.P., Gary F. Simons, and Charles D. Fennig (ed.) (2014) 'Ethnologue: Languages of the World', in *Online version: <http://www.ethnologue.com>*. 17 edn. Dallas, Texas: SIL International [Online]. Available at: ethnologue.com.
- Li, P., Sepanski, S. and Zhao, X. (2006) 'Language History Questionnaire: A Web-Based Interface for Bilingual Research', *Behavior Research Methods*, 38(2), pp. 202-210.
- Lirola, M. and Stephen, J. (2007) 'The Problem Affecting English Language Learning for Non-Native Speakers: Similarities and Differences from the East and West', in Bernhardt, K. and Davis, G. (eds.) *Lingua et Linguistica 1.1*. Shakespeare Centre Press.
- Louis, S. (2010) *Lughatuna al-Fusha: A New Course in Modern Standard Arabic: Book One*. Cairo: The American University in Cairo Press.
- Lowie, W. (2013) 'Dynamic Systems Theory Approaches to Second Language Acquisition', in Chapelle, C.A. (ed.) *The Encyclopedia of Applied Linguistics*. Oxford: Blackwell Publishing Ltd.
- Luo, Y. (2010) 'Validity Considerations in Designing an English Writing Test', *International Conference on Educational and Information Technology (ICEIT 2010)*. ICEIT, pp. 509-512.
- Lüpke, F. (2011) 'Orthography Development', in Austin, P.K.a.S.J. (ed.) *The Cambridge Handbook of Endangered Languages*. Cambridge: Cambridge University Press.
- Macaro, E. (2005) 'Codeswitching in the L2 Classroom: A Communication and Learning Strategy', in Llorca, E. (ed.) *Non-native Language Teachers. Perceptions, Challenges and Contributions to the Profession*. New York: Springer.
- Mack, N., Woodson, C., Macqueen, K., Guest, G. and Namey, E. (2005) *Qualitative Research Methods: A Data Collector's Field Guide*. Family Health International.
- Mackey, A. and Gass, S.M. (2005) *Second Language Research: Methodology and Design*. Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Maddieson, I. (1984) *Patterns of Sounds* Cambridge: Cambridge University Press.

REFERENCES

- Magdy, M., Shaalan, K. and Fahmy, A. (2007) 'Lexical Error Diagnosis for Second Language Learners of Arabic', *The Seventh Conference on Language Engineering, Egyptian Society of Language Engineering (ELSE)*. Cairo, Egypt.
- Mahbak, A. (2008) 'كتابة الهمزة في اللغة العربية' [Writing Alhamza in Arabic]', *Deewan Al-Arab*. Available at: <http://www.diwanalarab.com/spip.php?article1934> (Accessed: 02/01/2014).
- Mahmoud, A. (2000) 'Modern Standard Arabic vs. Non-Standard Arabic: Where Do Arab Students Transfer From?', *Language, Culture and Curriculum*, 13, pp. 126-136.
- Mahmoud, S.A. (1994) 'Arabic Character Recognition Using Fourier Descriptors and Character Contour Encoding', *Pattern Recognition*, 27(6), pp. 815-824.
- Mair, V.H. (2010) *How to Forget Your Mother Tongue and Remember Your National Language*. Available at: <http://pinyin.info/readings/mair/taiwanese.html> (Accessed: 06/07/2014).
- Mamat, Arifin, Noh, A.S. and Mahmud, W.H.W. (2013) 'Cognitive, Affective and Behaviors' Attitudes towards Learning Arabic as a Second Language: A Case Study at SMKA Maahad Hamidah Kajang, Selangor, Malaysia', *IOSR Journal of Humanities and Social Science*, 7(6), pp. 84-92.
- Marian, V., Blumenfeld, H.K. and Kaushanskaya, M. (2007) 'The Language Experience and Proficiency Questionnaire (LEAP-Q): Assessing Language Profiles in Bilinguals and Multilinguals', *Journal of Speech, Language, and Hearing Research*, 50, pp. 940-967.
- Masry, Y. (1994) 'تعليم اللغة العربية لغير أبنائها' [Teaching Arabic to Non-Natives]', *AlMubtath Journal*, (149), pp. 18-19.
- Matsuda, P. (2006) 'Second-Language Writing in the Twentieth Century: A Situated Historical Perspective', in Matsuda, P., Cox, M., Jordan, J. and Ortmeier-Hooper, C. (eds.) *Second Language Writing in The Composition Classroom: A Critical Sourcebook*. New York: Bedford/st Martins.
- Mattingly, I.G. (1985) 'Did Orthographies Evolve?', *Haskins Laboratories Status Report*, 82/83, pp. 251-260.
- McCarthy, J.J. (1981) 'A Prosodic Theory of Nonconcatenative Morphology', *Linguistic Inquiry*, 12(3), pp. 373-418.
- McNamara, T.F. (2000) *Language Testing*. Oxford: Oxford University Press.
- Mei, L., Xue, G., Lu, Z.-L., He, Q., Zhang, M., Xue, F., Chen, C. and Dong, Q. (2013) 'Orthographic Transparency Modulates The Functional Asymmetry in the Fusiform Cortex: An Artificial Language Training Study Original Research Article', *Brain and Language*, 125(2), pp. 165-172.
- Meuter, R. and Ehrich, J. (2012) 'The Acquisition of an Artificial Logographic Script and Bilingual Working Memory: Evidence for L1-Specific Orthographic Processing Skills Transfer in Chinese-English Bilinguals', *Writing Systems Research*, 4(1), pp. 8-29.

REFERENCES

- Milroy, L. and Milroy, J. (1992) 'Social Network and Social Class: Toward an Integrated Sociolinguistic Model', *Language in Society*, 21(1), pp. 1-26.
- MLA (2010) *Comprehensive Nationwide Report Shows Significant Increases in the Study Of Arabic, Korean, Chinese, and American Sign Language*. New York.
- Mohamed, A. (2013) 'Review of Arabic Second Language Acquisition of Morphosyntax', *MSU Working Papers in SLS*, 4, pp. 21-23.
- Mohamed, A.A. (2000) *A Contrastive Study of Discourse Features in English and Arabic Writing in Connection with Two Text Types: Research Article Abstracts and Newspaper Letters to The Editor*. PhD thesis. University of Exeter.
- Mol, A.M. (1992) *A Comparative Case Study of Implementation of Writing as a Process*. MEd thesis. University of British Columbia.
- Mountford, J. (1996) 'A Functional Classification', in Daniels, P.T. and Bright, W. (eds.) *The World's Writing Systems*. Oxford: Oxford University Press.
- Muftah, M. and Rafik-galea, S. (2013) 'Error Analysis of Present Simple Tense in the Interlanguage of Adult Arab English Language Learners', *English Language Teaching*, 6(2), pp. 146-154.
- Mughazy, M.A. (2005-2006) 'Reading Despite Ambiguities: The Role of Metacognitive Strategies in Reading Arabic Authentic Texts', *Al-Arabiyya*, 38-39, pp. 57-74.
- Mughazy, M.A. (ed.) (2007) *Perspectives On Arabic Linguistics XX: Papers From The Twentieth Annual Symposium on Arabic Linguistics, Kalamazoo, Michigan, March 2006*. Amsterdam: John Benjamins B.V.
- Muhammed, A. (1987) " تحليل الأخطاء الإملائية والنحوية لتلاميذ مدرسة العيافون " أم محق [Analyzing Spelling and Grammatical Errors of Sixth Grade Learners at Umm Mahq Primary School]. Unpublished.
- Muhammed, M. (2003) " تحليل الأخطاء في التعبير الكتابي لدى طلاب المرحلة الثانوية بمحافظة الرشاد [Analyzing Writing Errors of High School Learners in Arrashaad County]. Unpublished.
- Mujawer, M.S. (1983) " تدريس اللغة العربية بالمرحلة الابتدائية [Teaching Arabic Language in Primary School]. Damascus: Dar AlQalam.
- Murphy, S. (2003) 'Second Language Transfer During Third Language Acquisition', *Working Papers in TESOL & Applied Linguistics*, 3(2).
- Mustafa, A. (1982) " تحليل أخطاء التعبير الكتابي عند تلميذات الصف الأول في المرحلة المتوسطة السودانية [Analyzing Writing Errors of Female First Grade Learners at Sudanese Middle School]. Unpublished.
- Mustafa, A. (2003) " تحليل الأداء اللغوي " التحرير " في مادتي الإملاء والتعبير لدى طلاب الولايات الجنوبية بولاية الخرطوم [Analyzing Writing Performance of South States' Learners in Alkhartoum, Sudan]. Unpublished.

REFERENCES

- Myles, J. (2002) 'Second Language Writing and Research: The Writing Process and Error Analysis in Student Texts', *TESL-EJ*, 6(2), pp. 1-20.
- Nabulsi, M.R. (2009) صفات الحروف [*Letter Attributes*]. Available at: <http://www.nabulsi.com/>.
- Nasseef, T. (1980) تحليل الأخطاء الشائعة في كتابات الطلبة للأكراد [*Analyzing Common Errors in Kurdish Students' Writing*]. Unpublished.
- Newby, V. (2011) 'Learning Arabic: Is It Worth It?', *The Interpreter*. Available at: <http://www.lowyinterpreter.org/post/2011/10/05/Arabic-Is-it-worth-it.aspx?> (Accessed: 05/12/2013).
- Newman, D. (2002) 'The Phonetic Status of Arabic Within The Worlds Languages: The Uniqueness of The Lughat Al-Daad', *Antwerp Papers in Linguistics*, (100), pp. 65-75.
- Newman, D. (2006) 'The Phonetics of Arabic', *The Sound Segments of Arabic: The Basic Features of the Arabic Sound Inventory*. Available at: <http://www.dur.ac.uk/daniel.newman/phon5.pdf> (Accessed: 27/04/2013).
- Nielsen, H.L. (1996) 'How To Teach Arabic Communicatively: Toward A Theoretical Framework For TAFL', in Badawi, E.-S.M. and Elgibali, A. (eds.) *Understanding Arabic: Essays in Contemporary Arabic Linguistics*. Cairo: American University in Cairo Press.
- Noorart.com (2013) *Noorart*. Available at: <http://www.noorart.com/> (Accessed: 2013).
- Norrish, J. (1983) *Language Learners and Their Errors*. London: Macmillan.
- Nunes, T. and Bryant, P. (2006) 'Morphemes and Literacy: Context and Conclusions', in Nunes, T. and Bryant, P. (eds.) *Improving Literacy by Teaching Morphemes*. New York: Routledge.
- O'Brien, T. (2004) 'Writing in a Foreign Language: Teaching and Learning', *Language Teaching*, 37(1), pp. 1-28.
- Obeidat, M. (2005) 'Attitudes and Motivation in Second Language Learning', *Journal of Faculty of Education UAEU*, 18(22), pp. 1-17.
- Oishi, S.M. (2003) *The Survey Kit: How to Conduct In-Person Interviews for Surveys*. London: Sage Publications.
- Oladosu, A.G.A.S. (1997) 'A Comparative Study of Errors in the Written Arabic of Yoruba Speaking Students from Government and Private Schools', *The Jos Journal of Education*, 2(1), pp. 77-83.
- Oladosu, A.G.A.S. (2000) 'Effects of Grammatical and Lexical Errors on the Acceptability and Intelligibility of Selected Arabic Sentences', *Ilorin Journal of Education*, 20, pp. 145-157.
- Olson, D.R. (1977) 'From Utterance to Text: The Bias of Language in Speech and Writing', *Harvard Educational Review*, 47(3), pp. 257-281.

REFERENCES

- Oppenheim, A. (2000) *Questionnaire Design, Interviewing and Attitude Measurement*. London: Pinter Pub Ltd.
- Ortega, L. (2003) 'Syntactic Complexity Measures and Their Relationship to L2 Proficiency: A Research Synthesis of College-Level L2 Writing', *Applied Linguistics*, (24), pp. 492-518.
- Ortega, L. (2009) 'Studying Writing Across EFL Contexts: Looking Back and Moving Forward', in Manchón, R. (ed.) *Writing in Foreign Language Contexts: Learning, Teaching, and Research*. Bristol: Multilingual Matters.
- Osborn, J.R.W. (2008) *The Type of Calligraphy: Writing, Print, and Technologies of the Arabic Alphabet*. PhD thesis. University of California, San Diego.
- Othman, M.F.A. (2006) *Language Choice among Arabic-English Bilinguals in Manchester, Britain*. MA thesis. University of Manchester.
- Owens, J. (2001) 'Arabic Sociolinguistics', *Arabica*, 48(4), pp. 419-469.
- Owens, J. (2009) 'Indeterminacy and The Comparative Method: Arabic as A Model for Understanding the History of Aramaic ', in Al-Wer, E. and de Jong, R. (eds.) *Arabic Dialectology*. Leiden, The Netherlands: Koninklijke Brill NV.
- Owens, J. (2013a) 'History', in Owens, J. (ed.) *The Oxford Handbook of Arabic Linguistics*. Oxford: Oxford University Press.
- Owens, J. (2013b) 'A House of Sound Structure, of Marvelous Form and Proportion: an Introduction', in Owens, J. (ed.) *The Oxford Handbook of Arabic Linguistics*. Oxford: Oxford University Press.
- Palmer, J. (2008) 'Arabic Diglossia: Student Perceptions Of Spoken Arabic After Living In The Arabic-Speaking World', *Arizona Working Papers in SLA & Teaching*, 15, pp. 81-95.
- Pedersen, T.T. (2008) *Transliteration of Arabic*. Available at: http://transliteration.eki.ee/pdf/Arabic_2.0.pdf (Accessed: 28/1/2014).
- Penn, G. and Choma, T. (2006) 'Quantitative Methods for Classifying Writing Systems', *Proceedings of the Human Language Technology Conference of the North American Chapter of the ACL*. New York. New York: Association for Computational Linguistics, pp. 117–120.
- Penn, G. and Choma, T. (2006) *Human Language Technology Conference of the North American Chapter of the ACL*. New York, NY. Association for Computational Linguistics.
- Perfetti, C.A. (1999) 'Comprehending Written Language; A Blueprint of The Reader', in Brown, C. and Hagoort, P. (eds.) *The Neurocognition of Language*. Oxford: Oxford University Press.
- Perfetti, C.A. and Dunlap, S. (2008) 'Learning to Read: General Principles and Writing System Variations', in Koda, K. and Zehler, A.M. (eds.) *Learning to Read Across*

REFERENCES

Languages: Cross-linguistic Relationships in First- and Second-language Literacy Development. London: Routledge

Perry, F.L. (ed.) (2005) *Research in Applied Linguistics : Becoming A Discerning Consumer*. Mahwah, New Jersey: Lawrence Erlbaum Associates, Inc.

Peters, M.L. (1985) *Spelling: Caught or Taught? A New Look*. London: Routledge and Kegan Paul.

Polio, C. (2012) 'How to Research Second Language Writing', in Mackey, A. and Gass, S.M. (eds.) *Research Methods in Second Language Acquisition: A Practical Guide*. Oxford: Wiley-Blackwell, p. pp. 326.

Popham, W.J. (2003) *Test Better, Teach Better: The Instructional Role of Assessment*. Alexandria, Virginia: Association for Supervision & Curriculum Development.

Port, R. and Mitleb, F. (1980) 'Phonetic and Phonological Manifestations of the Voicing Contrast in Arabic-Accented English', *Research in Phonetics*, 1, pp. 137-66.

Pressey, L. and Pressey, S. (1927) 'Illegibilities in the Handwriting of Children and of Adults', *Education Research Bulletin*, (6), pp. 270-273.

Punchihetti, S. (2013) 'First, Second and Foreign Language Learning: How Distinctive Are They From One Another?', *The European Conference on Language Learning 2013*. Brighton, UK. IAFOR Publications.

QSR-international (2014) *Nvivo 10 for Windows*. Available at: <http://www.qsrinternational.com> (Accessed: 1/9/2014).

Rakhieh, B. (2009) *The Phonology of Ma'ani Arabic: Stratal or Parallel OT*. PhD thesis. University of Essex.

Rammuny, R. (1973) 'Individualized Instruction and The Teaching of Arabic Phonology and Script', *Annual Meeting of The Middle East Studies Association 7th*. Milwaukee. pp. 6-26.

Rammuny, R., Scoville, S. and Reading, L. (2011) 'Faculty and Student Perspectives on Language Learning Strategies in the Arabic Classroom', *ISL*. Near Eastern Studies. University of Michigan.

Rammuny, R.M. (1976) 'Statistical Study of Errors Made by American Students in Written Arabic', *Al-cArabiyya*, 9, pp. 75-94.

Rapley, T. (2004) 'Interviews', in Seale, C., Gobo, G., Gubrium, J. and Silverman, D. (eds.) *Qualitative Research Practice*. London: Sage Publications.

Ratcliffe, R. (2001) 'What Do Phonemic Writing Systems Represent? Arabic huruf, Japanese kana, and the Moraic Principle', *Written Language and Literacy*, 4(1), pp. 1-14.

Reichelt, M. (2001) 'A Critical Review of Foreign Language Writing Research on Pedagogical Approaches', *The Modern Language Journal*, 85(iv), pp. 578-598.

REFERENCES

- Reichelt, M., Lefkowitz, N., Rinnert, C. and Schultz, J.M. (2012) 'Key Issues in Foreign Language Writing', *Foreign Language Annals*, 45(1), pp. 22-41.
- Richards, J.C. (1984) 'A Non-Contrastive Approach to Error Analysis', in Richards, J.C. (ed.) *Error Analysis: Perspective on Second Language Acquisition*. London: Longman.
- Richards, J.C., Platt, J. and Platt, H. (1992) *Longman Dictionary of Language Teaching & Applied Linguistics*. London: Longman.
- Richards, K. (2003) *Qualitative Inquiry in TESOL*. Basingstoke: Palgrave Macmillan.
- Richards, K. (2009) 'Interviews', in Heigham, J. and Croker, R.A. (eds.) *Qualitative Research in Applied Linguistics*. Hampshire: Palgrave Macmillan.
- Richards, K., Ross, S. and Seedhouse, P. (2012) *Research Methods for Applied Language Studies: an Advanced Resource Book for Students*. Oxon, UK: Routledge.
- Rinnert, C. and Kobayashi, H. (2009) 'Situated Writing Practices in Foreign Language Settings: The Role of Previous Experience and Instruction', in Manchón, R. (ed.) *Writing in Foreign Language Contexts: Learning, Teaching, and Research*. Bristol: Multilingual Matters.
- Roberts, J. (2005) *Guide to Scripts Used in English Writings Up to 1500*. London: British Library.
- Roberts, L. and Siyanova-Chanturia, A. (2013) 'Using Eye-Tracking to Investigate Topics in L2 Acquisition and L2 Sentence and Discourse Processing', *Studies in Second Language Acquisition*, 35(2), pp. 213-235.
- Rogers, H. (2005) *Writing Systems: A Linguistic Approach*. Oxford: Blackwell.
- Roulston, K. (2013) 'Interviews in Qualitative Research', in Chapelle, C.A. (ed.) *The Encyclopedia of Applied Linguistics*. Oxford: Blackwell Publishing Ltd.
- Ruhman, K.O. (2011) *Arabic as a Second Language: A Study of Student Body Characteristics and Major Influences on Choice and Learning*. Available at: www.docstoccdn.com (Accessed: 11/04/2014).
- Ryan, A. and Meara, P. (1991) 'The Case of the Invisible Vowels: Arabic Speakers Reading English Words', *Reading in A Foreign Language*, 7, pp. 531-531.
- Ryan, A. and Meara, P. (1996) 'A Diagnostic Test for Vowel Blindness in Arabic Speaking Learners of English', <http://www.lognostics.co.uk/vlibrary/> [Online] (Accessed: March 6, 2011).
- Ryan, S. (2009) 'Self and Identity in L2 Motivation in Japan. The Ideal L2 Self and Japanese Learners Of English', in Dörnyei, Z. and Ushioda, E. (eds.) *Motivation, Language Identity and The L2 Self*. Bristol: Multilingual Matters.
- Ryding, K.C. (1991) 'Proficiency Despite Diglossia: A New Approach For Arabic', *Modern Language Journal*, (75), pp. 212-218.

REFERENCES

- Ryding, K.C. (2005) *A Reference Grammar of Modern Standard Arabic*. Cambridge: Cambridge University Press.
- Ryding, K.C. (2013) 'Second Language Acquisition', in Owens, J. (ed.) *The Oxford Handbook of Arabic Linguistics*. New York: Oxford University Press.
- Ryding, K.C. (2014) *Some Key Issues in Learning Arabic as a Foreign Language*. Available at: <http://arabic.georgetown.edu/about/about-arabic/afl/> (Accessed: 23/04/2014).
- Saadah, E. (2011) *The Production of Arabic Vowels by English L2 Learners and Heritage Speakers of Arabic*. PhD thesis. University of Illinois at Urbana-Champaign.
- Sabir, I. and Alsaeed, N. (2014) 'A Brief Description of Consonants in Modern Standard Arabic', *Linguistics and Literature Studies*, 2(7), pp. 185-189.
- Saiegh-Haddad, E. (2013) 'A Tale of One Letter: Morphological Processing in Early Arabic Spelling', *Writing Systems Research*, 5(2), pp. 169-188.
- Salih, A.H. (2012) 'Sound Assimilation in English and Arabic: A Contrastive Study', *Journal of College of Languages, IASJ*, (25), pp. 173-184.
- Samak, M.S. (1998) فن التدريس للتربية اللغوية وانطباعاتها المسلكية وانماطها العملية [The Art of Teaching Language: Its Implications and Practical Approaches]. Dar Alfikr AlArabi.
- Sampson, G. (1985) *Writing Systems*. Stanford, California: Stanford University Press.
- Sasaki, M. (2005) 'The Effect of L1 Reading Processes on L2: A Crosslinguistic Comparison of Italian and Japanese Users of English', in Cook, V. and Bassetti, B. (eds.) *Second Language Writing Systems*. Clevedon: Multilingual Matters Ltd.
- Sassoon, R. (2004) *The Acquisition of A Second Writing System*. Bristol: Intellect Books.
- Saville-Troike, M. (2005) *Introducing Second Language Acquisition*. New York: Cambridge University Press.
- Scholfield, P. and Chwo, G.S.-M. (2005) 'Are the L1 and L2 Word Reading Processes Affected More by Writing System or Instruction?', in Cook, V. and Bassetti, B. (eds.) *Second Language Writing Systems*. Clevedon: Multilingual Matters Ltd.
- Schoonen, R., Snellings, P., Stevenson, M. and Gelderen, A.v. (2009) 'Towards a Blueprint of the Foreign Language Writer: The Linguistic and Cognitive Demands of Foreign Language Writing', in Manchon, R. (ed.) *Writing in Foreign Language Contexts : Learning, Teaching, and Research*. Bristol: Multilingual Matters.
- Schuhmann, K.S. (2012) 'Perceptual Learning in Hindi-English Bilinguals', *Studies in the Linguistic Sciences: Illinois Working Papers*, 2012, pp. 81-99.
- Schwartz, B.D. (1998) 'On Two Hypotheses of 'Transfer' in L2A: Minimal Trees and Absolute LI Influence', in Flynn, S., Martohardjono, G. and O'Neil, W. (eds.) *The Generative Study of Second Language Acquisition*. Mahwah, NJ: Lawrence Erlbaum, pp. 35-59.

REFERENCES

- Seidman, I. (2006) *Interviewing as Qualitative Research: A Guide for Researchers in Education and The Social Sciences*. Teachers College Pr.
- Seifart, F. (2006) 'Orthography Development', in Gippert, J., Himmelmann, N. and Mosel, U. (eds.) *Essentials of Language Documentation*. Berlin: Walter de Gruyter.
- Seliger, H.W. and Shohamy, E. (1989) *Second Language Research Methods*. Oxford: Oxford University Press.
- Selinker, L. (1969) 'Language Transfer', *General Linguistics*, 9, pp. 67-92.
- Selinker, L. (1972) 'Interlanguage', *International Review of Applied Linguistics in Language Teaching*, 10, pp. 209-31.
- Shaalán, K., Aref, R. and Fahmy, A. (2010) 'An Approach for Analyzing and Correcting Spelling Errors for Non-native Arabic learners', *The 7th International Conference on Informatics and Systems (INFOS 2010)*. Cairo. Cairo University.
- Shahata, H. (1978) الأخطاء الإملائية الشائعة التي يقع فيها طلبة الصفوف الثلاثة الأخيرة، من المرحلة الابتدائية: تشخيصها وعلاجها [Common Spelling Errors Made by The Three Last Grades of Primary School: Analysis and Treatment]. MA thesis. Ayn Shams University.
- Shahata, H. (2004) تعليم اللغة العربية بين النظرية والتطبيق [Teaching Arabic Language between Theory and Practice]. Cairo: Addar AlArabiyyah.
- Shalabi, A. (2008) "فن الكتابة وقواعد الإملاء" [The Art of Writing and Orthographic Rules]. Alexandria: Almaktab Aljame'y Alhadith.
- Showalter, C.E. (2012) *The Influence of Novel Orthographic Information on Second Language Word Learning: The Case of Native English Speakers Learning Arabic*. MA thesis. University of Utah.
- Showalter, C.E. (2013) 'Native English Speakers Learning Arabic: The Influence of Novel Orthographic Information on Second Language Phonological Acquisition', *EUROSLA, 2013*. University of Amsterdam.
- Showalter, C.E. and Hayes-Harb, R. (2013) 'Unfamiliar Orthographic Information and Second Language Word Learning: A Novel Lexicon Study', *Second Language Research*, 29(2), pp. 185-200.
- SIL-International (2014) *Arabic*. Available at: <http://scriptsource.org/scr/Arab> (Accessed: 02/07/2014).
- Silva, T. (2005) 'On the Philosophical Bases of Inquiry in Second Language Writing: Metaphysics, Inquiry Paradigms, and the Intellectual Zeitgeist', in Matsuda, P.K. and Silva, T. (eds.) *Second Language Writing Research : Perspectives on the Process of Knowledge Construction*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Silverman, D. (2006) *Interpreting Qualitative Data: Methods for Analyzing Talk, Text, and Interaction*. Sage Publications.

REFERENCES

- Simona, E., Chamblessb, D. and Alvesc, U.K. (2010) 'Understanding the Role of Orthography in the Acquisition of A Non-Native Vowel Contrast', *Language Sciences*, 32(3), pp. 380-394.
- Siok, W.T. (2004) *Reading Development and Disorders*. University of Hong Kong.
- Sirajudeena, A. and Adebisib, A. (2012) 'Teaching Arabic as a Second Language in Nigeria', *Social and Behavioral Sciences*, 66, pp. 126 - 135.
- Siyanova-Chanturia, A., Conklin, K. and Schmitt, N. (2011) 'Adding More Fuel to The Fire: an Eye-Tracking Study of Idiom Processing by Native and Nonnative Speakers', *Second Language Research*, 27, pp. 251-272.
- Smalley, W.A. (ed.) (1964) *Orthography Studies: Articles on New Writing Systems*. London: United Bible Society.
- SOAS (2014) *Arabic at SOAS Language Centre*. Available at: <http://www.soas.ac.uk/languagecentre/languages/arabic/> (Accessed: 24/04/2014).
- Somers, H. (2005) 'Learner Corpora and Handwriting', in Cook, V. and Bassetti, B. (eds.) *Second Language Writing Systems*. Clevedon: Multilingual Matters Ltd.
- Sproat, R. (2000) *A Computational Theory of Writing Systems*. Cambridge University Press.
- Stake, R.E. (1995) *The Art of Case Study Research*. Thousand Oaks, Calif: Sage.
- Stark, J.P. (2010) *Kambari Orthography Design*. SIL International.
- Stevens, J. (1996) 'Asian Calligraphy', in Daniels, P.T. and Bright, W. (eds.) *The World's Writing Systems*. Oxford: Oxford University Press.
- Strauss, A.L. and Corbin, J. (1998) *Basics of Qualitative Research : Techniques and Procedures for Developing Grounded Theory*. 2 edn. Thousand Oaks, Calif: Sage Publications.
- Stubbs, M. (1980) *Language and Literacy: The Sociolinguistics of Reading and Writin*. London: Routledge & Kegan Paul.
- Suleiman, Y. (1991) 'Affective and Personality Factors in Learning Arabic as a Foreign Language: A Case Study', *Al-cArabiyya*, 24, pp. 83-110.
- Sun-Alperin, M.K. (2008) *Cross-Language Transfer of Phonological and Orthographic Processing Skills in Spanish-Speaking Children Learning to Read and Spell in English*. Ann Arbor, Michigan: ProQuest.
- Tagamets, M.-A., Novick, J.M., Chalmers, M.L. and Friedman, R.B. (2000) 'A Parametric Approach to Orthographic Processing in the Brain: An fMRI Study', *Journal of Cognitive Neuroscience*, 12(2), pp. 281-297.
- Taha, H. and Khateb, A. (2013) 'Resolving the Orthographic Ambiguity During Visual Word Recognition in Arabic: An Event-Related Potential Investigation', *Frontiersin Human Neuroscience*, 7(821), pp. 1-12.

REFERENCES

- Taha, H.Y. (2013) 'Reading and Spelling in Arabic: Linguistic and Orthographic Complexity', *Theory and Practice in Language Studies*, 3(5), pp. 721-727.
- Talmy, S. (2010) 'Qualitative Interviews in Applied Linguistics: From Research Instrument to Social Practice', *Annual Review of Applied Linguistics*, 30, pp. 128-148.
- Tan, L.H., Spinks, J.A., Feng, C.-M., Siok, W.T., Perfetti, C.A., Xiong, J., Fox, P.T. and Gao, J.-H. (2003) 'Neural Systems of Second Language Reading are Shaped by Native Language', *Human Brain Mapping*, 18(3), pp. 158-166.
- Tannenbaum, M. (2014) 'With a Tongue Forked in Two': Translingual Arab Writers in Israel', *International Journal of Bilingualism*, 18(2), pp. 99-117.
- Tavakoli, H. (2012) *A Dictionary of Research Methodology and Statistics in Applied Linguistics*. Tehran: Rahnama Press.
- Taylor, I. and Olson, D. (eds.) (1995) *Scripts and Literacy: Reading and Learning to Read Alphabets, Syllabaries and Characters*. Dordrecht, The Netherlands: Kluwer Academic Publishers.
- Treiman, R. (1993) *Beginning to Spell: A Study of First-Grade Children*. New York: Oxford University Press.
- Treiman, R. (2004) 'Spelling and Dialect: Comparisons Between Speakers of African American Vernacular English And White Speakers', *Psychonomic Bulletin & Review*, 11(2), pp. 338-342.
- Tuaimah, R.A. (1987) المرجع في تعليم اللغة العربية للناطقين بلغات أخرى [The Reference of teaching Arabic Language to Speakers of Other Languages]. Makkah Almukarramah: Umm AlQura University.
- Ufot, B.G. (2013) 'A Stylistic Error Analysis of Williams' The Remains of the Last Emperor', *Theory and Practice in Language Studies*, 3(3), pp. 482-491.
- Umar, A. (2013) *The Verbal Groups of English and Arabic: A Comparative Exploration*. Munich: Lincom.
- UNESCO (2013) *World Arabic Language Day*. Available at: <http://www.unesco.org/new/en/unesco/events/prizes-and-celebrations/celebrations/international-days/world-arabic-language-day/> (Accessed: 2/1/2014).
- University, M. (2011) *Department of Arabic Studies*. Available at: http://www.mju.ac.kr/mbs/mjuen/subview.jsp?id=mjuen_020201030100 (Accessed: 10/10/2014).
- Vaid, J. and Gupta, A. (2002) 'Exploring Word Recognition in a Semi-Alphabetic Script: the Case of Devanagari', *Brain and Language*, 81(1-3), pp. 679-690.
- Van-Berkel, A. (2005) 'The Role of the Phonological Strategy in Learning to Spell in English as a Second Language', in Cook, V. and Bassetti, B. (eds.) *Second Language Writing Systems*. Clevedon: Multilingual Matters Ltd.

REFERENCES

- Venezky, R.L. (2004) 'In Search of The Perfect Orthography', *Written Language and Literacy*, 7(2), pp. 139-163.
- Vitae (2013) *Bridging the Languages Divide for Postgraduate Researchers and Early Career Researchers*. Available at: https://www.vitae.ac.uk/events/past-events/vitae-researcher-development-international-conference-2013/workshops/copy17_of_so-youre-new-to-uk-higher-education-institutions (Accessed: 25/04/2014).
- Vitale, R. (2012) 'لماذا نكتب الأرقام بالعربية من اليسار إلى اليمين؟' [Why Do We Write Arabic Numbers Left to Right?], *Ramivitale*. Available at: <http://www.ramivitale.com/?p=133>.
- Wagner, E. (2013) 'Surveys', in Chapelle, C.A. (ed.) *The Encyclopedia of Applied Linguistics*. Oxford: Blackwell Publishing Ltd.
- Wahba, K.M., Taha, Z.A. and England, L. (eds.) (2006a) *Handbook for Arabic Language Teaching Professionals in the 21st Century*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Wahba, K.M., Taha, Z.A. and England, L. (eds.) (2006b) *Handbook for Teaching Arabic Language Professionals in the 21st Century* Mahwah, NJ: Lawrence Erlbaum Associates.
- Walkova, M. (2013) *Foreign Languages in the Academic Environment*. Technical University of Kosice.
- Wang, L. (2003) 'Switching to First Language Among Writers with Differing Second-Language Proficiency', *Journal of Second Language Writing*, (12), pp. 347-375.
- Watson, J.C.E. (2002) *The Phonology and Morphology of Arabic*. New York: Oxford University Press.
- Weideman, A. (2006) 'Overlapping and Divergent Agendas: Writing and Applied Linguistics Research', in Van Der Walt, C. (ed.) *Living Through Languages: An African Tribute to René Dirven*. Stellenbosch: AFRICAN SUN MeDIA.
- Weir, C.J. (1993) *Understanding and Developing Language Tests*. Hertfordshire: Prentice Hall Europe
- Weir, C.J. (2005) *Language Testing and Validation: an Evidence-Based Approach*. Palgrave Macmillan.
- Whitaker, B. (2002) 'Lost in Translation', *The Guardian*(edn), Monday 10 June 2002. [Online] Available at: <http://www.theguardian.com/world/2002/jun/10/israel1> (Accessed: 1/11/2014).
- Wightwick, J. and Gaafar, M. (2005) *Mastering Arabic Script*. London: Palgrave Macmillan.
- Wilkinson, D. and Birmingham, P. (2003) *Using Research Instruments: a Guide for Researchers*. London: Routledge.
- Winke, P.M., Godfroid, A. and Gass, S.M. (2013) 'Introduction to The Special Issue', *Studies in Second Language Acquisition*, 35(02), pp. 205-212.

REFERENCES

Yeni-Komshian, G.H., Caramazza, A. and Preston, M.S. (1977) 'A Study of Voicing in Lebanese Arabic', *Journal of Phonetics*, 5, pp. 35-48.

Yokoyama, S., Kim, J., Uchida, S., Miyamoto, T., Yoshimoto, K. and Kawashima, R. (2013) 'Cross-Linguistic Influence of First Language Writing Systems on Brain Responses to Second Language Word Reading in Late Bilinguals', *Brain and Behavior*, 3(5), pp. 525-531.

Yourcounciljobs.co.uk (2014). Available at: www.yourcounciljobs.co.uk (Accessed: 14/4/2014).

Youssef, I. (2013) *Place Assimilation in Arabic: Contrasts, Features, and Constraints*. PhD thesis. University of Tromsø.

Zayed, F. (2006) الأخطاء الشائعة النحوية والصرفية والإملائية [Common Grammatical, Morphological, and Orthographical Errors]. Amman: Dar Alyazoury.

Ziegler, J.C. and Goswami, U. (2005) 'Reading Acquisition, Developmental Dyslexia, and Skilled Reading Across Languages: A Psycholinguistic Grain Size Theory', *Psychological Bulletin*, (131), pp. 3-29.

APPENDICES

Appendix 1 (Consent Form - 2 pages)

Information for the study participant

Dear participant,

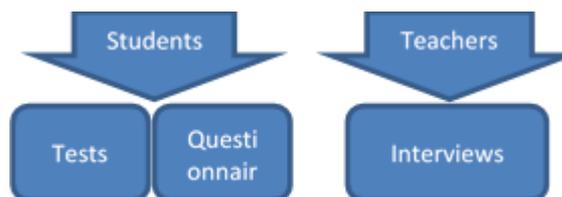
I'm a PhD student at Newcastle University. My research proposal focuses on English-speaking learners of Arabic as a second language. In particular, it is concerned with their writing errors. So I proposed to conduct a study that discloses the learners' errors and the error patterns trying to identify reasons of making them which might guide later to different teaching approaches to overcoming the difficulties behind making the errors.

My Thesis question is 'what are the common errors which English-speaking learners make in writing Arabic as L2? And why?'

To answer the question, I intend to collect data from learners and teachers of Arabic. The data entails set of writing tests, questionnaire and interviews.

Data-collection procedures

I plan to collect writing tests from intermediate students who have enough, but not perfect, information and ability to write in Arabic. The whole collection period takes two weeks as follows:



The data will be collected in two sessions each week. The OET will firstly be taken in 1 session. The Dictation & MCT will be taken in another session during the first week. In the week2, the Questionnaire will be collected on the internet, whereas the Interviews will follow to collect teachers' opinions.

Ethical considerations

It is VERY important to know that the collected information **will stay confidential** as the consent form clearly explains. These tests as well as the questionnaire will not affect any aspect of your study and will not be seen by any teacher of your institution. The participants' names and personal information as well as their test results **will be entirely anonymous**.

Your questions are welcome!

Hisham Alkadi
Email: Hisham.alkadi@ncl.ac.uk
Address: 2.34 KGVI
King George VI Building
School of ECLS, University of Newcastle
NE1 7RU

NEWCASTLE UNIVERSITY

School of Education, Communication and Language Science

Participant Consent Form
to participate in the PhD Research
‘English Speakers’ Errors in Writing Arabic as L2’

Thank you for agreeing to take part in this research.

The researcher has provided a written document (entitled ‘Information for the study participant’) for you to read before you agree to take part. If you have any questions arising from this, ask the researcher before you decide whether to take part. You will be given a copy of this consent form to keep.

I confirm that I have read the statement provided for the above research project and have had the opportunity to ask questions.

I understand that my participation is voluntary and that I am free to withdraw from the project at any time, without needing to give a reason.

I understand that whether I participate or not will have no effect on my grades/assessment.

Name of participant Date Signature Email

Hisham Alkadi
Researcher _____
Date Signature

One copy to the participant and one to the researcher

Appendix 2 OEET

Open-ended essay

Write a short article (250-300 words) to describe what you did last summer. You have 35 minutes to finish the task.

اكتب مقالة قصيرة (250-300 كلمة) تصف فيها كيف قضيت فصل الصيف الماضي. لديك 35 دقيقة فقط لإنهاء هذه المهمة.

Appendix 3 (MCT - 5 pages)

تدريب لغوي (اختيار من متعدد MC test)

- This is a multiple-choice test. You have three choices for each of 30 questions (across 6 pages). Please circle the correct choice to fill the gap in brackets for each sentence/question.
- You have 30 minutes to complete the task.
- Look at this EXAMPLE: 

• ضع دائرة حول الاختيار الصحيح (أ، ب أو ت) ليملاً الفراغ فيما بين الأقواس في كل جملة من الجمل الثلاثين التالية (في 6 صفحات).

• مدة التدريب 30 دقيقة فقط (بمعدل دقيقة لكل سؤال).

• انظر هذا المثال:

* من (...) الاتفاق على نقاط مشتركة عند النقاش.

أ- المهم

ب- المصم

ت- المهم

===== Now Start The Task =====

1. حضارات عريقة وكبيرة قامت على ضفتي البحر (...).

أ- المتوسط

ب- المتوسط

ت- المتوسط

2. في تعليق على رسالة الطالب العلمية، (...) المشرفة: إن عمله مميز.

أ- قاله

ب- قالت

ت- قاله

3. هناك العديد من المزارع التي تنتج عسلأ (...).

أ- طبيعياً

ب- تبيحياً

ت- دبيحياً

4. أسقطت الثورة المصرية نظام الرئيس (...). مبارك.

أ- حصني

ب- حسني

ت- حسني

5. رئيس الولايات المتحدة الحالي هو باراك (...).

أ- أوباما

ب- أباما

ت- أوباما

6. موسم الهجرة إلى الشمال رواية عربية شهيرة كتبها الروائي الطيب (...).

- أ- صالح
- ب- سالح
- ت- صالح

7. من (...) للاهتمام الشهرة العالمية التي اكتسبتها الرواية.

- أ- المثير
- ب- المثيل
- ت- المسيل

8. (...) مركز التنمية العربية تقريره السنوي.

- أ- إصدر
- ب- اصدر
- ت- أصدر

9. عقد مجلس الأمن (...) طارئاً.

- أ- أجمعاً
- ب- اجتماعاً
- ت- إجتماعاً

10. يرى المسلمون أن الدين (...) هو أسلوب حياة كامل.

- أ- الاسلامي
- ب- الإسلاميين
- ت- الأسلامي

11. مستوى التعليم منخفض حتى (...) في البلدان العربية.

- أ- آلان
- ب- الآن
- ت- الآن

12. ارتفع معدل الاستهلاك بشكل (...).

- أ- صخم
- ب- ضخم
- ت- ضخم

13. الاهتمام بالآخرين (...). صفات المواطن الصالح.

- أ- فن
- ب- فن
- ت- فن

14. وجود تصورات مسبقة عن النساء المسلمات لا يعني أن كل (...). صحيحة.

- أ- الافتراضات
- ب- الافتراضات
- ت- الافتراضات

15. طرقت الباب فَرَدَّتْ (...). ربة البيت.

- أ- السيده
- ب- السيده
- ت- السيدة

16. (...). الاهتمام كثيراً بالشرق الأوسط منذ احتلال فلسطين.

- أ- زاد
- ب- ذاد
- ت- زار

17. أصبح البحث عن عمل ثان (...). متزايدة.

- أ- ضاهرة
- ب- ظاهرة
- ت- صاهرة

18. لدى كثير من الشعوب تاريخ (...). عريق.

- أ- موسيقي
- ب- موسيقي
- ت- موسيقي

19. كتابة (...). فن من الفنون الأدبية.

- أ- المقالة
- ب- المقالة
- ت- المقالة

20. (...) صديقي جيرانه على العشاء.

- أ- استضاف
- ب- استظف
- ت- استضاف

21. (...) الصورة جميل.

- أ- إطار
- ب- إطار
- ت- إطار

22. أثرت (...) في العراق على الفنون الأدبية بشكل عام.

- أ- الحرب
- ب- المحرب
- ت- الحرب

23. رغبت مجموعة من (...) الاسرائيليين في إعادة البناء.

- أ- المستوطنين
- ب- المستوطنين
- ت- المستوطنين

24. أعلن رئيس السلطة (...) وقف المفاوضات.

- أ- الفلسطينية
- ب- الفلسطينية
- ت- الفلسطينية

25. موعدى مع طبيب الأسنان الساعة التاسعة صباح (...) الأربعاء.

- أ- يوم
- ب- يوم
- ت- يوم

26. سجل فريق نيوكاسل ضد خصمه (...) الفوز.

- أ- هدف
- ب- هدف
- ت- هدف

27. الامتحان النهائي (... النجاح أو الفشل).

- أ- يحدد
- ب- يحدد
- ت- يحدد

28. وضعت الكتب (...) طاولة المكتب.

- أ- على
- ب- على
- ت- على

29. تلك هي الأشجار (...) بمزرعتنا.

- أ- المحيطة
- ب- المحطة
- ت- المحطة

30. تحدثت مع (...) مدير المكتب.

- أ- السيد
- ب- السيد
- ت- السيد

Appendix 4 (Dictation - 3 pages)

إملاء

- 1- تحدثت الوزيرة المُقالة في الهند عن تقصيرها الشديد.
- 2- الطبيب حامد في الغرفة مع بنت مريضة.
- 3- لعل الجامعة تساهم في التخطيط لمستقبل مثير.
- 4- الباب مفتوح للمفاوضات المستمرة دائماً.
- 5- صالح وسالم صديقان التقيا لأول مرة في مقهى.
- 6- فهمت من معلم العربية أن الضمة حركة لا حرف.
- 7- لا تنتظر الحظ ولكن ابحث عن الفرصة.
- 8- الورد مبعوث الحب كما أن الشمس دليل النهار.
- 9- النجار يعمل بالخشب والحداد يعمل بالحديد.
- 10- وضعت بعض المال في ظرف وتبرعت به.
- 11- زاد وقت الاجتماع ساعة إضافية.
- 12- أحمد نظيف أحد المسؤولين السابقين في مصر.
- 13- انتظر الممثلون دورهم حتى انتهت فقرة الموسيقى.
- 14- الإشارات توحى بأن الجنين لا بأس به.
- 15- يصل اللبن كل يوم قبل أن يطلع الفجر.
- 16- بدأت الانتفاضة الفلسطينية بحجر.
- 17- اللحم يشوى على الفحم في ليل ليس له مثيل.
- 18- تأمل ذلك النجم الجميل في السماء.
- 19- مثنى بن حارثة أحد أشهر قواد المعارك.
- 20- أقيم بالأمس أمسية مفتوحة لدعم ذلك البلد.
- 21- المديرية هدى مرتبطة باجتماع آخر.
- 22- يستجير العاجز بالقادر ليساعده.

إملاء Dictation

You will listen to 22 full sentences. Each one will begin with its number. **Write what you hear in the box as you listen.** You will listen to the recorded voice twice. You have **50 minutes** to complete this task.

ستستمع إلى 22 جملة كاملة. تبدأ كل واحدة منها بالرقم الخاص بها. في هذه الورقة 22 صندوقاً مرقماً. اكتب ما تسمعه في الصندوق المخصص له. ستستمع إلى الصوت المسجل مرتين فقط. لديك 50 دقيقة لإتمام هذه المهمة.

	1
	2
	3
	4
	5
	6
	7
	8
	9
	10

APPENDICES

	11
	12
	13
	14
	15
	16
	17
	18
	19
	20
	21
	22

Appendix 5 (Questionnaire – 9 pages)

Introduction and Instructions

This survey

This survey is part of a PhD study on writing Arabic as a second language. The researcher aspires to identify the difficulties that the English-speaking learners particularly encounter while composing in Arabic. The results of the study would probably ease those difficulties by determining the linguistic reasons that emerge from shifting to a different writing system.

As this survey is being conducted on-line, we hope that this session will be as interactive as possible and should be viewed as a time to share your information, ideas and difficulties. Please note that in no way will any of the information received on this affect your study status. Please be assured that the information you provide here will be anonymously analysed and namelessly presented. If you like to receive the results of this survey please leave your email at the end of the survey. **All information provided will remain confidential.** Please do not hesitate to contact me for any concerns with the survey.

Instructions for Completing the Survey

This survey should not take too long as it includes only twenty seven questions. It is presented in five pages (including this one) and divided into three sections: Language history and proficiency, Arabic writing, and other information. Each section has different number of questions and each question has different choices or styles. Most of the questions are 'required questions' (need to be answered before moving on). Required questions are marked with asterisk (*). Most the questions can be answered by selecting a choice but a few questions are open-ended and need to be answered by typing some words. Once you start the survey, please complete each page before moving to the next. You are allowed to change/edit your answers afterwards. Please **do not refresh** the page as this may result in starting over with no answers saved.

The researcher is doing his PhD study at Newcastle University under supervision of Professor Vivian Cook, and can be contacted as follows:

Hisham Alkadi

Email: Hisham.alkadi@ncl.ac.uk

Address: 2.34 KGV I

King George VI Building

School of ECLS, University of Newcastle

Queen Victoria Road

Newcastle upon Tyne

NE1 7RU

Participant Consent Form

Please read carefully

It is VERY important to know that the collected information will stay confidential. The questionnaire will not affect any aspect of your study and will not be seen by any colleague or teacher at your institution. The participants' names and personal information as well as their results will be entirely anonymous.

Please be informed that your participation is voluntary and that you are free to withdraw from the project at any time, without needing to give a reason. Although your participation is highly appreciated, whether you participate or not will have no effect on your grades/assessment.

* Please tick the box below as **this is your consent to take part in the survey.**

I confirm that I have read the statement provided above for the research project and I agree to complete the survey.

Language History & Language Proficiency

Please list all the languages you know **in order.**

* First Language

* Second Language

Third Language (if available)

Fourth language (if available)

*Your native language is:

English

Other - please specify

*How did you **mainly** learn Arabic up to this stage?
(please check all that apply)

APPENDICES

- Formal classroom instruction
- Interacting with people
- Self-study

*Have you ever been to an Arabic speaking country?

- Yes
- No

If yes, please specify for how long (in months)

* Please specify the age at which you started to learn Arabic

- 0-12
- 13-18
- 19-40
- 40>

* Please provide the age at which you specifically started to *write* in Arabic

- 0-12
- 13-18
- 19-40
- 40>

*After how many years of your Arabic study were you able to start *writing* in Arabic?"

- Less than one year
- 1-2
- 2-3
- 3-5
- more than five years

* On a scale from (very poor) to (very good), please select your **Arabic level-of-proficiency** in speaking, reading, listening and writing

	Very Poor	Poor	Fair	Functional	Good	Very good
Speaking-(Spoken Interaction)	<input type="radio"/>					
Speaking-(Spoken Production)	<input type="radio"/>					
Reading	<input type="radio"/>					
Listening	<input type="radio"/>					
Writing	<input type="radio"/>					

APPENDICES

If there anything that you feel is interesting or important about your Arabic language-background or language-use, please comment below

Arabic writing

* How do you find writing Arabic letters?

- Very Easy
- Easy
- Neutral
- Difficult
- Very Difficult

* In your opinion, what are the most difficult Arabic letters to write? Please tick all that apply up to 10 letters.

If non of them is difficult, please tick (i don't find any of them difficult to write).

- | | | |
|----------------------------|---|----------------------------|
| <input type="checkbox"/> أ | <input type="checkbox"/> ب | <input type="checkbox"/> ت |
| <input type="checkbox"/> ث | <input type="checkbox"/> ج | <input type="checkbox"/> ح |
| <input type="checkbox"/> خ | <input type="checkbox"/> د | <input type="checkbox"/> ذ |
| <input type="checkbox"/> ر | <input type="checkbox"/> ز | <input type="checkbox"/> س |
| <input type="checkbox"/> ش | <input type="checkbox"/> ص | <input type="checkbox"/> ض |
| <input type="checkbox"/> ط | <input type="checkbox"/> ظ | <input type="checkbox"/> ع |
| <input type="checkbox"/> غ | <input type="checkbox"/> ف | <input type="checkbox"/> ق |
| <input type="checkbox"/> ك | <input type="checkbox"/> ل | <input type="checkbox"/> م |
| <input type="checkbox"/> ن | <input type="checkbox"/> هـ | <input type="checkbox"/> و |
| <input type="checkbox"/> ي | <input type="checkbox"/> I don't find any of them
difficult to write | |

Why do you think that?

APPENDICES

* How do you find joining Arabic letters to compose a word?

- Very Easy
 Easy
 Neutral
 Difficult
 Very Difficult

* How do you find writing from right to left while your first language is in the opposite direction?

- Very Easy
 Easy
 Neutral
 Difficult
 Very Difficult

* Considering your own Arabic writing, please specify the degree of frequency from (never occurred) to (always there) for each type of errors listed here.

	Never occurred	less common	common	Most common	Always there
Letter shape (I can't differentiate between the THREE letter shapes in the beginning, middle and end)	<input type="radio"/>				
Connecting the letter to its sound	<input type="radio"/>				
Direction (I'm confused when writing from right to left)	<input type="radio"/>				
Orthographic errors (glottal stop الهمزة, open or closed Taa ت/ة etc.)	<input type="radio"/>				
Letter size(I mistakenly write letters in different sizes)	<input type="radio"/>				
Insertion (I add unnecessary letters)	<input type="radio"/>				
Letter dots (I forget/add extra dots)	<input type="radio"/>				
Missing letter (I forget writing some letters in a word)	<input type="radio"/>				
Gemination/Shadda (I write two letters instead of one)	<input type="radio"/>				
Letter teeth (I forget/add extra letter teeth)	<input type="radio"/>				
Some letters look like English letters	<input type="radio"/>				
Letter substitution (I think of a letter but write a different one)	<input type="radio"/>				

APPENDICES

* Do you have difficulties in writing letters at first, middle or end of a word as of the letter ح in حب، بحث، فصيح ؟

Yes

No

* The writing difficulties emerge from the fact that

there are different Arabic speakers (different spoken Arabics)

Arabic is a completely different writing system

English is somehow interfering with Arabic

Other reason? please specify

* Please show your opinion by selecting the appropriate choice

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I get confused because of similarities between some English and Arabic letters.	<input type="radio"/>				
I find it difficult to write from right to left.	<input type="radio"/>				
I confuse the sounds that go with some letters.	<input type="radio"/>				
I can mostly put letter dots in their correct position.	<input type="radio"/>				
I find no difficulty with writing الهمزة (Al-hamza) in its correct place.	<input type="radio"/>				
I can write the correct form of the letters according to their position in the word.	<input type="radio"/>				

* How often do you check the spelling of an Arabic word while you are writing in Arabic

Never

Less often

Often

More often

Always

* Normally, what sort of way do you follow to check spelling?

Please tick all that apply

Word-processor applications

Arabic-English dictionaries

Asking a teacher or a friend

other? please specify

The last part

Please note again that all information you provide will remain confidential.
This is the last page of the survey.

* Have you taken the writing tests which are part of this study and were done by the researcher in your institution?

- Yes
- No

If yes, please provide your test number (the number the researcher gave you to put at the top of the pages)

* At what level are you studying Arabic in your institution?

- Beginner levels
- Intermediate levels
- Advanced levels

* Sex

- Male
- Female

* Age 18-25 26-35 36-45 45>

* Education High school College-graduate school Masters PhD

*Country of origin:

- UK
- English-Speaking Country
- Other - please specify

APPENDICES

Are there any suggestions or notes you could add?

Your name and contact information

These will only be used within the research to distinguish one person from another and **will not be given in any reports of the research**

First name

Last name

Email address (if you like to have the questionnaire results later)

I'd like to thank you very much for giving time and effort to completing the survey which will be of great benefits to my study. **I really appreciate it.**

Hisham

Appendix 6 (Interview – 5 pages)

Participant No.

مع معلمي اللغة الغربية لغير الناطقين بها مقابلة

Interviewing teachers of Arabic to non-Arabic speakers

إحدى أدوات البحث المستخدمة في دراسة أخطاء الكتابة بالعربية كلغة ثانية لدى المتحدثين باللغة الإنجليزية
One of several research instruments used to study the English speakers' common errors in writing Ar.

Checklist preparation

تمهيد
✓

Informal seating	تهيئة الجلسة
About the researcher	عن الباحث
Univ. & supervisor	عن الجامعة والمشرف
The research purpose	عن البحث : الفرضية والهدف
Why interviewing him/her?	لماذا المقابلة؟ ولم هو بالذات؟
Why using a voice-recorder?	لم استخدام التسجيل الصوتي؟
How the interview works?	أنواع أسئلة المقابلة وكيفية الإجابة
Interview confidentiality	سرية المقابلة بالكامل
Signing the consent form	توقيع الموافقة الاختيارية
Would you have a copy of the results?	نسخة من نتائج الدراسة؟

- + Closed and open questions.
- + No time limit for answering.
- + The question can be repeated many times.
- + The interview would take up to one hour.

+ الأسئلة المغلقة = إجابات محصورة وقد تتضمن طلب مزيد من الشرح
+ عندما لا تستطيع تحديد إجابة مكتوبة مسبقاً أعط إجابة تتضمن الأعم أو الأغلب أو
+ الأسئلة المفتوحة = لا يوجد اختيارات. أضف انطباعاتك الشخصية وتفسيراتك العله
+ لا وقت محدد للإجابة على الأسئلة المفتوحة.
+ سأحاول إدارة الوقت بالشكل المناسب لإنهاء المقابلة في المدة المحددة.
+ عندما لا تفهم السؤال! أعيد لك السؤال مرة أخرى ثم تكرم بالإجابة حسب فهمك.
+ مدة المقابلة ساعة واحدة فقط

1 The interviewee

Arabic dialect

أولاً: المقابل

1 اللهجة العربية

شمال أفريقيا N/Africa	شمال الجزيرة العربية N/Arabic peninsula	مصري(ة) Egyptian	خليجي(ة) Gulf
Sex	الجنس	2	
Female	Male		

APPENDICES

Age					العمر	3
	60+	50+	40+	30+	+20	
Education					التعليم	4
	+	PhD دكتوراه	MA ماجستير	BA بكالوريوس	-	
Languages (apart from Ar)					اللغات غير العربية	5
					اللغة	Language
					المستوى	Level
						1Beg-5Ad
Specialisation					التخصص العلمي	6
					لغة عربية ArLan	Linguistics لغويات
Specialisation					التخصص الدقيق	
Publications					أبحاث منشورة	7
					لا	No
					نعم	Yes
Job position					مسمى الوظيفة	8
	Researcher باحث	Academic staff أستاذ جامعي	Teaching staff معلم			
Job experience					مدة العمل في الوظيفة	9
	+8	8-4	4-2	2-1	1-	
2 Teaching Experience					ثانياً: تجربة التعليم	
Teaching Ar as L2					خبرة تعليم العربية كلغة ثانية	10
	+8	8-4	4-2	2-1	1-	
Levels					خبرة التعليم للمستويات اللغوية	11
	All جميع المستويات	Adv. المتقدمة	Inter. المتوسطة	Beg. الأولية		

APPENDICES

Teaching writing	تعليم الكتابة	12
+4	4-2	2-0
Yes نعم	No لا	(17 ←)

Teaching writing method	ما الطريقة التي استخدمتها في تعليم الكتابة	13
لا يوجد طريقة محددة (← 16)	طريقة خاصة Specific method	By the book حسب المنهج
كيف؟ How?		

Your assessment of that method	كيف تقيم هذه الطريقة؟ (1=سيء، 5=ممتاز)	14
Good 5	4	3
		2
		Bad 1

Please explain	اشرح من فضلك	15
----------------	--------------	----

Students assessment of that method	كيف يتقبل الطلاب هذه الطريقة في رأيك	16
Good 5	4	3
		2
		Bad 1

Please explain	اشرح من فضلك	17
----------------	--------------	----

What are the Arabic writing difficulties?	ما هي الصعوبات في كتابة العربية كلغة ثانية؟	18
---	---	----

What are the writing difficulties of the Ar system for English speakers?	ما الصعوبات المتعلقة بنظام الكتابة العربية الخاصة بالطلاب متحدثي الإنجليزية؟	19
--	--	----

20 هل سبق لك تدريس كتابة العربية لغير متحدثي الإنجليزية؟
 Have you taught Ar writing for non- En speakers?
 نعم Yes لا (20 ←) No

21 ما هي الاختلافات بين الطلاب المتحدثين بالإنجليزية وغيرهم في كتابة العربية؟
 What are the differences between English speakers and others?

3 Your observations

ثالثاً: ملاحظتكم

22 ما نوع الأخطاء الكتابية الشائعة لدى الطلاب في رأيك؟
 What sort of errors do learners make?
 إملائية. Orthog. نحوية. Gram. صوتية. Phono.

23 ما الأنواع الشائعة من الأخطاء الإملائية لدى الطلاب في رأيك؟
 What sort of common orthographic errors do learners make?

بمكان الحرف	بصوت الحرف	بشكل الحرف	بالأسنان	متعلقة بالنقاط
بالمزات	إضافة حرف	نسيان حرف	بالتشديد	بالاتجاه

متعلق باللغة الأولى

تعليق إضافي؟ Additional comment?

What influences have you noticed from their L1(Eng) while writing Ar?	هل لاحظت(ي) تأثير الطلاب بلغتهم الأولى (الإنجليزية) أثناء كتابتهم بالعربية؟	24
	How? كيف؟	No لا
		Yes نعم
Have you noticed any direction problems?	هل لاحظت(ي) أخطاء متعلقة بالاتجاه أثناء كتابتهم بالعربية؟	25
	How? كيف؟	No لا
		Yes نعم
Do learners find some letters easier than others?	هل يوجد حروف أو كلمات أسهل من أخرى في الكتابة بالنسبة للطلاب الإنجليز؟	26
	How? كيف؟	No لا
		Yes نعم
What errors are easily overcome?	ما الأخطاء التي يتجاوزها الطلاب بسهولة؟	27
What errors are <i>not</i> easily overcome?	ما الأخطاء التي يصعب على الطلاب تجاوزها؟	28

4 Your opinions

رابعاً: آراؤكم

Why do learners misdot letters?

29 لماذا يخطئ الطلاب في كتابة النقط؟

Why do learners mistake letter teeth?

30 لماذا يخطئ الطلاب في كتابة الأسنان؟

Why do they mistake letter size and shapes?

31 ما أسباب أخطائهم في شكل أو حجم الحرف؟

Why do phonologic errors occur?

32 ما أسباب الأخطاء الصوتية؟

APPENDICES

Any difficulties because of different
Ar dialects?

33 هل هناك أي صعوبات كتابية ناتجة عن اختلاف
اللهجات العربية؟

What are the reasons for letter substitution?

34 ما الأسباب لاستبدال الحرف بحرف آخر؟

What are the reasons for letter omission?

35 ما الأسباب لحذف أحد الحروف داخل الكلمة؟

What are the reasons for letter insertion?

36 ما أسباب إدخال حرف خاطئ؟

What are the reasons for errors in
gemination (Al-shadda)?

37 ما سبب الخطأ في الحرف المشدد؟

What are the reasons for errors in *Alhamza*?

38 ما سبب الخطأ في كتابة الهمزات؟

Do En speakers share the same *Alhamza* errors with natives?

39 هل يشارك الطلاب الإنجليز الأخطاء نفسها لدى الطلاب العرب في كتابة الهمزات؟

Do En speakers share other errors (apart from *Alhamza*) with natives?

40 هل يشارك الطلاب الإنجليز الطلاب العرب في أخطاء أخرى (غير الهمزات)؟

What are the reasons for errors in direction?

41 ما سبب الخطأ في الاتجاه من اليسار إلى اليمين؟

أسباب تعليمية Teaching أسباب سياقية (اللغة الأولى) Context reasons L1 أخرى Other reasons
اشرح من فضلك Explain please

To what extent does the L1 influence occur?

42 ما مدى التأثير باللغة الإنجليزية أثناء كتابة العربية؟

What are the reasons for L1 influences?

43 ما أسباب ذلك التأثير أثناء كتابة العربية؟

Do Ar/ En dictionaries help?

هل تساعد القواميس العربية في تعليم الكتابة
الصححة؟ 44

Can teaching methods be developed to
overcome these difficulties/errors?

هل يمكن تطوير طرق التدريس لتجاوز هذه
الأخطاء؟ 45

Based on your experiences and
observations, would you add comments?

ما الذي يمكن أن تضيفه من خلال خبراتك
ومشاهداتك؟ 46

Appendix 6 (Interview Transcript Example – 6 pages)

Research- Hisham Alkadi. English speakers learning Arabic Writing.

Data Collection- Interviews. Transcript of interview No.6

Q- Among these years of teaching, have you taught writing Arabic?

Writing Arabic has been one of my own personal weaknesses, because I never really learn الخط in that sense. I can tell you what mistakes students make and I still make those mistakes as well, you know the orthographic mistakes, همزة is a disaster. Yeah those sort of things has been a problem for me. Also, I don't know if this is relevant but when we are writing there's also psychologically we do the wrong thing. I've been told this afterward because some Arab teachers would see me write and they are saying you are drawing the letters, which is true! I'm drawing the letters rather than writing in that sense. So ... for example if you're writing بسم الله الرحمن الرحيم that's good you are doing this. As soon as you put the حركات you are doing them the other way around. So I'm going right to left like this and then the Harakas I'm doing it this way (left to right). Yeah left to right. That's a very common mistakes apparently.

Q- Is it persistent?

Very persistent, not just me. Many of the students is hard for them to think that way because with Harakat. Obviously the نقطة is fine because it's just a dot, you just need to do it like that. Even dots sometimes they are doing it this way. Left to right (in filling the word dots). That's something mostly most of my students have been doing this even if they read Quran from childhood.

Q- So you've taught writing?

I did but even me I make mistakes. ... I can copy but I can't naturally write like this in that style. I'm actually drawing it. So copying is fine, but if you told me [his name] do some إملاء is a lot more difficult for me.

Q- When you teach writing, do you have like textbook to go with or you have your own way?

No we've got books. So initially, obviously because we are learners as well, most of the books that we learn... Obviously age difference as well. Now you've got something like Al-Kitab which is very good that at least teaching writing at the beginning. The older books didn't have writing. They just have the ... they show you how to put the letters together. Now when we are teaching this stuff it's a lot easier for the students definitely. But again making sure that the writing flowing and also the direction we do tend to fall. It depends on where (the backgrounds). I think the more writing that's given, I think it has to be especially here some level of writing probably a few months of writing would help anywhere in the West where Arabic is taught. And I saw that advantage, one of my colleague used to study in Syria and he did خط and his handwriting is like that, which I wish I could have that handwriting.

Q- From all of these experiences learning and teaching Arabic writing, what is the most beneficial and the best way to teach writing?

The best way to teach writing is to show writing properly. I think video footage is very good when you get these **خطاط** videos at least they're learning how to do that. I'm thinking with homework, sometimes we ask them to write essays or write something on a paragraph and then type it up. Instead of typing, I think is better just write by hand. That's what I feel. I can type in Arabic!

Q- So it's easier for you to type?

Oh yeah, I can type as fast as I type in English. ...

Q- Can you explain why? Typing is much easier than writing

Whoever designed the Arabic type I think he was a genius! Honestly, why I say this. It's even better than the English one. Tell me to write something in Arabic and I'll just type.... (He was so fast!). Now the key thing is **م** and **ن** are together, **ا** and **ل** are together, the most common in Arabic, I just think it's brilliant the way they have done it. I mean I probably type faster than I type in English.

Q- What about handwriting?

I'll show you some students' handwriting. Now you can see this drawing style. Now that (pointing to another paper) is Urdu influence.

Q- How can you say?

Because they do the small ha' and numbers wise. So this one has got a nice handwriting, but still is Naskh Hindi. English student, this one is very good... And you can see here this Urdu style, tilted and carved.

Q- Do they come from Urdu background?

Yes, Pakistani.

Q- Do you think it's easier for them to write Arabic than English people?

Yes, definitely. They'll find it far more easier to write. ...

Q- So Dr. ..., writing Arabic as L2, what are the difficulties that English speakers face?

I think is remembering how the letter change: initial, medial, final. Those sort of things are the things they make mistakes on, especially when it comes to dictation. If they are just coping that's fine. Obviously the Hamza is hard and sometimes they do a lot of mistakes on **التاء المربوطة**, because is not pronounced at the end of the sentence like **مكة، المدينة**.

Q- Have you seen any differences between English speaking learners and other learners from different backgrounds who learn Arabic at the same time?

At the initial stages, those who've read the Quran before. We used to read the Quran obviously there's no meaning but still we read it. We have that advantage and we can see this in the beginners that they can read this Arabic style. Now that's very hard for those who've never come across Arabic from non-Muslim backgrounds specially.

Q- But if we focused on writing itself.

Yeah, writing is very difficult because of right to left, your mind is not switched to that. I'm actually writing this way. When you read the Quran, There's thousands in Bangladesh يحفظون القرآن, if you said كيف حالكم to them they'll just be (silence)... so when the students are coming new is very hard sometimes they give up. Arabic writing is easier, I have to say definitely easier than Chinese, Bangladesh and Sanskrit. So in that sense I'd say Arabic is faster to write as well, that's another thing. If they learn sometimes dictation in Arabic is easier than it is in English, because its cursive it's like is shorthand. That's my experience. I'd say students do have a confidence in learning Arabic as well. Another thing is, there's enjoyment in writing Arabic as well, because it's artistic. So it's an exciting thing ... but still there's the mistakes so ع may give them a problem and ح that one when they try to do like this (Watch the recording) when they writing محمد like that they sometimes find it difficult if they are doing نحمده. Another thing, the Nogtas! They forget the Nogtas a lot.

Q- If you think about the common error types like phonological errors or grammar ... I'm focusing on orthographical errors but...

Another thing is the vowelizing as well like ألف الوقاية they don't understand if they're hearing it like ذهبوا they have to conceptualise that there's an 'alif after the وا even that wasn't there before in the present form يذهبون so there's that sort of stuff as well. A lot of mistakes obviously after أن الناصبة.

Q- What about the letter shape, how it's written?

Kaf sometimes gives a difficulty...

Q- Does the variation of the خطوط العربية does it have any influence on them I mean positively or...

I'd say رقعة is the one they follow...

Q- But if they saw Arabic in Riq'a and then Arabic in Naskh and then Arabic in Thuluth...

It would complicate it... Also دال they make mistakes in terms of joining so they forget that these الأحرف المستبعدة stubborn letters... what they try to do with the دال they'd connect the دال to the next letter as in بدل it would be بلال. So دال and ذال.

Q- Do they have any problems with the teeth?

Yes they do س and also ت and ط... sometimes ص and ض. I've seen in terms of like doing this like have an extra thing there. So what happens then is if they're trying to write صبر, it's almost like going there. They forgot to separate them so it becomes like this. Without any tooth. The tooth is there and they mix ض and ظ. So they'd write it like this...

Q- Do they have any problems with الشدة like اللحم - اللبن - الطعام?

Yes. That's one of the main ones. The doubling of Lam especially. If it's جمع like اللاتي those are the difficult ones, anything with two lams الليل they make mistakes with those definitely.

Q- Does English have any influence on writing Arabic?

I'm sure they would. I'm not an expert in this field but I'm sure they would. You know when you are conceptualising letters, that's what alphabets are sounds are transcribed aren't they? I'm sure from certain writing that we've seen, obviously I can't quantify or explain but I'd say yes, there should be some sort of influence.

Q- You mentioned the direction problem, is it persistent even in advanced levels?

I think even with advanced levels, I mean I still have it! ...

Q- Do you think there's a letter or letters that are easier than others in Arabic?

Oh yes! ha' هـ is one of the difficult ones that I've seen. Because of the circling. And also when you are saying ج ح خ all of those when they end خرج so making that shape, roundish I think they find it difficult sometimes, some of the students. Sometimes س at the end or on its own so س and ش. ص and ض any letters that have cusps.

Q- What about ي or Alif Almaqsourah?

Alif Almaqsourah is a disaster because they put the Nuqtas on. They are not familiar with it, so if you are saying بشرى to them, they just gonna put 'alif instead. You know if they are hearing it just from dictation. They might put it as Alif Almaqsourah and then if relook at the text, then oh ي there. It needs Nuqtas.

Q- What are the errors you think that students easily overcome and what are the ones they don't?

I'd say, obviously vowelisation and ..., these things they overcome a lot easier because you are constantly telling them. I think conceptually one of the hard things is anything with Hamza, especially if it's medial or in the end. So words like بيئ and شيء... Also, Hamza where is not needed sometimes they put it there ... همزة الوصل وهمزة القطع so to make it clear this is probably ...

Q- What about أل الشمسية والقمرية?

Sometimes they do mistakes because they have to think that there's a Lam there, especially if they aren't familiar with the word. But usually one thing about Arabic is, it's a language which you can learn quick because of قياس (consistency), so you can work it out so النور they know النور on its own... (so they can work out the unfamiliar but similar words).

Q- Why do you think learners of Arabic as L2 have some mistakes and really persistent on missing dots?

English speakers do a lot more mistakes here than those who are familiar with Quranic text definitely. I think it's because remembering the letters. Now with Arabic orthography in that sense, it could be like Chinese in that sense so just a slight little slat is a different letter all together. So these things is just forgetfulness really more to do with the time of exposure than is to do with just the difficulty of learning. Familiarity is the key thing I think. Another thing is repetition as well.

Q- Why they make mistakes in writing the letter teeth?

In dictation obviously ص and ض are not easy. The difference in the sound as well. They cannot differentiate س and ص because the sound is not in English... they do mistake ظ

with ز as well. They'll mix ض with د. If they are conceptualising the sound they'll put it down as wherever they think is ...

Q- What about the letter shapes?

Of course the letter shapes, you know sometimes ق and ف the cusp at the end is slightly longer elongated like this. Sometimes they do both of them the same as circular.

Q- I've seen someone who write like this...

It looks like my handwriting!

Q- Do they face any problems with Arabic dialects?

Obviously with students I've been teaching we haven't got to the stage they go to Arabic world. So I'm not sure. I don't think it would make a major difference because the Arab teacher teach the Arabic standard that's it. It's standard, they may pronounce it differently. Sometimes it could confuse, but it's not a big problem.

Q- We've got here other mistakes substitution, omission and addition...

I think I've actually seen مخطوطة this handwriting. It's quite common. When I was in Mauretania they mix ظ with ض, so they write it ظ but pronounce it ض. I think that the case you know in your finding.

Q- Let's go back to Alhamza, why English speaking learners make mistakes in alhamza?

First of all, with glottal stop in English here we use it for (t). In dialect, there's no proper dialect in that sense, but in the sense of how we pronounce (but) I'll say (ba'). Now when they hear همزة القطع it could confuse them as is there a (t)? And sometimes they are thinking it's just an 'alif without any Hamza. And sometimes they'll mistake ع because it's so difficult to them with Hamza because they can't pronounce it. They'll just say أ for ع so you have to tell them it comes from the back from the throat. So Hamza with ع is very common mistake (substitution). At the beginning sometimes is hard as well so like with أخذ it's ok they'll write the 'alif...

Q- What is the most difficult sound in Arabic as you see it?

Without doubt is ض it's hard. And sometimes ص as well, these two for me are the hardest to pronounce.

Q- For an English man was the ر.

Scottish have no problem with this sound.

Q- What are the mistakes that are shared between Arabs and English speakers?

That's a tough one. I'll have to pass.

Q- The mistakes in direction, are they because of teaching methods or because of switching to another system?

I think it's both because the switching stuff you have to remember you are writing in Arabic. And also with the teaching cause I think teacher forget I think as teachers we

take for granted writing isn't as important probably because we are in the age we live in now there's typing ... I think that's one thing we take for granted. We should emphasise more on Arabic writing. But it's hard to keep students engaged. I think it's a case of both.

Q- And to what extent does English influence them when they're writing Arabic? I mean have you seen ever some letters written as or similar to English letters?

Yeah you can see the straight line. It's not flowed as Arabic. It's almost like English letters like engineering forms. Possibly because the languages they're learning, and it does impact them.

Q- So you think the more languages you learn the more mistakes you make?

I'd say so. Especially when you're learning Arabic new.

Q- Do you think Arabic dictionaries help students?

I'd say so. Yes, they do.

Q- I mean spelling-wise.

Spelling wise, they do, yes. Mawrid is best for that stuff (cause it's more like English dictionaries where words are listed Alphabetically). Meaning wise, obviously there are better dictionaries.

Q- Do you think there's a way to overcome all of these mistakes?

The only thing I'd say is perhaps a bit more concentrating on actually teaching them handwriting. That's the only suggestion I'd say and I've heard the same suggestions from my colleagues who still learn Arabic, they'd say the same thing. Really teaching them handwriting. They do want to get them practised.

Q- Do you think computers have bad influence on them? I mean they have the opportunity to type...

I don't think so unless they've become used to that. But in general, and I'm saying that as someone who was born in this country, women used to write neat, even in Arabic I've seen, it's true isn't it? Beautiful writing, and what happens is now I'm marking work and I can't believe how bad women's writing has gone! I mean my writing is very bad, I admit that. I could draw good, I'm actually an artist in that sense but my writing is horrible. Now the thing is what happened is I'm seeing very few girls have neat handwriting now and it's because mobile phones and technology it has influence on them. So in that sense definitely I'd say technology so if they're learning Arabic now and their handwriting in English has gone bad because of technology, then of course, I think you could put an extra thing there for your research.

Thank you very much.

Appendix 7 (Learners' Writing Samples)

Sample 1 (Dictation)

1.	ظحدث الوزيرة المقالة في الهند عن تحسيرا الشديد.
2.	الطيب حامد في الغرفة مع بنت صريدة.
3.	نعل الجايعة تسامع في الحططيتي المستعبل مثيب.
4.	الباب مفتحا للمخاودات استمر دائما.
5.	سالم وسالم صديقاني اطقرة اول صدة في مقهى.
6.	فاهمت من معلمي العربية ان الدمت تركت لا حرف.

Sample 2 (OEET)

و اكلنا في المطاعم المتوخية مثلا د مكدونلدرس .
 و ارجعت الى البيت لاسئنان دراستي
 في الجامعة درم لان ستيكون الامتدائن الجامعية
 في الاواخر السنة مع ان دراستي في كلية
 اللغات محبة جدا مند كثير من الامدقائ
 الذين يدرسون هناك بالانجليزية و هم ادرس
 ثلاثة لغات مثل الفرنسية و الاسبانية و
 العربية اظن ان دراستي اجمع من الدراسات
 اللغوية مند ما ادرس في الكلية امكن يريد من
 بيت اسرتي في لبربور في الغرب
 انديترا و في بقية الهيف و سفت الى
 الشرق الاوسط لافعل شهادة في اللغة الفرنسية