



**A sociolinguistic study of the 'Broken Plural' in the speech  
of Iraqi Arabic-English bilingual children**

Alyaa AL-Timimi

A thesis submitted for the degree of Doctor of Philosophy in Linguistics

Department of Languages and Linguistics

University of Essex

November 2017

## Dedication

*To the loving memory of my late father and dearest friend, Dr Ali Hassan Jassim Altimimi. I am sorry you left before I could make you proud*

*To keep on going  
Since you've gone  
The hardest thing  
I've ever done*

*I wear a mask  
From day to day  
And try to cope  
In my own way*

*I'll miss you till  
We meet again  
And long for you  
Each day till then*

*There's now a hole  
No one can fill  
Within my heart  
...I love you still*

*Kelly A. Polley*

## Acknowledgement

I would like to express my sincere gratitude to my supervisor Dr Enam, I am fortunate to have her by my side on my long journey. Her valuable guidance, support and encouragement throughout the years I know her meant a lot to me without which I would have not been able to complete this work.

From the department of Language and Linguistics, I would like to express my gratitude to my supervisory board; Professor Nancy Kula, Dr. Rebecca Clift and Dr Sonja Eisenbeiss for their kind support and encouragement. My thanks are due to the administrative staff in the departmental office for their help.

My sincere gratitude to Dr Ghada Khattab. Her work with bilingual Arabic- English children inspired me and gave me the insight to conduct my study on bilingual children and thank you for providing me with academic resources.

I would like to express my love to my family; I cannot forget the unlimited spiritual support and encouragement that I received from them. My deep gratitude to mum and dad for inspiring us to have passion for knowledge and to achieve excellence in life, thanks for everything and for making me the person I am. To my sister Mays and her husband Ziad for your valuable comments and support and to my brother Sayf. I am also extremely thankful and indebted to my sister-in-law Haneen who without her help in recording the monolingual children this research would not have been achievable.

My deepest appreciation, gratitude and love are to my husband, *Salah* and our children, *Ezat*, *Tara* and *Haytham*. Thanks for the boundless support and tremendous love. Salah, you are my guarding angel, who keeps me safe from grief and failures and for always showing me the right way. Thank you for your patience during the technical and computer challenges I had in this

work and for your insight into the statistical part of the data analysis, you are my source of inspiration and encouragement. My children, thank you for giving me the motivation to do this research and for cheering me up through my ups and downs and I hope that you are as proud of me as I am proud of you.

To my friends and colleagues in Arabic research group, thank you for the support and valuable comments and questions during our meetings. A special thanks to Dr. Deema AL-Amman, thank you my dear I will never forget your support and kindness.

And last but not least, I will always be grateful to the participating families who gave me their trust and agreed to record their speech. I appreciate all the time and effort given by them in dedicating lots of their time to record their children for the purpose of this research. This PhD would have been impossible without your kind and enduring participation.

## Abstract

This study investigates the acquisition of a most intriguing system of nominal plurality in Arabic, the Broken Plural (BP), in the speech of bilingual Iraqi-English children. BP is an irregular plural form, there is no fixed suffix to be added and it is derived by altering the consonant and vowel patterns inside the singular noun/adjective. Monolinguals acquire it from their environment; they learn it spontaneously as they grow up and expand their vocabulary.

The study includes 11 bilingual children living in the UK and ‘control groups’: 9 female adults living in the UK, 11 monolingual female adults and 17 monolingual children living in Baghdad. Data collection combined quantitative and qualitative techniques. The research as a whole addresses the issues of how reduced Iraqi Arabic input can affect the formation of BP, the range of strategies that the bilingual children use to recoup their lack of knowledge and the correlation between these strategies and social factors, viz. parents’ level of education and proficiency in English, language use at home (input), and attitudes.

The data (BP) were analysed into correct and incorrect responses based on monolingual female adults performance. The incorrect responses (repair strategies) were classified into various categories including: overgeneralisation (used more frequently by bilinguals as a default form but was least favoured by the monolingual children); and the employment of ‘rudimentary semantic strategies’ rather than morphological markers e.g. repetition/singular, new words, random patterns.

The findings show that the formation of BP is present in bilingual children –to a different degree– but its formation underwent a crucial reanalysis. There is a strong correlation between the social factors and the repair strategies. Bilingual children’s attitudes towards English positively correlate with their low proficiency in Iraqi Arabic (IA); parents’ attitudes towards IA, religion

and identity as core values; and parents' command of English were also found to play a crucial role in nurturing or impairing the use of IA, which in turn affects acquisition of BP.

## Table of Contents

|  |      |
|--|------|
| Dedication   |      |
| Acknowledgement .....                                    | i    |
| Abstract .....   | iii  |
| Table of Contents .....                                  | v    |
| List of Tables.....                                      | ix   |
| List of Figures .....                                    | x    |
| List of Maps .....                                       | xii  |
| Guide to Phonetic and Transcription .....                | xiii |
| List of Abbreviations .....                              | xv   |
| Glossary.....  | xvi  |
|  |      |
| Introduction.....  | 1    |
| Chapter 1 Background.....                                | 6    |
| 1.1 Iraqi Arabic varieties .....                         | 8    |
| 1.2 Formation of the plural system in Iraqi Arabic ..... | 12   |
| Chapter 2 Methodology.....                               | 18   |
| 2.1 Introduction .....                                   | 18   |
| 2.2 Case study as a research method .....                | 19   |
| 2.3 Ethical issues .....                                 | 21   |
| 2.4 The researcher .....                                 | 22   |
| 2.5 The Informants .....                                 | 22   |
| 2.5.1 The Iraqi Community in the UK.....                 | 23   |

|           |   |    |
|-----------|---|----|
| 2.5.1.1   | Main informants: Iraqi Arabic-English bilingual children.....                                     | 28 |
| 2.5.2     | Control Group (III): Monolingual Iraqi Arabic children .....                                      | 29 |
| 2.5.3     | Control groups: Monolingual Iraqi Female Adults (I) and Female adults living in the UK (II) ..... | 30 |
| 2.6       | The study .....   | 30 |
| 2.6.1     | Data .....  | 31 |
| 2.6.2     | Data collection .....   | 32 |
| 2.6.2.1   | Interviews .....  | 33 |
| 2.6.2.2   | Questionnaires .....  | 33 |
| 2.6.2.3   | Observations .....  | 34 |
| 2.6.2.4   | Broken plural word-lists/ picture naming.....   | 34 |
| 2.6.2.5   | Naturalistic recordings .....   | 36 |
| 2.6.3     | Data analysis .....   | 36 |
| 2.7       | Social factors .....  | 37 |
| 2.7.1     | Home domain .....   | 40 |
| 2.7.2     | Family language practices.....  | 42 |
| 2.7.3     | Parents' education and proficiency in English.....  | 43 |
| 2.7.4     | Attitudes .....   | 44 |
| 2.7.5     | Age .....   | 47 |
| Chapter 3 | Language maintenance and use, and language shift .....  | 49 |
| 3.1       | Language maintenance and language shift.....  | 49 |
| 3.1.1     | Family role in language maintenance and shift .....   | 53 |
| Chapter 4 | Analysis of the informants' data and their repair strategies .....                                | 60 |
| 4.1       | Control group I: monolingual adults .....   | 60 |
| 4.2       | Control group II: adults living in the UK .....   | 60 |

|   |     |
|---|-----|
| 4.3 Monolingual (control group III) and bilingual children's repair strategies.....                             | 69  |
| Chapter 5 The correlation between repair strategies implemented by each bilingual child and social factors..... | 105 |
| 5.1 A descriptive analysis of each bilingual child's input and usage.....                                       | 105 |
| 5.1.1 Family A.....   | 107 |
| 5.1.2 Family B.....   | 117 |
| 5.1.3 Family C.....   | 127 |
| 5.1.4 Family D.....   | 133 |
| 5.1.5 Family E.....   | 142 |
| 5.1.6 Family F.....   | 151 |
| 5.2 Social factors.....   | 159 |
| 5.2.1 Bilinguals Language Input.....  | 160 |
| 5.2.1.1 Home language policies.....   | 160 |
| 5.2.1.2 Parents' proficiency in English.....  | 165 |
| 5.2.1.3 Attitudes.....  | 166 |
| 5.2.1.4 Siblings and peers.....   | 168 |
| 5.2.2 Bilinguals' language use.....   | 169 |
| 5.2.3 Children's age at arrival/testing and the duration of living in the UK.....                               | 171 |
| 5.3 Discussion.....   | 174 |
| Chapter 6 Conclusion.....   | 181 |
| Further Research.....   | 193 |
| References.....   | 194 |
| Appendices.....   | 215 |
| Appendix [A]: Parents' Questionnaire [sources Khattab 2002 and Gulberg & Indefrey, 2003]                        | 215 |

---

|  |     |
|--|-----|
| Appendix [B]: Children’s Questionnaire performed by Children’s mothers [source Khattab 2002]<br>.....                            | 217 |
| Appendix [C]: The Literacy Level of each Bilingual Child in each Language to be filled by<br>parents [source Khattab 2002] ..... | 218 |
| Appendix [D]: The Literacy Level of each Bilingual Child in each Language (source Fishman<br>1991: 53).....                      | 219 |
| Appendix [E]: Bilingual Children’s Parent Proficiency Skills in English and Arabic.....  | 220 |
| Appendix [F]: Consent Form.....  | 221 |
| Appendix [G]: Picture elicitation.....   | 223 |

## List of Tables

|  |    |
|--|----|
| Table 1. 1. Broken Plural templates in the Qur'an and Modern Arabic.....                                 | 16 |
| Table 1. 2. Broken plural templates in IA .....  | 17 |
| Table 2. 1. Information about the families in the study.....   | 26 |
| Table 2. 2. Information about each Bilingual child.....  | 29 |
| Table 2. 3. Monolinguals' gender/age group.....  | 30 |
| Table 4. 1. Control group II correct and incorrect.....  | 61 |
| Table 4. 2. Daily usage of L1 & L2 .....   | 62 |
| Table 4. 3. Monolingual children's correct vs. incorrect.....  | 70 |
| Table 4. 4. Bilingual children's correct vs. incorrect .....   | 70 |
| Table 4. 5. Bilinguals and Monolinguals usage of acceptable and unacceptable SFP marker <i>-āt</i> ..... | 75 |
| Table 4. 6. Monolinguals and Bilinguals usage of SMP marker <i>-īn</i> .....                             | 78 |
| Table 4. 7. Monolinguals and Bilinguals usage of <i>-ūn</i> .....  | 80 |
| Table 4. 8. Monolinguals and bilinguals usage of MSA dual marker <i>-ān</i> .....                        | 83 |
| Table 4. 9. Monolinguals and bilinguals usage of <i>-ēn</i> .....  | 86 |
| Table 4. 10. Monolinguals and bilinguals 'new word' usage.....   | 89 |
| Table 4. 11. Monolinguals and Bilinguals usage of incorrect Broken Plural templates .....                | 93 |
| Table 4. 12. Incorrect templates used by both groups and its frequency of usage .....                    | 94 |
| Table 4. 13. Monolinguals and Bilinguals usage of random patterns .....                                  | 97 |

## List of Figures

|   |     |
|---|-----|
| Figure 1. 1. Jastrow's 2006 dialect classification of Iraqi Arabic .....                          | 9   |
| Figure 1. 2. The main divisions into the gelet and qeltu dialectal types and their subdivisions . | 10  |
| Figure 1. 3. Speech varieties in Baghdad .....  | 12  |
| Figure 4. 1. Monolinguals' correct versus incorrect (total 437 words) .....                       | 71  |
| Figure 4. 2. Bilinguals' correct versus incorrect (total 437 words).....                          | 71  |
| Figure 4. 3. Monolinguals' usage of <i>-āt</i> .....  | 74  |
| Figure 4. 4. Bilinguals' usage of <i>-āt</i> .....  | 74  |
| Figure 4. 5. Monolinguals and bilinguals usage of random patterns.....                            | 98  |
| Figure 5. 1. Ahmed's language input.....  | 109 |
| Figure 5. 2. Ahmed's language usage.....  | 109 |
| Figure 5. 3. Amily's language input .....   | 112 |
| Figure 5. 4. Amily's language usage .....   | 112 |
| Figure 5. 5. Bader's language input.....  | 119 |
| Figure 5. 6. Bader's language usage.....  | 119 |
| Figure 5. 7. Bedour's language input.....   | 122 |
| Figure 5. 8. Bedour's language usage.....   | 122 |
| Figure 5. 9. Caram's language input.....  | 129 |
| Figure 5. 10. Caram's language usage.....   | 129 |
| Figure 5. 11. Danyal's language input.....  | 135 |
| Figure 5. 12. Danyal's language usage.....  | 135 |
| Figure 5. 13. Dana's language input.....  | 138 |
| Figure 5. 14. Dana's language usage .....   | 138 |
| Figure 5. 15. Ebaa's language input .....   | 144 |
| Figure 5. 16. Ebaa's language usage .....   | 144 |

---

|  |     |
|--|-----|
| Figure 5. 17. Esraa's language input ..... | 148 |
| Figure 5. 18. Esraa's language usage.....  | 148 |
| Figure 5. 19. Fay's language input .....   | 153 |
| Figure 5. 20. Fay's language usage .....   | 153 |
| Figure 5. 21. Furat's language input.....  | 156 |
| Figure 5. 22. Furat's language usage.....  | 156 |

**List of Maps**

Map 1. 1. Iraq [source: (Crisis Group Middle East report No.81, 2008, p. 23)] .....7

## Guide to Phonetic and Transcription System

Throughout this thesis, I adopted the system generally followed in Arabic dialectology, in particular the conventions used in *The Encyclopedia of Arabic Language and Linguistics*. These conventions are listed below:

### A. Consonants:

| Arabic | IPA   | EALL | Description/examples   |
|--------|-------|------|--|
| أ      | ʔ     | ʔ    | voiceless glottal stop <i>'ānī</i> 'I'   |
| ب      | p     | p    | voiceless bilabial stop <i>parda</i> 'curtain', <i>pāṣ</i> 'bus'                         |
| بـ     | p̤    | p̤   | emphatic voiceless bilabial stop <i>lampa</i> 'lamp'                                     |
| ب      | b     | b    | voiced bilabial stop <i>bēt</i> 'house'  |
| بـ     | b̤    | b̤   | emphatic voiced bilabial stop <i>ḥang</i> 'bank'   |
| ت      | t     | t    | voiceless denti-alveolar stop <i>tīn</i> 'figs'  |
| ط      | tʰ    | t̤   | emphatic voiceless denti-alveolar stop <i>qāṭ</i> 'suit'                                 |
| د      | d     | d    | voiced denti-alveolar stop <i>daris</i> 'lesson'   |
| ث      | θ     | t̤   | voiceless interdental fricative <i>tōb</i> 'dress'                                       |
| ذ      | ð     | d̤   | voiced interdental fricative <i>dāk</i> 'that'   |
| ظ      | ðʰ    | d̤̤  | emphatic voiced interdental fricative <i>marīḏ</i> 'sick', <i>ḍaruf</i> 'envelope'       |
| چ      | tʃ    | č    | voiceless palate-alveolar affricative <i>čākūč</i> 'hammer', <i>šūč</i> 'fault'          |
| ج      | dʒ, ʒ | j    | voiced palate-alveolar affricative <i>jāhil</i> 'child', <i>jrēdi</i> 'rat'              |
| ح      | ħ     | ħ    | voiceless pharyngeal fricative <i>maḥad</i> 'no one'                                     |
| ع      | ʕ     | ʕ    | voiced pharyngeal fricative <i>'izam</i> 'he invited'                                    |
| خ      | χ     | x    | voiceless uvular fricative <i>lāx</i> 'another'  |
| ع      | ʁ     | g̤   | voiced uvular fricative <i>gēr</i> 'other'   |
| ر      | r     | r    | alveolar flap <i>rās</i> 'head'  |
| س      | s     | s    | voiceless alveolar fricative <i>sana</i> 'year'  |
| سـ     | sʰ    | ʃ    | emphatic voiceless denti-alveolar fricative <i>šēf</i> 'summer'                          |
| ز      | z     | z    | voiced denti-alveolar fricative <i>mēz</i> 'table'                                       |
| ز      | z̤    | z̤   | emphatic voiced denti-alveolar fricative <i>jizdān</i> 'purse', <i>'azdiqā</i> 'friends' |
| ش      | ʃ     | š    | voiceless palate-alveolar fricative <i>lēš</i> 'why'                                     |
| ف      | f     | f    | voiceless labiodental fricative <i>fāt</i> 'he passed'                                   |
| فـ     | f̤    | f̤   | emphatic voiceless labiodental fricative <i>fakk</i> 'he opened'                         |
| ف      | v     | v    | voiced labiodental fricative <i>vīsa</i> 'visa'  |
| ق      | q     | q    | voiceless uvular stop <i>qāmūs</i> 'dictionary'  |
| ك      | g     | g    | voiced velar stop <i>liga</i> 'he found', <i>garāyb</i> 'relatives'                      |
| ك      | k     | k    | voiceless velar stop <i>kāmil</i> 'complete'   |
| ل      | l     | l    | voiced alveolar lateral <i>lāzim</i> 'necessary'   |
| لـ     | l̤    | l̤   | emphatic alveolar lateral <i>galub</i> 'heart'   |
| م      | m     | m    | bilabial nasal <i>lizam</i> 'he catch'   |
| مـ     | m̤    | m̤   | emphatic bilabial nasal <i>māma</i> 'mommy'  |
| ن      | n     | n    | alveolar nasal <i>šinu</i> 'what!'   |
| هـ     | h     | h    | voiceless glottal fricative <i>hadaf</i> 'target'  |
| و      | w     | w    | voiced bilabial approximant (semivowels-high back rounded) <i>wēn</i> 'where'            |
| ي      | j     | y    | voiced palatal approximant (semivowel-high front unrounded) <i>yābis</i> 'dry'           |

**B. Vowels:** Iraqi Arabic has nine vowels:

- Three short vowels:

| Short vowels |         | Description/examples   |
|--------------|---------|--|
| i            | /kasra/ | Short high front unrounded, <i>li'ba</i> 'toy', <i>irāqi</i> 'Iraqi', <i>karāsi</i> 'chairs' |
| u            | /ḍamma/ | Short high back rounded, <i>ḍuwa</i> 'medicine'  |
| a            | /fatha/ | Short low front or central or back, <i>maḥal</i> 'shop', <i>bēḍa</i> 'an egg'                |

- Five long vowels:

| IPA | EALL | Description/examples   |
|-----|------|--|
| a:  | ā    | Long low central <i>jāb</i> 'he brought', <i>gāṭ</i> 'suit'                            |
| e:  | ē    | Long mid front unrounded <i>buqēna</i> 'we stayed', <i>bēt</i> 'house'                 |
| i:  | ī    | Long high front unrounded <i>fīl</i> 'elephant', <i>tīn</i> 'figs'                     |
| o:  | ō    | Long mid back rounded <i>xōš</i> 'good', <i>šōbba</i> 'heater', <i>qōndara</i> 'shoes' |
| u:  | ū    | Long high back rounded <i>dūda</i> 'a worm', <i>mū</i> 'not.'                          |

**C. Diphthongs:**

| Diphthongs | Examples   |
|------------|--|
| aw         | <i>šāfaw</i> 'they saw', <i>jaw</i> 'atmosphere'                   |
| āw         | <i>ḥāwlat</i> 'she tried', <i>t'āwnaw</i> 'they helped each other' |
| ay         | <i>jayš</i> 'army', <i>'ay</i> 'which', <i>fayy</i> 'shade'        |
| āy         | <i>hāy</i> 'this one (FS)'   |
| ēw         | <i>ḥlēw</i> 'handsome (MS)'  |

**List of Abbreviations**

|                    |                                 |
|--------------------|---------------------------------|
| 1 <sup>st</sup> PS | 1 <sup>st</sup> Person Singular |
| AoO                | Age of Onset                    |
| BA                 | Baghdadi Arabic                 |
| CA                 | Christian Arabic                |
| CIA                | Classical Arabic                |
| FPL                | Feminine Plural                 |
| FS                 | Feminine Singular               |
| IA                 | Iraqi Arabic                    |
| IA BP              | Iraqi Arabic Broken Plural      |
| IP/BP              | Internal Plural/Broken Plural   |
| JA                 | Jewish Arabic                   |
| LoE                | Length of Exposure              |
| MA                 | Muslims Arabic                  |
| MPL                | Masculine Plural                |
| MS                 | Masculine Singular              |
| MSA                | Modern Standard Arabic          |
| P                  | Plural                          |
| RP                 | Random Pattern                  |
| SFP                | Sound Feminine Plural           |
| SMP                | Sound Masculine Plural          |

## Glossary

**\*/Acceptable words:** This term refers to words produced without violating the syntactic restriction of Sound Feminine Plural (SFP), *\*tanūrāt* for *tanānīr* (sing. *tanūra*) ‘skirt’.

**Irregularised Broken Plural (BP) templates:** This term refers to correct Iraqi Arabic BP templates that were used with wrong words, e.g., the template [CiCuuC] was used incorrectly in the production of the word *\*bilūm* instead of the correct template to be used with this word [CCaaC] *blām* ‘boats’.

**Random patterns:** This term refers to words with patterns that cannot be categorised under any other repair strategies, e.g., sound feminine plural (SFP); sound masculine plural (SMP), broken plural (BP), dual, etc.

**+/Unacceptable words:** This term refers to words that violated the syntactic restriction of SFP, e.g., *\*šahrāt* for *šuhūr* - *’ašhur* (sing. *šahar*) ‘month’.

## Introduction

When families immigrate to other countries, two or more languages closely interact with each other at different levels and usually the first language is used in all domains. Then there is a gradual decrease in using the dominant language as parents encourage and persuade their children to acquire the dominant language. Often, they put so much effort into their children's achievement and feel so excited about how well they have integrated into the new society that they forget to pay attention to their heritage language. They forget that their children are still in the process of acquiring their first language and that it needs to be maintained in order to ensure its development and continuity. Being part of the Iraqi community in Colchester, I am able to closely monitor family interactions; bilingual children acquiring English and using it in almost all domains; parents' frustrations with interacting and maintaining family relationships with extended relatives; and their children losing their home language in favour of the dominant one, which in turn affects their relationship with their children. These families never thought that their children would forget or even lose their mother language and I myself never thought this would happen until I noticed it myself. Some parents think that they can maintain their home language by enrolling their children into Arabic schools but without implementing other strategies like paying attention to the language spoken at home while interacting with their children. Other parents think that the only way to maintain their culture and traditions in general is by creating boundaries, by keeping their children in a close network, which in turn widens the gap between the parents and their children. Fillmore (2000) best describes the situation when he states "few of those who are involved in the process of language loss realize the consequences it can have on their family or children until it is too late. It is difficult for people to believe that children can actually lose a language" (p. 208).

The idea of conducting a study on broken plural (BP) and on bilingual children came to

light after noticing my children's usage of Iraqi Arabic while interacting with me and their father. Since the broken plural is used in everyday situations, their innovative ways of reproducing Iraqi Arabic motivated me to conduct a study not only to explore their production but also the reasons behind their preferences and to test their lexical knowledge too.

In spite of the fact that BP is a sophisticated word formation process, it is the most common form used to express plurality. The interesting point about BP is that it is formed by changing the internal structure of the word and in Iraqi Arabic, there are more than eighty-four (CVC) templates to follow and it is impossible to know which plural template belongs to which word so practice is the only means to form it. Monolingual Iraqi children learn it from their environment and as they expand their knowledge as it is not taught at schools. Unfortunately, studies involving Iraqi Arabic are very rare and the only study on the Iraqi community as a minority heritage language was by Ridha (2015) who investigated crosslinguistic influences in bilingual Iraqi Arabic-Swedish children between the ages of 5 and 7 living in Sweden.

My study analyses what happens when a heritage or minority language such as Iraqi Arabic is in continual contact with the majority language English. It examines the impact of individuals using two languages and gradually one language is replaced by the other as a regular means of communication with family members. This happens because they use the other language more frequently or because it occurs more frequently in their input, which in turn affects their proficiency in their home language. In my case, when six families immigrated to the UK, their home language was a minority one, spoken in the home domain only, in comparison to the majority and taught language, English, which became the children's dominant and preferred language as they were exposed to it most, if not all, of the time. In addition to the effect of language contact, sociolinguistic factors may affect these changes like attitudes and motivation toward both languages.

The children in this study speak the same two languages (IA and English) but they are

different in age, and in the age when they were exposed to the second language and also in how much exposure to each language they have had. Each child is individual in their language experience and language exposure, which has a major effect on the quantity and quality of their languages' input and use.

By conducting these six case studies, I hope to gain a better understanding of the experiences of language maintenance and shift these families go through while they are acquiring the dominant language and at the same time they are still in the process of acquiring their first language. I will explore the formation of broken plurals from two perspectives, a linguistic and a sociolinguistics one, and the relationship between these perspectives, to be able to understand the bilingual children's experiences, as outlined below:

1. The linguistic perspective.

How do bilingual children mark plurality in Iraqi Arabic while they are in the process of acquiring the dominant language and at the same time still in the process of acquiring their first language? What are the formations strategies used by bilingual children? Do they follow the same developmental path monolingual children from aged-matched peers do? If so, do bilingual children overgeneralize the sound feminine plural (SFP) and use it as a default system? Or are they innovative in their formation like very young monolingual children?

2. The social perspective.

What are the internal and the external factors behind a bilingual child's current formation of the Broken Plural and behind their preference for using some repair strategies over others? What are the strategies and practices implemented by parents to maintain or to shift their home language? And what impact do these strategies and practices have on their children's maintenance or shift.

3. What is the possible correlation between the social factors and the bilingual children's repair strategies and performances? In what ways are their performances affected by internal and

external factors? What factors contribute to or can predict the participants' L1 maintenance or shift?

In order to have a better understanding about bilingual children and their families' language environments, the current study implemented different research methods and different techniques such as informal semi-structured parent interviews, demographic questionnaires (eliciting information about the family background, place of origin, ages, year of arrival, reasons for travelling, parents' education, language usage at home) and sociolinguistic questionnaires (eliciting bilingual parents' and children's attitudes towards bilingualism and towards learning both the first and second languages). In addition to investigating the amount of daily input and usage of L1 and L2 by the children, parents were asked to report about the patterns of language use in different domains (home, siblings, family and relatives, school, media and games) as well as observations to access bilingual children's language preferences, input and use in different domains. I also used 'can do' scales for the two languages, where parents assess their children's literacy levels in English and Arabic and an assessment proficiency questionnaire for the parents to assess their own literacy levels in both languages. All these methods were used to determine the impact of such roles on bilingual children language maintenance or shift.

The thesis contains six chapters, organised as follows:

Chapter one provides an overview of the history of Iraq, its population, religions and the dialects spoken there. In addition to a detailed description of the plural formation system in Iraqi Arabic.

Chapter two details the research methods used in this study, as it combines two methods, 'within-subject' and 'between-groups'. It describes the methods of data collection, the informants participating in this study, the materials used, elicitation procedure, ethical issues and data analysis in addition to the social factors investigated in this study.

Chapter three explores the factors that might affect language maintenance and language shift in heritage languages in addition to the social factors that might increase or decrease the effect of maintenance/shift in this study. Fishman's work (1972, 1989) and Fase et al. (1992) have been chosen as a framework to explain how IA is either maintained or shifted to English - the majority language. Since the home domain is the only domain where children acquire, learn and use Iraqi Arabic, it is explored thoroughly in addition to the other social factors that may affect their children's input and use.

Chapter four describes the data (BP) elicited from all of the participants in the study. The data is classified into correct 'target form' and incorrect 'repair strategies', which were examined further for each child 'within-subject' by analysing these strategies into meaningful different patterns. It is divided into two sections, section one, discusses the repair strategies used in the formation of BP words by female adults living in the UK (control group II) and the correlation with the social factors. Section two discusses monolingual and bilingual children's repair strategies 'between groups' with a detailed description of the shared repair strategies between the two groups and the repair strategies used exclusively by bilingual children.

Chapter Five provides a descriptive analysis of each bilingual child's input and use in relation to their linguistic behaviour. It discusses the sociolinguistic factors and the correlation between these factors (input quantity and quality) and the linguistic results of each bilingual child.

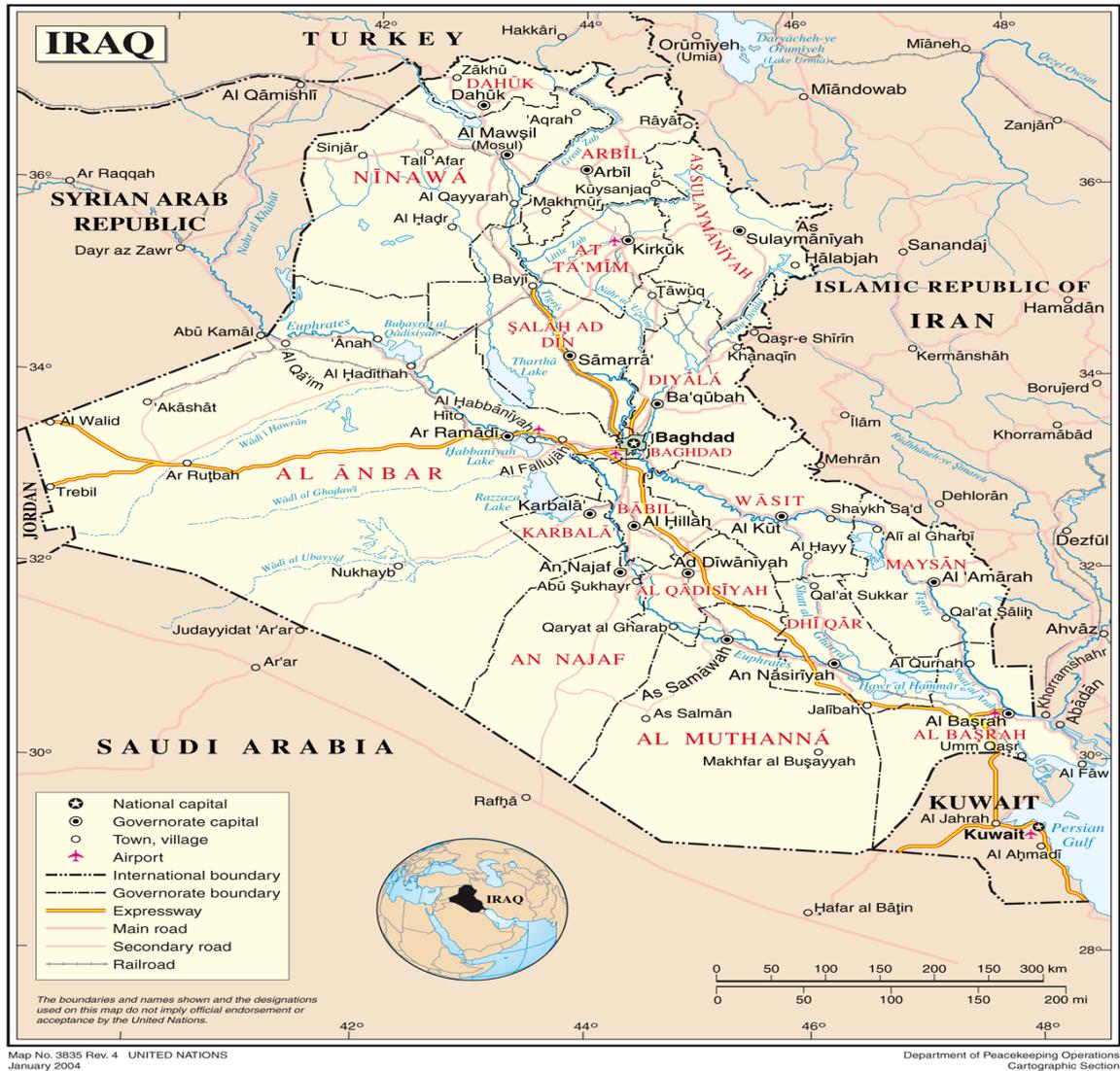
The concluding chapter is a summary of the major findings of this study, with comments and suggestions for further research.

## Chapter 1

## Background

In this chapter, I shall firstly provide general information about Iraq, its historical background, population, and religion in addition to a brief description of the classification of IA varieties in § 1.1. In § 1.2 I will discuss the plural formation system in IA in general and the BP in particular.

The Republic of Iraq is located in the Middle East, north of Saudi Arabia and Kuwait, south of Turkey, west of Iran and east of Syria and Jordan (map 1.1.). The name ‘Iraq’ might be derived from the country’s ancient name ‘Araqi’ which means “on the land of the sun” or it is the Arabized version of the ancient Asiatic word ‘Irah’, which means “sea coast” or “riverside” or it might be derived from the Persian word ‘erag’ which means “lowland”. Iraq is also known by the Greeks as Mesopotamia, which means the land between two rivers: the Tigris and the Euphrates, and by the Jews as Babylonia (Salloum, 2013: 44).



Map 1. 1. Iraq [source: (Crisis Group Middle East report No.81, 2008, p. 23)]

Throughout its history, Iraq has witnessed many events that have had an impact on the language and population and in order to better understand the present day situation, a brief overview of its history is presented in this chapter. Various invaders have occupied Iraq over the centuries, leaving their mark on the culture and language of its people. During the Iron Age and Classical Antiquity, Iraq was ruled by many native empires like the Sumerian, Akkadian, Babylonian and Assyrian, and other Turkish and Persian empires like the Median, Achaemenid, Seleucid, Parthian and Sassanian. In the 7<sup>th</sup> century, Iraq was conquered by the Rashidun Caliphate and during the Abbasid Caliphate it was the centre of the Islamic Golden Age. In 1258, Iraq was invaded by the Mongols and during the 16<sup>th</sup> to 18<sup>th</sup> centuries it faced other

invasions by the Turks and Persians (Safavid and Mamluk). In the 19<sup>th</sup> century Iraq was under the Ottoman rule. After World War 1, it was ruled by the British Empire until 1921 when it was declared a kingdom and in 1958 it was declared a republic. Iraq witnessed many struggles for power, which ended in 1963 with the Baath rule under Saddam Hussein's leadership until the American and British invasion of Iraq in 2003 (Division Library of Congress-Federal Research, 2006; Roux, 1992; Al-Samak, 1985).

Iraq is a melting pot of different religions, ethnicities, sects and linguistic groups. Over the past 15 years, there has been a considerable demographic shift and mass emigration and as a result population estimates are not clear. Since the invasion, Iraqi ethno-religious minorities have been subjected to violence, including murders, kidnappings, evictions, and forced conversions (Taneja, 2011). Statistics on the Iraqi population cannot be confirmed due to current difficulties in maintaining records but according to Library of Congress - Federal Research Division (2006) Iraq's population was estimated at approximately 27 million, of whom 75-80% are Arab, 15-20% Kurdish and 5% other minority groups. Islam is the majority religion: 97% of the Iraqi population are Muslims, 60-65% of them are Shias and 32-37% are Sunnis; the largest religious minority are the Christians.

The differences in population, religion and languages may have contributed to the uniqueness of Iraqi Arabic (IA). The following section is a brief description of the classification of IA varieties.

## **1.1 Iraqi Arabic varieties**

Until recently, Arabic had been the only official language in Iraq.<sup>1</sup> A number of studies cover Iraqi Arabic, mainly from a dialectological perspective. To my knowledge, the most recent

---

<sup>1</sup> The official language in Iraq is Arabic but after the invasion of Iraq in 2003 and the change in the constitution in 2005, another language was added, Kurdish, which is the official language in Kurdistan.

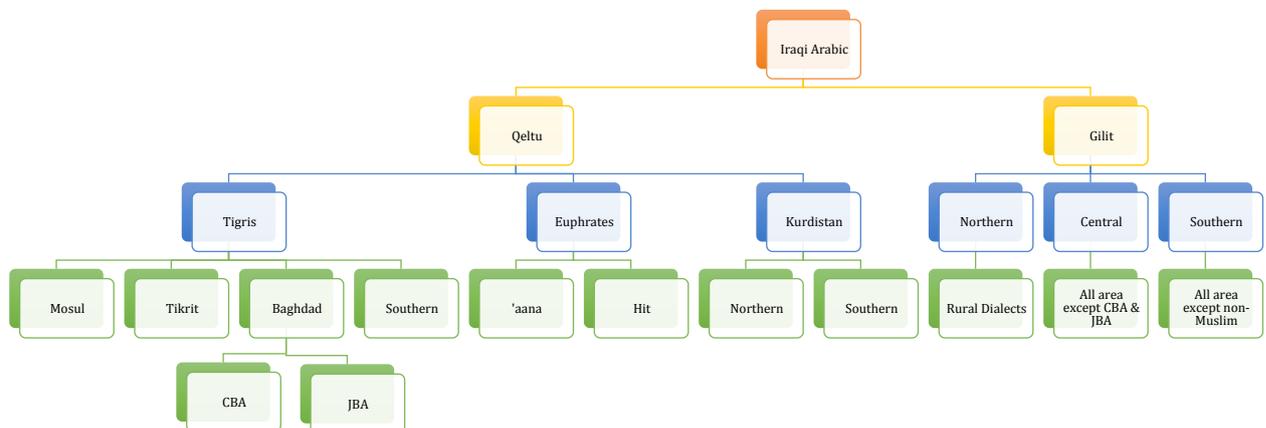
coverage of an Iraqi dialect is that by Alrsiraih (2013), which is concerned with some aspects of the phonetics and phonology of Iraqi Arabic.<sup>2</sup>

Blanc's 'Communal Dialects in Baghdad' (1964) is one of the most important works on Iraqi Arabic. He classified Iraqi dialects based on the *gelet/qeltu* division.<sup>3</sup> Baghdadi Arabic in particular is classified into three main community varieties: Muslim Arabic (MA), Christian Arabic (CA) and Jewish Arabic (JA). Commenting on this classification, Blanc (1964) wrote:

... the *qeltu* dialect continue the Arabic vernacular spoken in Abbasid Iraq, whereas the *gelet* dialect penetrated into Iraq only after the Mongol raids, due to a re-Bedounization of central and southern Iraq, with a subsequent sedentarization of the Bedouin in rural settlements. In the Ottoman period, the influx of rural population into the growing towns led to a bedouinization of the urban dialects as well. Only Christians and Jews who did not mix socially with the Muslims retained their older *qeltu* dialect.

Blanc (1964: 6)

Following Blanc's 1964 religious, ethnic and geographical perspectives, Jastrow (2006: 415) classified the Iraqi dialects into two categories with further sub-divisions, as shown in Figure 1.1.



**Figure 1. 1. Jastrow's 2006 dialect classification of Iraqi Arabic (Jastrow 2006: 415)**

Jastrow's classification places the original dialect of Baghdad among the Tigris subgroup of the

<sup>2</sup>Another study on an Iraqi dialect, by W. Al-Shawi, is currently in progress at the University of Essex.

<sup>3</sup> Blanc (1964:30), coined the terms *gəlat* and *qəltu* 'I said' and transcribed them. This coinage references two of the most important isoglosses in Iraqi Arabic: 1. [g] vs [q] for /q/; and 2. The conjugation of the imperfect verb in 1<sup>st</sup> person singular, -t vs -tu.

*Qeltu* branch.

Alsiraih (2013) provides a sociolinguistic classification of Iraqi Arabic, which starts with the classical division into *gelet/ qeltu*, as in Figure 1. 2. Her classification incorporates another classification of the *gelet* Muslim Baghdadi Arabic, which was made by Abu-Haider (1988: 77), who differentiates between two varieties: a *xašš*<sup>4</sup> type /χaʃʃ/, which she considers as “the well-established standard Baghdadi term” representing urban speech and a *ṭabb* type /tʻabb/ representing rural speech.

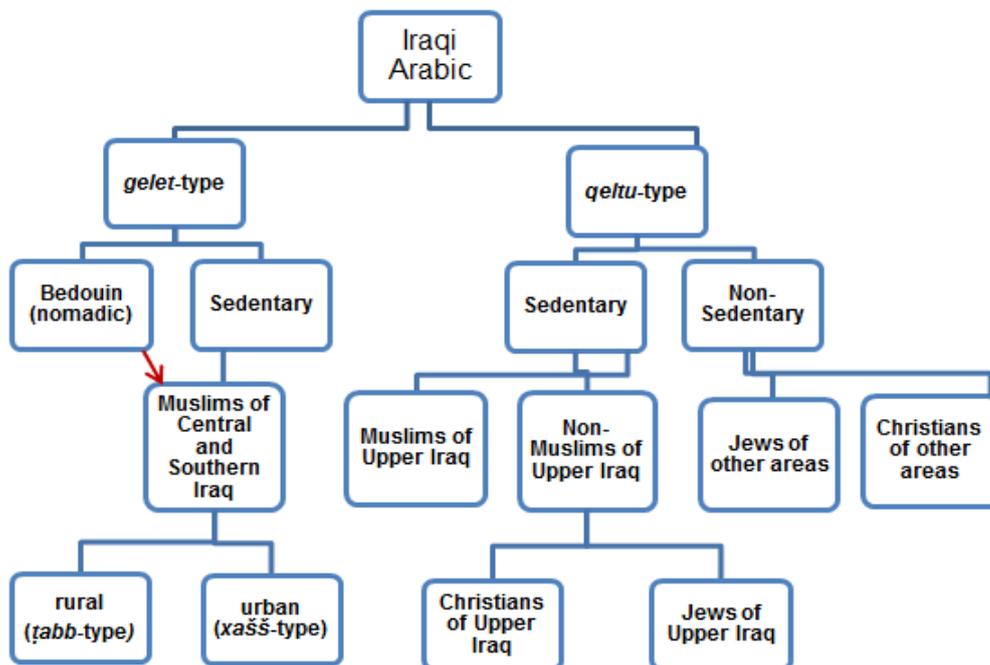


Figure 1. 2. The main divisions into the *gelet* and *qeltu* dialectal types and their subdivisions [source Alsiraih 2013: 17]

The linguistic situation in Iraq is ‘diglossic’ in that it shares a regional language/high variety ‘Classical Arabic’ (CA)/‘Modern Standard Arabic’ (MSA) with other Arab countries and spoken/vernacular varieties ‘Iraqi Arabic’, which are the mother varieties, acquired naturally from parents and environment and society, and mainly used in oral communication and daily activities. Holes (2004) states:

The spoken Arabic dialects are the varieties of the language that all native speakers learn as their mother tongue before they begin formal education. Ryding (2005: 5) also describes the vernacular

<sup>4</sup> The words *xašš* and *ṭabb* mean ‘he entered’.

speech as “much more flexible and mutable than the written language; it easily coins words, adapts and adopts foreign expressions, incorporates the latest cultural concepts and trends, and propagates slang, thus producing and reflecting a rich, creative, and constantly changing range of innovation.”

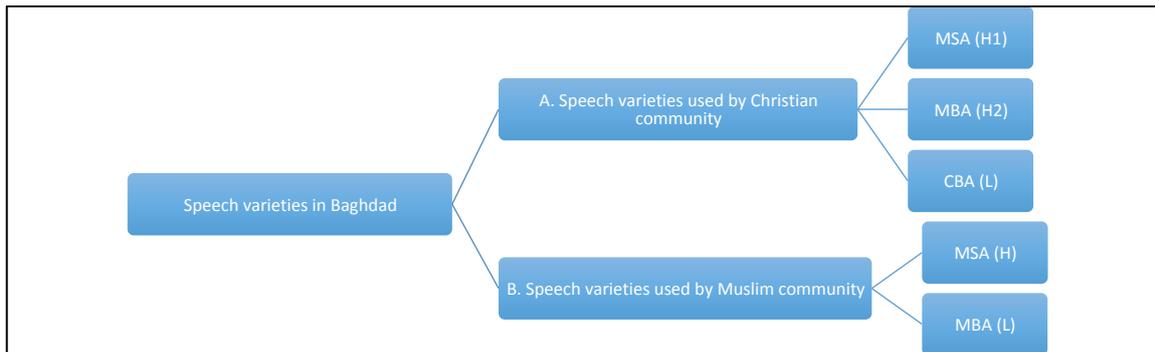
Holes (2004: 3)

In between these two levels we have numerous sub levels like for example Educated Spoken Arabic (Badawi, 1985).

All educated Iraqis may be described as diglossic, in the sense of using two varieties: Modern Standard Arabic (MSA) and Educated Spoken Arabic (ESA), which are grammatically, lexically, and phonologically different (Altoma, 1969) in their daily communication. ESA is a mixture of the two varieties adapted to the morphology and the pronunciation of the educated spoken variety and the vernaculars are the norm used in interactions at home. The same applies to the children, as they are less frequently exposed to MSA than to the vernacular spoken variety. In addition to this, Young & Helot (2003: 235) state that the spoken variety is used by children as “their means of self-expression within that closely personal environment”.

Abu-Haider (1992: 92) goes further and says that for Muslim Baghdadis the situation is diglossic but for Christian and Jewish Baghdadis the situation is trilossic. Wardhaugh (2006: 50) states that “In a city like Baghdad the Christian, Jewish, and Muslim inhabitants speak different varieties of Arabic and in this case the first two groups use their variety solely within the group but the Muslim variety serves as a lingua franca, or a common language, among the groups”.

Figure 1. 3A, shows how the three varieties are used and that MSA is considered the higher formal variety to be used in formal occasions only (by all Baghdadis). Muslim Baghdadi Arabic (MBA) is used also in formal occasions when non-Christians are present and Christian Baghdadi Arabic (CBA) is used within their own community, while Figure 1.3B shows how the two varieties are used by the Muslim community. MSA is considered the higher formal variety to be used on formal occasions only (by all Baghdadis) and MBA is used on informal occasions:



**Figure 1. 3. Speech varieties in Baghdad**

The following section provides a description of the plural formation system in Iraqi Arabic in general and the broken plural (BP) in specific, viz. the feature investigated in this thesis.

## 1.2 Formation of the plural system in Iraqi Arabic

Nominals in both Modern Standard Arabic and Iraqi Arabic (IA) have three numbers: singular, dual and plural. The singular form in IA singular nouns occur in different patterns and endings (Erwin, 2004):

- a. Nouns ending in consonants; the majority of such nouns are masculine, for example *bēt* ‘house’, *qalam* ‘pen’
- b. Nouns ending in a vowel *-a*, the majority are feminine nouns, for example *saḡra* ‘trip’, *ṭōba* ‘ball’
- c. Nouns ending in *-i*, the majority are masculine, for example *jundi* ‘soldier’, *kursi* ‘chair’
- d. Nouns ending in *-u*, for example *‘adu* ‘enemy’, *‘iḡu* ‘member’
- e. Nouns ending in *-o*, which are few borrowed masculine words, for example *radio* ‘radio’, *bānyo* ‘bathtub’

As for adjectives, the basic form is the masculine form (has no inflectional suffix), for example *zēn* ‘MS good’, *farḡān* ‘MS happy’ and the feminine form is formed by adding *-a* to the masculine form, for example *zēna* ‘FS good’, *farḡāna* ‘FS happy’ (except adjectives of

colour where the feminine adjectives have the templates [CaCCa], [CōCa] and [CēCa] e.g. *xaḍra* ‘green’, *soda* ‘black’ and *bēḍa* ‘white’.

Dual forms are formed by adding the suffix *-ēn* to the singular word. Sometimes the stem might change when the suffix is added, for example *daris* → *darsēn* ‘two lessons’, *jisir* ‘bridge’ → *jisrēn* ‘two bridges’ and sometimes the stem might stay as it is, for example *qalam* ‘pen’ → *qalamēn* ‘two pens’, *sadd* ‘dam’ → *saddēn* ‘two dams’. For feminine dual *-t-* is added before adding the *-ēn*, as in *qarya* ‘village’ → *qarītēn* ‘two villages’, *qūṭiya* ‘box’ → *qūṭītēn* ‘two boxes’ (Erwin, 2004).

As for the plural in IA, there are two main forms: the sound ‘regular, linear’ plural is formed by adding a suffix to the singular (with minor changes in the stem sometimes) and the other one is a complete different form of the singular where internal change is a must, the broken ‘irregular, non-linear’ plural. The sound or regular plural is formed by adding a suffix to the noun or adjective depending on the gender, either feminine or masculine suffix. The *-īn* suffix is added in all cases to form the sound masculine plural, for example *mudarrisīn* ‘male teachers’, *ta ‘bānīn* ‘MPL adj. tired’. In addition to this suffix IA use another suffix *-a* to produce plurals like *baḥḥāra* ‘sailors’, *‘arabančiyya* ‘carriage-driver’, *sarsariyya* ‘naughty boys/men’. As for the sound feminine plural, the suffix *-āt* is added to the singular word, if the singular word ends in *-a*, it will be dropped and the suffix *-āt* will be added *mudarisāt* ‘FPL teachers’, *ta ‘bānāt* ‘FPL adj. tired’. In IA some masculine words are pluralized by adding the sound feminine marker *-āt* suffix, for example words like *plakk* ‘plug’ → *plakkāt*, *yalag* ‘vest’ → *yalagāt*, *skamli* ‘chair’ → *skamliyyāt* (Sa'eed, 2010). Erwin (2004: 174) and Altoma (1969: 77) mention that the masculine plural form can in some cases refer to both the masculine and feminine plural nouns even if there is a feminine singular morphological form, for example *člāb* and not *\*čalbāt* ‘dogs’, *ṭiyūr* and not *\*ṭērāt* ‘birds’ and *jhhāl* and not *\*jāhlāt* ‘children’.

As for the other main plural, ‘the broken or irregular plural’, the name stems from the

Arabic term '*jami' taksīr*', in which numerous morphological changes occur internally like: breaking up the consonant pattern by different vowels, the consonant roots are rearranged by adding new vowels or consonant gemination may be added (Holes, 1990; Lyovin, 1997; Versteegh, 2001; Plunkett & Nakisa, 1997; Ryding, 2005). In spite of the fact that this plural is such a sophisticated word formation process, it is the most common form used to express plurality (Al-Aghbari, 2001; Alkuhlani & Habash, 2012). Sutcliffe (1924: 41) stated "It is not possible to lay down any general rule as to the use of these forms. Practice is the only means by which it is possible to learn the form or forms of plural taken by different nouns" and Qafisheh (1977) stated:

Broken plurals are formed from the singular by changing the internal structure of the word, not by adding suffixes as in the case of sound plurals. There are a number of pluralizing patterns, a few of which can be predicted from the singular pattern, but in most cases it is very difficult if not impossible to deduce the plural pattern from the singular. For this reason, the plural forms should be learned individually as they are encountered.

Qafisheh (1977: 105)

The difficulty with the broken plural might be due to the fact that "Arabic exhibits the largest expansion of the system of broken plurals" as Versteegh (2001: 84) suggests: "There are more than thirty-six patterns for plurals and while it is sometimes possible to guess which plural pattern belongs to which singular pattern, one is as often wrong as right". Erwin (2004: 191) also states that "for many nouns there is no way to predict from the singular form whether the plural is a sound plural or a broken plural, or, if the latter, what pattern."

Since the behaviour of adjectives is similar, although not identical, to that of nouns, adjectives are marked in terms of number for the singular and plural but not for the dual or collectives and take both sound and broken plurals. Due to the fact that their broken plural templates are similar to those of nouns (Erwin 2004: 240), they have been included in this study.

According to Altoma (1969: 41):

There are no less than 33 different patterns of internal/broken plurals most of which are noted in Iraqi Arabic with minor modifications, however some of them are rarely used, whereas others enjoy a high degree of frequency.

He summarizes the patterns found in the Qur'an and Modern Standard Arabic and the numbers of frequency for each pattern as in Table 1. 1. below (ibid: 42).

**Table 1. 1. Broken Plural templates in the Qur'an and Modern Standard Arabic [source Altoma 1969: 42]<sup>5</sup>**

| BP templates  | No. of occurrences in Q | No. of occurrences in MA |
|---------------|-------------------------|--------------------------|
| 'aCCāC        | 934                     | 287                      |
| CuCūC         | 396                     | 165                      |
| CiCāC         | 330                     | 77                       |
| 'aCCuC        | 272                     | 13                       |
| CaCāCiC       | 180                     | 415                      |
| CuCuCu        | 159                     | 16                       |
| CuCaCā'       | 91                      | 40                       |
| CaCāCīC       | 77                      | 126                      |
| CaCāCiCa      | 74                      | 18                       |
| 'aCCiCa       | 85                      | 46                       |
| CuCaC         | 62                      | 42                       |
| 'aCCiCā'      | 55                      | 19                       |
| CuCC          | 53                      | 14                       |
| CaCāCā        | 35                      | 29                       |
| CiCCān        | 34                      | 12                       |
| CaCCā         | 28                      | 6                        |
| CuCCāC        | 26                      | 32                       |
| CuCCaC        | 19                      | 1                        |
| CaCaCa        | 19                      | 9                        |
| CiCaC         | 17                      | 27                       |
| CaCīC         | 14                      | 3                        |
| CiCCa         | 12                      | 5                        |
| CiCāCa        | 11                      | -                        |
| CuCāCā        | 8                       | -                        |
| CuCCān        | 7                       | 14                       |
| CiCaCa        | 3                       | 1                        |
| CuCūCa        | 1                       | -                        |
| CuCaCa        | 1                       | -                        |
| CuCāt         | -                       | 17                       |
| Miscellaneous | -                       | 27                       |

Altoma (1969) identified several (BP) templates which undergo vowel changes in IA as can be seen in Table 1. 2, which will be used in addition to Erwin's IA broken plural templates (2004: 191- 213, 244- 248) in the analyses in this study.

<sup>5</sup> Examples: /'aCCuC/ 'anjum 'stars'; /CaCāCiC/ kawākib 'planets'; /CuCāt/ quḍāt 'judges'; /CiCCān/ ḡilmān 'servants'; /CaCCā/ kaslā 'lazy people'.

Table 1. 2. Broken plural templates in IA [source Altoma 1969: 43- 44]

| Broken Plural templates   | Transliteration  | Gloss   |
|---|--|---|
| <b>One short vowel</b><br>CuCC-<br>CaCC- (collective)   | <i>ṣufur</i>   | yellow  |
| <b>2 short vowels</b><br>CuCuC<br>CiCaC<br>CuCaC<br>CuCCaC<br>CiCCaC<br>CiCCa<br>CaCaC (collective)<br>CiCiC (collective)<br>ʾaCCuC                               | <i>kutub</i><br><i>xirag</i><br><i>ʾuwad</i><br><i>wukkaḥ</i><br><i>ḥibbal</i><br><i>ixwa, uxwa</i><br><i>xadam</i><br><i>zilim</i><br><i>ʾaṣḥur</i> | books<br>ragged cloth<br>sticks<br>naughty<br>pregnant<br>brothers<br>servants<br>men<br>months   |
| <b>3 short vowels</b><br>CaCaCa<br>CiCaCa-<br>ʾaCCiCa   | <i>kasaba</i><br><i>qirada</i><br><i>ʾadwiya</i>   | earners<br>monkeys<br>medicines   |
| <b>One long vowel</b><br>CūC  | <i>sūd</i>   | back  |
| <b>2 long vowels treated under CiCCān</b><br>CīCān  | <i>jīrān</i>   | neighbours  |
| <b>One short vowel—one long</b><br>aCCāC<br>CuCūC usually CCūC<br>CiCāC usually CCāC<br>CuCāC- treated as CuCaCa<br>CaCīC<br>CaCCā-<br>CuCCāC<br>CuCCān<br>CiCCān | <i>aṣrāf</i><br><i>ḥyūb</i><br><i>jbāl</i><br><i>quḍāt</i><br><i>ʾabīd</i><br><i>qatlā</i><br><i>ʾummāl</i><br><i>ṣubbān</i><br><i>ʾimyan</i>        | nobles<br>pockets<br>mountains<br>judges<br>slaves<br>killed victims<br>workers<br>youth<br>blind |
| <b>One short vowel—long—short</b><br>CuCūCa<br>CCūCa<br>CaCāCiC<br>CaCāʾiC C(a)CāyiC<br>Cawāʾir<br>CawāCiC<br>CiCaCa<br>CCāCa                                     | <i>ʾumūma</i><br><i>ngūla</i><br><i>madāris</i><br><i>ʾajāyib</i><br><i>dawāʾir</i><br><i>ḥawāmil</i><br><br><i>bḡāla</i>                            | uncles<br>bastards<br>schools<br>wonders<br>offices<br>pregnant ladies<br><br>mules               |
| <b>One short vowel—long—2 short</b><br>CaCāCiCa<br>CaCāCCa<br>CCāCCa  | <i>dakātra</i><br><i>Mṣālwa</i>  | doctors<br>people of Mosul  |
| <b>One short—2 long</b><br>CaCāCiC<br>CCāCīC<br>CaCāCā<br>CaCāCa<br>CCāCa<br>CuCāCā<br>CCāCa  | <i>majānīn</i><br><i>mafātīḥ</i><br><br><i>naṣāra</i><br><i>ʾtāša</i><br><br><i>skāra</i>  | Insane<br>keys<br><br>Christians<br>thirsty<br><br>drunk people                                   |
| <b>2 short—one long</b><br>ʾaCCiCāʾ<br>ʾaCCiCa<br>CuCaCāʾ<br>CuCaCa   | <i>ʾanbiyāʾ</i><br><i>ʾaḡnya</i><br><i>xulafāʾ</i><br><i>buxala</i>  | prophets<br>rich people<br>caliphs<br>miser   |

## Chapter 2

## Methodology

### 2.1 Introduction

Researchers of language maintenance/shift, attrition and loss have focused on explaining and describing what is happening to the language of an individual or a group in constant contact with another language and culture, Leeuw (2009) states

Moving to a new country often involves exposing oneself to a new language as well as a new culture. A consequence of increased contact to a new language community may result in a decrease in contact with the culture and language of one's country of origin. Such is the situation for many people who acquire not only a new country of residence, but also a new language.

Leeuw (2009: 1)

In sociolinguistic studies, data collection methods and sampling play an important role. After a careful consideration of the objectives in this study, different techniques have been used to give a better picture of the bilinguals' environment, which has a major effect on the formation of Broken Plurals.

The methodology in this study was developed gradually, following a preliminary analysis of bilingual children's production, which revealed interesting patterns. The interpretation of the pattern found in the preliminary analysis necessitated widening the sample of the speakers to include control groups consisting of monolingual female adults and monolingual children. The reason for this expansion in the research sample was that the patterns found could be attributed to the following factors, or a combination of factors, namely: (a) part of bilingual children's development patterns (main group); (b) part of monolingual adults' patterns (control group I); (c) part of adults living in the UK patterns (control group II); or (d) part of monolingual children's developmental patterns (control group III).

It is very important to consider the characteristics of heritage bilingual children's learning development. Their language use and language development will differ from their monolingual peers due to their communicative needs. They usually develop their own

language competence and need extra time not only to retrieve a word but also to search for it and formulate it (Lee & Shin, 2008; De Houwer, 2009; Meisel, 2001). Anderson (1999) goes further and states that comparing bilinguals with monolinguals peers is problematic because:

...a bilingual individual's skill in both languages cannot be compared to that of monolingual speakers, as the relationship between both languages is a dynamic and a fluid one. Language skills in both languages will depend in a variety of social, psychological and cognitive factors some of these factors are the domains where each language is spoken, changes in environmental input of each languages, productive use of each language, societal attitudes towards L1 and L2, and individual affective variables like (attitudes towards each language and its speakers).

Anderson (1999: 4)

Research into language maintenance or loss has suggested that the language children acquire from their parents might not be the same linguistic variety as the language spoken in the home country and the reasons for this might be as Hernandez-Chavez (1995: 25) cited in Hasson (2005) states “in the decline of native language proficiency from one generation to the next, the more complex linguistic structures, which are learned late in normal acquisition, fail to be learned and are thus lost.”

This chapter explains the methods used in this study: the informants, data collections, procedures and data analysis. All tasks were conducted using Iraqi Arabic.

## **2.2 Case study as a research method**

In this study, case studies were used to present the results of the data analysis. Many researchers pointed out the importance of using case studies. Johnson (1992: 84) stated that the purpose of a case study is “to understand the complexity and dynamic nature of the particular entity, and to discover systematic connections among experiences, behaviours, and relevant features of the context”; others like Merriam (1998: 19) mentioned that case studies are used to “gain an in depth understanding of the situation and meaning for those

involved”. Then a multi-case approach is used: a ‘within-subject’ and a ‘between-group’.

Stake (2006) states:

In multi-case study research, the single case is of interest because it belongs to a particular collection of cases. The individual cases share a common characteristic or condition. The cases in the collection are somehow categorically bound together. They may be a member of a group or examples of a phenomenon.

Stake (2006: 5)

Since case study allows numerous resources and methods in the data-collecting procedure, it will provide ‘rich and in-depth data’ on the linguistic behaviour of an individual or small group (Zhu & Annabelle, 2008).

By using a multi-case study method, I attempt to understand how bilingual children form Broken Plural by (1) examining how they form it and comparing it to that of monolingual children (2) exploring the social factors that have affected their formation and by doing so I attempt to find a way to explore individual differences and at the same time the interrelation of the characteristics of participants’ L1 maintenance/shift in an L2 environment. Schmid et al. (2012) draw attention to a significant methodological implication in dealing with children immigrating to a new linguistic environment before or after the onset of puberty (or incomplete acquisition), they state that any study dealing with this:

...will be faced with the challenge of designing tasks that are not too simple for the attritors (who typically retain a proficiency that differs only minimally from that of monolingual native speakers) but at the same time not too difficult for the incomplete learners (who have often been shown to have experienced wholesale restructurings and simplifications of grammatical categories).

Schmid et al. (2012: 677)

They recommend that the best way to overcome such issues is to elicit free spoken data because it “ allows every speaker to employ the full range of her/his language knowledge” (ibid: 678).

The following measures have been used with the main group under study - bilingual children:

1. Language preference: data was obtained for each participant primarily from interviews, and questionnaires with parents and children, and were enhanced by direct observation of their language choices in various situations.
2. Language environment: this was evaluated by parents' questionnaires, child and parent interviews and my observation. Parents completed written questionnaires to report their children's language use in various situations (school, parents, siblings, relatives, friends, TV, songs, games, reading and writing) to be able compare all the environmental aspects.
3. Language proficiency: bilingual parents completed questionnaires about their children's literacy levels for each language. Parents were also asked to evaluate their proficiency levels (speaking, listening, reading and writing) based on a self-assessed scale in both languages accompanied by my observation to give a better picture of the bilingual children's environment.

### **2.3 Ethical issues**

All the ethical considerations that apply to academic research have been followed (see appendix F), and consent forms were given before any recordings took place. All participants were informed about the principles and rationales of the study and that they have the right to cancel their participation without needing to give any explanation. Signed permissions were obtained.

Since the main informants in this study are children, consent forms were given to their parents and signed permissions were obtained from the parents on behalf of their children once they were happy for them to take part. All identifying information about the participants has been made anonymous and coded.

## 2.4 The researcher

The success of fieldwork is determined by the researcher's ability to access the community under study. Milroy (1987: 80) states that "the closer the field worker is matched to subjects in terms of various social attributes, the more successful he or she is likely to be". I consider myself as a speaker of Muslim Baghdadi Arabic; my parents both use this dialect. I was born in the UK as my father was studying for a Master's and PhD Degrees and we travelled to different countries but we had settled down in Baghdad by the middle of the 80s. I moved back to settle in the UK in 2006.

Being part of the Iraqi community and speaking the same dialect was an advantage, to reduce what is known as the 'observer's paradox'<sup>6</sup>. Being an insider also facilitated my access to these families. I managed to observe the families in different domains; observe the languages used for communication between parents and children and between the children themselves and to elicit natural speech from the children while interacting with my children during informal visits, gatherings and trips.

## 2.5 The Informants

Forty-eight informants took part in this study: the main informants were eleven Iraqi Arabic-English bilingual children and the other informants were three control groups: seventeen Iraqi monolingual children, nine female adults living in the UK and eleven monolingual female adults living in Baghdad. The control groups were included to establish the norms monolingual Iraqi Arabic children and female adults use in their formation of the BP. The Monolingual control groups were recruited through personal networking and were contacted

---

<sup>6</sup> This sociolinguistic term was introduced by Labov (1972) who noted that "...the aim of linguistic research in the community must be to find out how people talk when they are not being systematically observed; yet we can only obtain this data by systematic observation." (p. 209)

by telephone at first. They are all family members, with different degrees of family membership. In the telephone conversation I explained the main purpose of the study to the parents, the procedures that will be involved, and how much time the recordings would take. If they agreed to take part in the study, an appointment was made to do the recordings via Skype or Viber.

### **2.5.1 The Iraqi Community in the UK**

The Iraqi community in the UK consists of different religions and ethnicities with various levels of education and different socioeconomic backgrounds ranging from semi-skilled and self-employed workers to doctors, lawyers, poets, artist and teachers. Iraqis first arrived in the UK in the 1950s and 1960s. They were either students or seeking medical treatment and they did not seek long-term residency. The first wave was wealthy and well-educated, and they started to seek long term residency in the UK following the 1958 revolution in Iraq. The second massive wave was in the 1990s after the Gulf War, and most of them were poor immigrant workers, refugees and asylum seekers. A relatively smaller wave of wealthy and well-educated Iraqis living in Lebanon moved to the UK in the 1970s after the Lebanese civil war began and they set up their businesses in London (Abu-Haider, 2002).

Unfortunately it is difficult to establish accurately the exact size of the Iraqi community in UK, due to many reasons: the massive influx of refugees and other new migrants; many Iraqis changed their names and nationality when they came to the UK and registered as Iranian, Turkish, or Syrian and because many Iraqis did not even participate in 2001 Census, which was the first British census to report data on those born in Iraq. According to the Census, it was estimated that the Iraqi Muslim population in England was around 20,351. However the actual size was estimated to be double this due to high numbers of asylum seekers and the limitations of the categories under which ethnicity data was collected (Communities and Local Government, 2009).

There are doubts and concerns within the Iraqi community about the loss of their heritage language, which is linked by some with a rejection of the culture and links with Iraq. This concern is usually directed at the British-born Iraqis and younger children who are perceived to be losing their Iraqi culture and identity, and there are some attempts being made within the community to teach Arabic and Iraqi history and culture to young people. One of the Iraqi female respondents who took part in a report about England's Muslim ethnic communities (Communities and Local Government, 2009) explained:

Many of the second generation have lost their language, their culture and their religion and so their children will have even less attachment, so the question now is how do we keep the religion and the language alive.

(Communities and Local Government, 2009: 38).

The Iraqi community in Colchester (in Essex) is one of many Iraqi communities in the UK trying to preserve their heritage language. Parents face two major problems -whether they intend to stay in the UK temporarily or permanently; the first one is preserving the Arabic language in general and secondly preserving their heritage language - the home variety of Arabic, which is used in everyday situations. Parents are responsible for deciding to teach their children the mother tongue because sooner or later their ethnic minority language will endure language shift since children are exposed to the majority language much more in their daily routine and become less enthusiastic about their mother language and its usage. In spite of the fact that there are Arabic schools that can give students access to Arabic, its effect on maintaining the Arabic language is not sufficient because of the limited hours spent there as compared to British schools. Besides, Arabic schools do not teach the Arabic dialects; therefore, maintaining the dialect is then left to the parents. Fishman (1991) argued that “ the family home constitutes the best social setting where informality and intergenerational oral interactions are conducted on a daily basis but unfortunately in multilingual settings, languages are in danger where the stronger destroys the weaker, either through quick overpowering or by weaning it down slowly” (p. 94).

Therefore it is the parents' responsibility to transmit the mother tongue to their children and once parents cease to use the ethnic language at home, language loss is inevitable.

The Iraqi families in Colchester are either residents or students. Most of the resident families have higher educational qualifications or are working as doctors and they are all well integrated within their society, while others have been settled here by the Gateway Protection Programme and they, especially the parents, have kept their relationships within closed networks and there is a lack of understanding of the notion of their children being raised as bilinguals.

To explore the role of the family in language maintenance and use, this study focuses on Iraqi families living in Colchester, Essex, where Iraqi-Arabic is regarded as a cultural core value that is linked with other core values such as religion and identity. The bilingual children were in the process of acquiring their first language IA (some were in the initial stages of it) when they were exposed and naturally started to acquire the second language. The bilinguals' ages ranged from 7-15 years old, an age when it is very common to experience incomplete acquisition of L1. Some of the families mainly used IA and some mixed the two languages at home in different domains and activities. Some of the bilingual children can use the two languages, but this is not always the case for other bilinguals who could mainly use the dominant language (passive bilingual) and this basically depended on their understanding (comprehension) and their production (performance).

The eleven Iraqi Arabic-English bilingual children are members of six families (see Table 2. 1). The six Iraqi families selected for this study are quite homogeneous in many aspects like religious affiliation (all the families are Muslims), city of origin in Iraq (Baghdad) and level of education. All the families were enrolled through personal networking. Three of these families were temporary residents (students) in Colchester and

the other three were permanent residents (two of these families live in Manchester). The two families in Manchester were chosen because of the lack of resident Iraqi families in Colchester who meet the criteria required and because both these families are close friends of mine, so visits for a few days were normal and I was not considered as an outsider. A detailed report about each family is provided below.

**Table 2. 1. Information about the families in the study**

| Family | Father's education | Mother's education | Religion | Month/ Year of Arrival to UK | Reason of Arrival | Girl | Boy |
|--------|--------------------|--------------------|----------|------------------------------|-------------------|------|-----|
| 1. A   | PhD                | PhD candidate      | Muslim   | 08/2006                      | Resident          | 1    | 2   |
| 2. B   | MA                 | BA                 | Muslim   | 08/2006                      | Resident          | 1    | 1   |
| 3. C   | BA                 | PhD                | Muslim   | 06/2008                      | Study             | 1    | 1   |
| 4. D   | PhD                | Diploma            | Muslim   | 07/2009                      | Study             | 1    | 2   |
| 5. E   | PhD                | BS                 | Muslim   | 05/2010                      | Study             | 1    | 2   |
| 6. F   | MS                 | Diploma            | Muslim   | 02/2011                      | Resident          | 1    | 1   |

### 1. Family A

Ahmad and Amily are my children. I (researcher) was born in Birmingham and lived there for 5 years. I travelled to different countries until the age of 10 when I settled down in Baghdad. I finished my master's degree in Baghdad. The father AI was born in Baghdad, lived there his whole life and did his first master's degree. We got married in Libya where our first son Ahmad and daughter Amily were born. We decided to move to the UK and settle down in 2006, where we lived in London for one year and our children joined schools. Then, in 2007 we moved to Colchester where our third child HA was born in 2009 (he was not included in the study due to his age). We live in a middle class neighbourhood, inhabited by British families most of whom are originally from Colchester.

### 2. Family B

BS and BA are parents of Bader and Bedour. The mother BA and the father BS were both born in Baghdad. BA has a bachelor's degree in Philosophy. Her knowledge of the English language is basic. The father BS has a master degree in English language. Bader

was born in Baghdad and Bedour was born in Jordan, during a family holiday. They settled down in the UK in 2006 and they have lived in Manchester. The family live in a middle class neighbourhood, inhabited by British families. They have very close relationships with other families from different Arab countries, e.g., Lebanese and Jordanians. The family has relatives living in the UK and in Europe.

### 3. Family C

CA and CE are parents of Caram. The mother CE was born in Baghdad and has a Master Degree in Mathematics. Her English skills are advanced. The father CA was born in Baghdad and has a bachelor's degree in Turkish language. His English language skills are basic. Their son Caram was born in Baghdad. The family travelled to Colchester in 2008 because his mother had a scholarship to do her PhD. Caram's sister AM was born in Colchester and was not included in the study due to her age. They live in a middle class neighbourhood in Colchester.

### 4. Family D

DO and DE are parents of Danyal and Dana. The mother DE was born in Baghdad. She has a Diploma and she does not know English at all. The Father DO was born in Baghdad. He has a Master Degree and his English skills are advanced. Their first son Danyal was born in Baghdad. His sister Dana was born in Egypt, as the family lived there for six months before they travelled back to Baghdad. The family travelled to Colchester in 2009 as the father had a scholarship to do his PhD. They live in a middle-class British neighbourhood.

## 5. Family E

EH and EN are parents of Ebaa' and Esraa'. The mother EN was born in Baghdad. She has a Bachelor degree in Engineering and her English skills are good. The Father EH was born in Baghdad. He has a Master Degree and his English skills are advanced. Their first son Ebaa' was born in Baghdad and so were his sister Esraa' and their second son YA (he was not included in the study due to his age). The family travelled to Colchester in 2010 and they live in a middle-class British neighbourhood.

## 6. Family F

FY and FA are parents of Furaat and Fay. The mother FA was born in Baghdad. She has a diploma and her knowledge of the English language is basic. The father FY was born in Baghdad. He has a Master Degree in Science and his English skills are advanced. The family travelled to the UK in 2011. Their daughter Fay was born in Baghdad and she attended a private primary school where English is taught from year one. Their son Furaat was born in Baghdad. The family live in a middle-class British neighbourhood.

### **2.5.1.1 Main informants: Iraqi Arabic-English bilingual children**

Eleven Bilingual children participated in this study. None of the children had any history of delays in speech and they all lived with both parents. Table 2. 2 provides detailed information about them; their ages (in years and months) ranged between 2.4- 12.7 when they arrived in the UK and they were all using Iraqi Arabic when they arrived.

**Table 2. 2. Information about each Bilingual child**

| Family | Name/Gender | Age at arrival | Age at recording | Language spoken at arrival |
|--------|-------------|----------------|------------------|----------------------------|
| A      | Ahmad. M    | 4.6            | 8.9              | IA                         |
|        | Amily. F    | 3.1            | 7.4              | IA                         |
| B      | Bader. M    | 7.9            | 14.2             | IA                         |
|        | Bedour. F   | 4.4            | 10.7             | IA                         |
| C      | Caram. M    | 2.4            | 7.4              | IA                         |
| D      | Danyal. M   | 7.9            | 11.4             | IA                         |
|        | Dana. F     | 3.9            | 7.4              | IA                         |
| E      | Ebaa'. M    | 8              | 11.3             | IA                         |
|        | Esraa'. F   | 6              | 9.3              | IA                         |
| F      | Fay. F      | 12.7           | 15.2             | IA                         |
|        | Furaat. M   | 5.7            | 8.2              | IA                         |

### 2.5.2 Control Group (III): Monolingual Iraqi Arabic children

Seventeen monolingual children were selected as a control group. They were all recruited through personal contacts. All monolinguals were native speakers of Iraqi Arabic as their only mother tongue, attending primary and secondary schools and living in a middle/high socio-economic class area in Baghdad. All participants came from urban, educated Muslim families and had no developmental or linguistic problems of any kind. The monolingual children's age was selected to match the age of the bilingual subjects as closely as possible. Table 2. 3 shows the monolingual children's age and gender.

**Table 2. 3. Monolinguals' gender/age group**

| Monolinguals/Gender | Age  |
|---------------------|------|
| Ali, M              | 7.5  |
| Hasan, M            | 7.7  |
| Muhannad, M         | 7.8  |
| Adel, M             | 8.3  |
| Rayyaan, M          | 8.9  |
| Amna, F             | 9.1  |
| Dalya, F            | 10.1 |
| Kareem, M           | 10.7 |
| Teba, F             | 11.5 |
| Anas, M             | 11.6 |
| Amaani, F           | 11.8 |
| Fatma, F            | 12.1 |
| Nada, F             | 13.7 |
| Adam, M             | 14.0 |
| Yusef, M            | 15.5 |
| Rana, F             | 15.7 |
| Fadi, M             | 16.1 |

### **2.5.3 Control groups: Monolingual Iraqi Female Adults (I) and Female adults living in the UK (II)**

Twenty female adults took part in the study: nine of them live in the UK and eleven of them live in Baghdad. Five of the nine female adults who live in the UK are members of the six families taking part in this study. Their ages are between 25- 40 years old. The reason female adults were included was because they are in direct contact with children in every day situations and they are considered as the main source for the maintenance of tradition and language.

## **2.6 The study**

Studies like Polinsky & Kagan (2007) and Montrul (2006) have emphasised the importance of investigative heritage language grammars to justify how heritage bilinguals' grammar and

competence can be different from their monolingual peers and I can assume it might be different either because of incomplete acquisition or attrition based on assumptions that (a) these parts of the heritage language were in the first place available to the heritage bilinguals to acquire and for some reason they were acquired then lost or never acquired at all, (b) they were simply not exposed to it, as it did not occur in their input. For this reason, I had to make sure I examined all input types to ensure that what I was looking for was provided or at least their input provided triggers before assuming that these difference were due to incomplete acquisition or attrition (Montrul, 2004; Tsimpli et al 2004).

I investigated the diverse patterns observed in the formation of the morphological phenomenon of the BP in the spoken language of Iraqi Arabic (IA) bilingual children, and explored the impact of the social factors on the use of these patterns. This study is an attempt to generate an overall description and understanding of the developmental patterns of the BP by bilingual Iraqi Arabic-English children, where individual input and usage will be taken into consideration in their formation.

### **2.6.1 Data**

After collecting data from interviews, questionnaires, observation and naturalistic recordings, word-lists and picture naming tests were conducted. Four hundred and thirty seven Iraqi Arabic singular words were used. The words in this study were taken from familiar (used or heard) Broken Plural nouns and adjectives observed in the daily speech of Iraqi Arabic children in Baghdad denoting fruits, vegetables, animals, birds, body parts, tools, clothes, furniture and household items (see appendix G). Words vary in frequency: some are more common and very frequent and some are advanced and used less often.

The Broken Plural words used in this study were checked by four educated native Iraqi speakers for cultural bias and frequency and in order to prevent sequence effects, distracted nouns and adjectives were used, which do not belong to the same category or sound entry.

### 2.6.2 Data collection

The spoken form of a language is crucial for the study of linguistic structure where the speech is spontaneous. However, in conducting the interviews, the researcher may face what Labov (1972) referred to as ‘observer’s paradox’. To reduce such influence on the linguistic behaviour, I made repeated informal visits to their homes before the start of the study in order to get to know the children and their families and they got used to my presence. All the informants knew that everything would be recorded using a Sony ICD-UX300F digital voice recorder.

Since the participants knew me well, their speech was less formal and they produced the desired spontaneous everyday spoken Iraqi Arabic. The data collection process combined a variety of techniques to determine data triangulation as gathering data from different sources helped to gain a better picture and capture the diverse nature of the bilinguals’ L1 maintenance and attrition experiences. The following methods were used:

- For bilinguals:
  - Different techniques:
    - Interviews (informal semi-structured)
    - Questionnaires
    - Observations
    - Broken Plural word-list/picture naming
    - Naturalistic recordings
- For monolingual children and female adults and female adults living in the UK, Broken Plural word-list recordings were used.

### 2.6.2.1 Interviews

All the informal semi-structured interviews were spoken, flexible, natural and conducted during visits to the families' homes. During these visits the interviews took place with the bilingual parents as we were sitting in the living room and the children were playing together. The interviews served a dual purpose in this study: first to collect sociolinguistic information for each family and second to monitor the parents' speech. I conducted the interviews with parents and mothers were asked to conduct the child's interview with their children in Arabic to prevent the 'observer's paradox' and to avoid the problem of code-switching.

### 2.6.2.2 Questionnaires

The study employed several questionnaires, both oral and written ones. The oral questionnaires were: (a) a demographic questionnaire with the parents eliciting information about the family background, place of origin, ages, year of arrival, reasons of travel, education and languages usage at home (see appendix A); (b) a sociolinguistic questionnaire eliciting bilingual parents (appendix A) and children's attitudes (appendix B) towards bilingualism and towards learning both the first and second languages.

As for the written questionnaires, I used extensive parental questionnaires to have a complete understanding of the bilingual children's expressive and receptive language skills. Bilingual children's parents were asked to assess their children's literacy levels in English and Arabic as it is important to know the parents' perceptions regarding their child's skills in each language because they are good judges of their children's linguistic skills (Restrepo, 1998). I followed other studies done with the same interests (Khattab, 2002; Jia & Aaronson, 2003; Gulberg & Indefrey, 2003; Paradis, 2011; Unsworth, 2013), I used: (a) a 'can do scale' with short answers and a long answer for the two languages for the bilingual children (see appendices C & D); (b) a 5-point ordinary scale, where 5= all the time, 4= most of the time, 3=

half the time, 2= sometimes and 1= almost never to investigate the amount and the richness of daily input and usage and the bilingual children's languages experience in both languages. Parents were also asked to fill a self-assessment proficiency questionnaire to assess their literacy levels in both languages to rate their own skills in reading, writing, speaking and listening (see appendix E).

So the questionnaires cover the extent to which children use the language in question themselves; the variety of input sources in terms of number of language providers and frequency; literacy related activities and the existence of older siblings, by taking into account any variation in the inputs and use over time.

### **2.6.2.3 Observations**

Observations were used to accompany interviews and questionnaires to attain any information which cannot be attained from the two methods, and to validate what the parents said during the interviews and questionnaires. Observing the situational context is important because it might indicate resources the mothers provide for encouraging L1/L2 either consciously or unconsciously.

Observations were conducted in natural settings, for example observing the mother's interaction with the children in different settings which gave me a better understanding of how much IA was being used between the mother and the children and between the children themselves or with their friends. Observations took place every two months during weekends, half terms or holidays for over a period of two years.

### **2.6.2.4 Broken plural word-lists/ picture naming**

437 singular words were used to elicit the BP forms. Recordings for bilingual children were done after spending more than 2 years in the UK. All were listed in pictures for bilingual

children and word lists for the control groups. For the bilingual children I used pictures/spoken language to check his/her competence about the meaning of the words. As for control groups I said the spoken singular form of the word and they were asked to provide the plural form.

Bilingual children's recordings were conducted in the presence of their mothers in their homes to provide a relaxing and familiar atmosphere. They were tested in two sessions due to the large number of words. The first session contained 218 words and the second one 219 words. The sessions were done in one day, one in the morning and one after lunch. Each child was in a separate room with his/her mother and me. He/she was shown pictures on a laptop computer. I said the singular form with each picture of the single item if the child did not know/remember the name of the item in the singular form and the child then had to tell me the plural form after he/she saw a second picture with more than one of the same item. When they provided the plural form we moved to the subsequent picture/word and so on. The following dialogue accompanied the pictures:

Researcher: *šinū bi ṣṣūra?* 'What is there in the picture?'

Child: Singular picture *qālab* 'cake tin'

Plural picture *qawālib* 'cakes tins'

Some of the words used can also take the feminine marker *-āt* like *tuffāḥḥāt* which is an acceptable form for very young monolinguals but when they get older, they will learn that the form *tuffāḥ* is the right one. In such cases and for the children who used it, a subsequent question was asked:

Researcher: *wa 'idā 'idna ṣandūg?* 'What if we have a box?'

Child: *tuffāḥ* 'apples'

But if the child used the same word again *tuffāḥḥāt*, we moved to the next word.

The female adults living in the UK were visited in their homes and were tested with the same tokens as their children. They were asked to give the target form spontaneously and as quickly as possible and their answers were recorded.

### **2.6.2.5 Naturalistic recordings**

The interactional data were collected during meal times and play times. It consists of spontaneous natural speech of the children, their parents, relatives and friends. The mothers were instructed to place the recorder where the children would not see it directly. The elicited data was useful in supporting the results obtained from other methods.

### **2.6.3 Data analysis**

The data produced by all the informants were entered into a database using Microsoft Excel and were transliterated based on the way the words were produced by each informant. After the data was anonymised, two independent Iraqi Arabic speakers checked the transliteration for accuracy. Then a detailed descriptive analysis of each informant's data was carried out. The produced data were classified into correct and incorrect target form, which were in turn examined for meaningful themes in order to discover how they were patterned. Throughout this study, the term 'repair strategy' will be used instead of 'incorrect form' when discussing bilingual Iraqi Arabic-English data. The standard of correct versus incorrect responses was measured in relation to the monolingual Iraqi female adults (the control group I) where no errors were presented. In light of the results of the individual analysis, individual patterns from each bilingual child were raised and discussed with reference to monolingual children.

Then I used the patterns to compare and generalise the empirical results of the case studies. The cross-case analysis is used to look for a chain of evidence since studying multiple cases makes it possible to build a rational sequence of facts (Yin, 1994; Miles & Huberman, 1994).

Stake (2006: 12) pointed out that “each case to be studied is a complex entity located in its own situation. It has its special contexts or backgrounds” and as bilinguals differ from each other in their exposure patterns to both languages and in the social contexts in which they have learned these languages which influenced their language development, extra linguistic aspects about bilingual Iraqi Arabic-English families were deliberated in order to find possible parameters that might explain why the repair strategies were more significant with some bilingual children than in others. The extra-linguistic data analysis is at a descriptive level (Johnson, 1992) which is an examination of the social factors like home/parents’ policies; languages input sources, the quantity and the quality of these input; bilingual children’s language usage/outputs; parents’ proficiency in English; in addition to important factors like their attitudes, the age of the children when they migrated to the UK (AoO), length of exposure (LoE)/years living in the UK and their age at the time of testing to see if there is any correlation between these factors and their repair strategies. These bilingual children might be using the same two languages but they differ from each other with respect to the social variables.

## **2.7 Social factors**

The immigrants’ language choice in the host country is crucial for their native language maintenance as language is not only a mean of interpersonal communication but it also signifies situations, topics, social statuses, personal relationships, societal goals, and the domains of interactions (Husain, 2011). Haberland (2005: 227) stated “the domain concept, originally suggested by Schmidt-Rohr in 1932... was an attempt to sort out different areas of language use in multilingual societies, which are relevant for language choice” and he mentioned that Schmidt-Rohr suggested nine language domains “ family, playground and street, school, church, literature, press, military, courts, and governmental institutions” (ibid: 229). The sociolinguistic notion of domain was formalised by Fishman (1972), who stated that domains “ are defined regardless of their number, in terms of institutional contexts and their

congruent behavioural co-occurrences” (p. 441). In other words, what language an individual chooses to use may depend on whom he/she is speaking to, about what he/she is discussing and where the conversation is taking place and therefore the languages used are affected by many factors like topic, ‘role relation’ and locale. He mentioned that topic can be a regulator of language use in multilingual settings, like when someone changes his/her language to the interlocutor’s language when discussing certain topics; ‘role relation’ means that the languages you use are determined by the interlocutor you speak with, like when the father speaks to the mother, mother to child and child to mother, and locale means that the places where the conversation take place influence the languages you use.

Barber (1952) (as cited in Fishman 1972) formulated other domains: intimate (family); informal (neighbour); formal (religious-ceremonial) and intergroup. Baker & Jones (1998) and Wardhaugh (1992) also mention that in addition to the formality and informality domains, minority languages are linked with informal situations while majority languages are connected with formal situations and both notions are affected by many factors as mentioned above.

Landweer (2008) classified domains of language use along a scale. She notes further:

...as language shift takes hold in an ethno-linguistic community, the vernacular is typically replaced by a second language in progressively more domains along the scale. The home is the ‘anchor’ domain and is usually the last to be replaced. After this come domains such as social events, cultural events, education, business, travel, and writing. The more domains in which the vernacular is used, the more vital the language is.

Landweer (2008: 78)

Language dominance can be observed by monitoring individual language patterns in different situations. Several studies like Fishman et al. (1971) and Pearson & McGee (1993) examined bilingual language behaviour in different domains. For example Pearson & McGee (1993) conducted a study on language choice among Hispanic-background junior high school students in Miami. They found that the majority of the informants in their study use the community language (Spanish) with their parents, but English with siblings and friends and

other domains like reading and watching TV. Fishman et al. (1971) conducted a study on the Puerto Rican community in New York City, in which language domains like family, friendship, education, employment and religion were listed to study language preference where the mother heritage language Spanish was spoken mostly in the family, friendship and religion respectively but least in employment and education.

Within Arabic-English bilinguals, Othman (2006) conducted a study on language choice among Arabic-English bilingual families in Manchester. He predicted Arabic language maintenance in the longer term because of the parents' main policy, which is their insistence on using Arabic at home in all domains, as English is being used at school. In these families there is a classification in the language usage. Arabic is the unmarked language at home, in the interaction between the parents themselves and with their children, in the social interaction with friends and in media, while English is the unmarked language in other domains. Othman's findings confirm Fishman's (1977) emphasis that for the minority languages to exist for longer terms, parents should assign different domains for each language.

Husain (2011) conducted another study on Asian communities (of Indian, Pakistani and Bangladeshi origin) in the UK to investigate the measures they take in maintaining their native languages. The age of the participants ranges from under 20 to over 60, the length of living in the UK was from one year to being born in the UK and their education ranged from no formal education to highly educated and their occupation was a mixture of highly skilled to ordinary workers, housewives and retired personnel. She studied their usage of the mother tongue and the English language in the home domain, neighbourhood and social gatherings. Her findings revealed that language shift might not occur in these communities because they highly value their mother tongues.

### 2.7.1 Home domain

The family is considered as the most important domain in the child's linguistic environment because of the role it plays in shaping the child's language behaviour. Fishman (1991: 94), for instance, maintains that the family is "the most common and inescapable basis of mother tongue transmission, bonding, use and stabilization"; and further Garrett & Baquedano-Lopez (2002: 341) mention that "younger children . . . through interactions with older and more experienced persons, acquire the knowledge and practices that are necessary for them to function as, and be regarded as, competent members of the communities". According to Clyne & Kipp, the family is a primary environment for acquiring native language and passing it over generations. They maintain that:

...the home has often been cited as a key element in language maintenance - if a language is not maintained in the home domain, then it cannot be maintained elsewhere.

Clyne & Kipp (1999: 47)

The family role can be seen either through the inside strategies conducted by parents, as Rohani et al, (2005: 15) pointed out: "parents, both consciously and unconsciously, create a situation that will either nurture or impair language acquisition", or through the impact of the surrounding environment. According to Hinton (1999):

Heritage language retention is successful only if the language is used in multiple contexts, which not only allows for sufficient input for continued language development but also helps the child realize the usefulness of the language and provides motivation.

Hinton (1999: 6)

Furthermore, Fishman (1991: 113) makes the point that language transmission is only possible when mother tongue is transmitted; a language "which is not transmitted cannot be maintained".

It is the parents' role to consider their language policies and management to be followed, which refers to the "efforts to control the language of family members, especially children" as Spolsky (2007: 430) argued, and sometimes there is no explicit decision about

their language choice and it arises spontaneously without planning it (Okita, 2002; Schwartz, 2010).

There are many factors that have an effect on the parent's decision to use or abandon the mother tongue, like socio-cultural, demographic and psychological factors, in addition to factors inside the family, which are extremely important. Anderson (2012: 199) pointed out that "The factors that influence L1 maintenance and loss are varied and complex. The intermingling of macrosocial, microsocial, and individual variables creates an environment that does or does not support L1 maintenance". Family structure is one of these factors, especially the presence of older siblings and children's position, which play an importance role in intergenerational L1 transmission. Researchers like Baker (2001), Spolsky (2007), Kyratzis, (2004) and Zhu & Li (2005) all mentioned the important role played by older children in language socialization of the younger ones but the direction of their influence is ambiguous. There is evidence that older children bring L2 into the home and use it regularly with their younger siblings and occasionally with their parents but the opposite is true according to Kopeliovich's (2010) in-depth, qualitative study of a Hebrew-Russian bilingual family with eight children. All the older children in this study followed their mother's strict rules of using the home language with their younger siblings until they were old enough to go to preschool.

(Wu, 2005) included other factors inside the family that have an influence on the maintenance of the heritage Chinese language like:

...language use at home, literary environment, parental attitudes toward two languages, how much time spent in learning two languages and whether the mother is the main caregiver. Also, birth order, kids' age, numbers of siblings and whether grandparents live with the family, or whether the family visits the home country often influence how well a child can maintain his/her native language and stay bilingual.

(Wu, 2005: 2390)

In addition to the above factors, he also mentioned that a child's character might also influence heritage language maintenance - "their personality, motivation, self-identification and

age affect how they feel toward Chinese and English”.

Schechter et al. (1996) did an exploratory study with ten Hispanic families in the San Francisco Bay Area (these families have chosen to maintain the usage of the mother tongue at home). They interviewed parents to uncover the reasons that motivated their personal decisions and strategies for Spanish maintenance and they reported some factors that parents noted as their underlying principle like: better jobs, better education, being part of the first and second language communities, identity, and an increase in family relations. Liu (2008) also did a study on maintaining Chinese as a heritage language in the United States and he proposed factors which were important in maintaining the heritage language like the family, parent’s educational level, extended family members, individual characters, ethnic identity and institutional support.

### **2.7.2 Family language practices**

Schwartz (2010: 178) states that “Family language practice refers to patterns of language choice and preference within the family and in different contexts. This practice could reflect socio-cultural changes in intergenerational interactions within immigrant families”. Studies done by Caldas & Caron-Caldas (2002) and Zhu (2008) also report that children prefer the new community language to their own heritage language and they tend to shift from the heritage language to the dominant one as their friends and peers influence their preference. Tse (2001) also mentions that second-generation immigrants may willingly lose their languages due to different reasons, for example a strong desire for a sense of belonging to a dominant group; limited exposure to their mother language; lack of opportunities to develop their home language and the power of the majority language.

The relationship between the parents’ policies and their actual language practice and management is a complex one. Parents’ attitudes and beliefs about how their children use their own languages and the parents role in shaping the linguistic environment for the children does

have its own effect on the parents' language practice and management but there is a kind of discrepancy between parents' commitments to maintain their ethnic language and their own language practices (Schwartz, 2008; Spolsky, 2004; Kopeliovich, 2010). For example in Schwartz's (2008) study, he found inconsistency between the parents' commitment toward L1 maintenance among second generation Russian-Hebrew children and their reported language practice, despite the fact that almost all the parents reported a positive attitude towards the maintenance of the Russian language. Husain, (2011: 434) also noticed that the parents' responses contradict their actions in maintaining their mother language: "all 45 respondents in the questionnaires and in the formal interviews unanimously stated that the mother tongue maintenance will only be possible if children are encouraged to use it at home... (and) they all expressed that it was essential to speak with their children as much as possible" but the parents mostly used English with their young children and in turn their younger children used only English with them and with other family members.

### **2.7.3 Parents' education and proficiency in English**

This is another factor that has an effect on language maintenance or language loss. Evidence gathered regarding this factor is conflicting. For example, King & Fogle (2006) found that informants with a higher level of education promote mother language maintenance; Jaspert & Kroon also recognized the correlation between higher levels of education and low levels of L1 attrition. "This would mean that people with a higher education can maintain their language proficiency in an immigration context longer than people with a low level of education" (1989: 92) but the opposite was true in studies by Harres (1989) and Doucet (1991) (as cited in Schwartz 2012: 125), where a greater shift for L1 was found to be due to the higher educational levels of the informants.

Parents' proficiency in the majority language played a significant role too. This is especially true if they do not speak it or they prefer and feel comfortable using the heritage language, as their children are more likely to use the heritage language as the norm. For example, Dabene & Moore (1995) conducted a study on the Algerian community in France, and noticed the usage of the Arabic language in the home domain due to women's limited French language skill so Arabic was the unmarked language in this domain. Another study was carried out by Kleifgen et al. (1986) on the language behaviour of foreign graduate students and visiting faculties' children in America. There was gradual shift towards English in different domains and degrees and the least shift was among Korean and Japanese children due to their mothers' limited English skills. Sometimes when parents know English, their language behaviour might affect their children's language choice especially when they answer them in English rather than in their ethnic language in the home domain, which encourages the children to use it at home too: "a parental code-switch to English almost always leads to the child using English" (Pan, 1995: 323).

#### **2.7.4 Attitudes**

This variable is one of the important factors in the maintenance and shift of a language. Baker (1992: 10) stated that attitude refers to "a hypothetical construct used to explain the direction and persistence of human behaviour" since it is a very important determinant in language behaviour and use, as it reflects views and opinions of individuals as well as speech communities on different issues related to aspects of language. Attitudes toward language maintenance/shift may vary from one language community to another and from one family to another. Some language groups or families are enthusiastic and eager for their children to absorb and understand the new community and learn the new language as soon as possible while others are eager to retain their native language and culture and look for ways and means to maintain fluency in their mother tongue.

Determining a community's language attitude is very important in the analysis of the process of language use and behaviour as it helps to acquire a better understanding of language attitude and other linguistic and cultural aspects of a given speech community. In studying language attitude, one has to be very careful when distinguishing between reported and observed attitudes because the same respondent who reports a certain attitude may in practice show a different attitude with reference to the same enquiry due to the influence of culture, society, family and peer-pressure. Within sociolinguistics, it is often argued that the study of language variation cannot be completely explained by considering only social and linguistic situational factors; one also has to take into account the norms, values and prestige patterns in the linguistic community. According to Knops & Kroon (1988: 1) language attitudes are found to be relevant to the definition of speech communities, to the explanation of linguistic change, language maintenance and language shift, and to applied concerns in the fields of intergroup communication, language planning and education.

Fantini (1987: 36) pointed out that if parents want to raise their children successfully as bilinguals, they should be "clear about their own values and preferences, developing models which best support their children through the developmental process". In addition to this, Kuo (1974) also pointed out two categories that have a major significance on raising bilingual children - behaviour and attitude - as parents' positive behaviour and attitude towards their ethnic language will affect their children's choice and encourage them to use it more and vice versa.

Another important issue to immigrant communities is the relation between the attitudes towards both the native tongue and the host language and the motivation to learn the host language. Herdina & Jessner (2002: 138) pointed out that "Individual motivation will show its effects on the amount of effort put into the acquisition and maintenance of a specific language system" and since attitudes are assumed to have an effect on language choice and language use,

it will play a significant role in shaping language development.

With regard to children's attitudes, there is lack of agreement on the findings regarding the age at which language attitude develops in children. Some researchers (as cited in Ryan & Giles (1982)) have shown that it is around the age of 3.6 - 4.0 years as Mercer (1975) points out or 5 to 6 years as in Aboud's study (1976) when children become aware of their own language as different from that spoken by others. While Labov (1965) claimed that it is not until early adolescence that children become aware of the social importance of their dialect. Luo & Wiseman (2000) found out that parent-child cohesion was a mediating factor between parents' attitude towards language maintenance and children's level of language maintenance. When there is cohesion between parents and children, parental attitude is more robust in predicting a child's rate of language maintenance. Low cohesion leads to less maintenance even with high positive parental attitude towards language maintenance.

Parents' continuous encouragement for their children to use the heritage language is a very important factor in using their language at home since it helps them to have a positive opinion about it and such an opinion will make them feel they need their first language to the same degree as the second language. Children's positive attitudes will encourage them to use their language while negative comments will force them to abandon their first language as has been observed by Thomason (2001) with two minority communities (Chinook in the Pacific Northwest of the US and Swedish in areas of the northern Midwest inhabited by Swedish immigrants) where "the elders in the community laughed at the children for making mistakes in the community's ethnic-heritage language; unwilling to undergo continual teasing, the children simply switched completely and permanently to English" (p. 53).

All the parents in this study share similar positive attitudes towards raising their children as bilinguals but feel that their policies are useless in certain ways. They know the importance of maintaining both languages, yet they also know it is hard to do so. The parents

mention the importance of maintaining the Arabic language in general in order to be able to read the Holy Quran which is the best source to learn Arabic in spite of the fact that it is written in Standard Arabic. Write (1992: 29) states that “the identification of a language with a religion has strong positive effects on the maintenance of that language, perhaps more enduring than any other since the use becomes ritualized” and she elaborates that “minority language use in religious institutions and religious practice is in a privileged and relatively unassailable position ...the language is not under threat”.

### 2.7.5 Age

A child’s age and position in the family are important variables in language maintenance among immigrant children, as different age groups shift at different rates. Young immigrant children are expected to shift to the majority language as soon as they are preschool age.

Fillmore (1991) stated that:

The younger the children are when they encounter these assimilative forces, the greater the effect on their primary languages. It is especially problematic for children in the preschool period, that is, under the age of 5. At this age, children have simply not reached a stable enough command of their native language not to be affected by contact with a language that is promoted as heavily as English is in this society.

Fillmore (1991: 342)

She elaborated more on the main reason why they might behave in such a way that they want to feel a sense of belonging and be accepted in the English speaking community, e.g., schools.

There are important points that one needs to take into consideration when dealing with children. We need to be careful when we distinguish between non-acquisition and attrition. We cannot describe something as lost when it had never been acquired in the first place. We also need to distinguish between pre- and post-puberty, or child and adult attritors as well as between simultaneous, early and late bilinguals. There is a large amount of evidence suggesting that L1 maintenance and attrition is entirely different between speakers for whom full exposure to L1 stopped before and after puberty. For younger children, the structural system of the L1

can be considerably restructured from the native norm, while older children have never been shown to be affected by structural loss of any kind (Montrul, 2008; Bylund, 2009). Age at onset in language attrition studies (Kopke & Schmid, 2004; Pelc, 2001) is very important due to the severity of some children's L1 loss who migrated to a new linguistic community before puberty (up to age 12). Schmid (2013) draws a distinction between language attrition and incomplete acquisition, stating that:

L1 attrition is taken to be the process that takes place in late bilinguals who emigrated above an age that is commonly set around ten to twelve years, while incomplete acquisition refers to younger migrants or heritage speakers who grew up using a family language and were then exposed to the environmental language, for example when they started school.

Schmid (2013: 107)

The above studies came to the same conclusion that younger children have lower chances of maintaining their mother tongue, which is not yet established, in comparison to older children who somehow have a mastery of their mother tongue before being exposed to a new linguistic environment. In pre-puberty children, there is a correlation between the decreased levels of L1 proficiency and the increased levels of L2 proficiency and then this leads in some cases to a complete adaptation of L2 and a complete abandonment of L1 (Ecke, 2004). Schmitt (2010) did a longitudinal study on five Russian boys up to the age 11, living with their families in the U.S.: they immigrated at around the age of 4 and had been living there for six years. She studied them twice at an interval of two years, and she noticed that English was becoming the dominant language, and there was convergence<sup>7</sup> and code switching in language behaviour.

In this study, I investigate the home language policies used by parents, the sources of language inputs and use in addition to important variables like age and attitudes.

---

<sup>7</sup> Schmitt (2010: 647) defined convergence as an indication of language attrition: "Convergence is a mechanism of rather advanced language loss where the speaker can no longer distinguish between the levels of lexical structure and the types of morphemes."

## **Chapter 3                    Language maintenance and use, and language shift**

This chapter explores the factors that might affect language maintenance and language shift in heritage languages in addition to the social factors that might increase or decrease the effects of maintenance/shift in this study. Fishman's work (1972, 1989) and Fase et al (1992) have been chosen as a framework to explain how IA is either maintained or shifted to English - the majority language. Since the only domain where children acquire, learn and use Iraqi Arabic is the home domain, I explored this domain thoroughly in addition to the social factors that were used by the parents, which might have affected their children's input and use.

### **3.1            Language maintenance and language shift**

Fishman was the first to introduce the terms 'language maintenance and language use' and 'language maintenance and language shift' in the early 1960s (Fishman, 1989). 'Language maintenance' refers to the continuous usage of a language in spite of a regionally and socially powerful language, while 'language shift' is the substitution of one language with another as the main source of interaction and social communication within a community. When language shift takes place we will have different stages and degrees of bilingualism, and at the same time mother tongue proficiency will be lost. Veltman (1983) and Paulston (1986) (as cited in Gogonas 2010, p. 14) described the general patterns of immigrant generation shift in the USA: the first generation starts learning English but uses their ethnic language inside their homes, the second generation still use the ethnic language at home except when they are outside (for example at work or at school), and by the third generation, English becomes the language used at home and elsewhere and any knowledge of the mother language fades away.

There is a clear link between language maintenance and ethnicity in Fishman's work (1972). He classified seven models, which characterise the efforts of southern and eastern European immigrants to maintain their ethnic languages. He argued (1972: 52- 53) that:

1. In the first model, there is rarely any usage of language as an ethnic symbol in daily life situations as a natural linguistic behaviour.
2. The powerful impact of the concept and values of the majority community results in the disintegration of the ethnic language by other generations (beyond the first generation).
3. The minority communities depend on religious affiliations to maintain their ethnic language.
4. The minority communities' effort to employ the majority communities' culture and values in order to maintain their own language and culture is ineffective partly because it does not meet their needs.
5. The outcome of this is that the second generation takes little or no interest in maintaining its culture and language.
6. Although the second generation preserves some ethical and cultural marginal roots through religious affiliations - which are not enough to maintain the ethnic language – second generation remains optimistic about their ethnic culture and language, which will be evident when the second generation move on to maturity.
7. In contrast, the third and successive generations view ethnicity and mother language as valuable things which contribute much to their identity but unfortunately there is not enough support for them to maintain their language.

In addition to these, Fishman (1989: 202- 203) proposed three important and frequent scenarios - or as he labelled them 'resolutions'- for the interaction of two separate languages, that is, majority and ethnic minority languages. In the first scenario, the dominant language prevails over the minority language, whereas in the second scenario, the minority language

prevails over the dominant language, but in the third scenario we have two synchronised languages structuring a bilingual environment:

Scenario 1:  $B \rightarrow A = A$

Scenario 2:  $B \rightarrow A = B$

Scenario 3:  $B \rightarrow A = B + A$

(A= dominant language, B= minority language)

Fase et al. (1992: 3) on the other hand argue that in spite of the different terminologies used to denote language loss, for example ‘language shift, language attrition, language death and language obsolescence’, all these terminologies have a basic universal feature, which is that they are concerned with the gradual loss of any language used in a community to other languages. They (ibid: 4- 5) propose four scenarios for the situation where two languages (one a dominant language and the other an ethnic minority language) come into contact:

1. The ethnic minority community limit their contacts to a strict minimum to avoid any communication with speakers of the other language but there are still a few occasions where interaction has to take place.
2. The ethnic minority community use their own language in a number of situations and the majority community allow this as a norm of communication but this allows for segregation and integration policies to be implemented:

By allowing the minority language in those situations where communication between members of the two groups is minimally necessary, the dominant group may try to take the necessity out of the learning of the dominant language for group members, thus reinforcing the chances of segregation. And by allowing the minority language in certain situations, the dominant group may encourage intergroup contact, and in this way promote integration.

Fase et al. (1992: 5)

3. The two communities choose a neutral, third language in which the two groups have access to it.
4. The last scenario is using the dominant language by members of the minority group in formal and informal circumstances and unconsciously the minority group will end up using the dominant language.

There are many factors that have an effect on language maintenance and use and language shift and loss, including linguistic, political, geo-distributional, in addition to factors such as the mass media, education, and religion. Some of these factors may lead minority speakers to maintain their language and others may lead them to shift to the majority language. In addition, these factors may vary from one community to another and within each community from one person to another. Furthermore, Smolicz (1981) argued that it is very important for the minority group to have some core values, which are essential to a language's survival and if language is a cultural and identity core value for this group, they will possibly conserve their ethnic language in any situation. He also stated:

Whenever people feel that there is a direct link between their identity as a group and what they regard as the most crucial and distinguishing element of their culture, the element concerned becomes a core value for the group.

(Smolicz 1981: 77).

In contrast, they will lose their home language for the majority group if it is not seen as a core value. Smolicz & Seacombe (1985) were the first to develop 'the core value theory' through their research in Australia, which was a powerful model for studying language maintenance. They explained that the term 'core value' refers to "those values that are regarded as forming the most fundamental components or heartland of a group's culture, and act as identifying values which are symbolic of the group and its membership" (ibid p. 11). Holmes (2013) argued that there are certain factors that may contribute to language maintenance in minority language groups like viewing the minority language as an important symbol of their identity, the frequent use of the ethnic language in all domains, the degree and frequency of contact with the homeland, and institutional support. She also mentioned that many of these factors were combined together:

...by Howard Giles and his colleagues, using the concept of 'ethnolinguistic vitality'. These social psychologists suggested that we can predict the likelihood that a language will be maintained by measuring its ethnolinguistic vitality and to do the measurements three components are involved: Firstly, the status of the language as reflected in attitudes towards it. Secondly, the size of the group who uses the language and their distribution and thirdly, the extent to which the language enjoys institutional support.

Holmes (2013: 66)

Luo & Wiseman (2000) based their study on the concept of ‘ethnolinguistic vitality’ to explore the influence of the family and peers on minority language maintenance and they found that peer influence played an important role in language maintenance, besides parents’ attitude. Likewise Liu (2008) noticed that this concept played a significant role in maintaining the heritage language of the Chinese minority community in the United States. He stated:

When people perceive that their language is of high vitality, that is, of high prestige in terms of factors such as social, cultural, and psychological influences, they are more likely to preserve their language.

Liu (2008: 54)

Since the only domain where Iraqi Arabic is used by the bilingual families is in the home domain, I explored this domain in detail in order to see if there is any correlation between the policies used by each family, for example using one language exclusively or mixing or adopting the dominant language in their direct speech with their children; the domains where they use their language/s; the quantity and quality of input, for example input providers and the sources and richness of the input; bilingual children’s input and use; parents’ and bilingual children’s attitudes; siblings and peers; parents’ proficiency in English and bilingual children’s age when they started acquiring L2.

### **3.1.1 Family role in language maintenance and shift**

Studies examining the role of the family in maintaining the first language emphasized the importance of using the mother language at home. Clyne & Kipp (1999: 47) state “ the home has often been cited as a key element in language maintenance - if a language is not maintained in the home domain, then it cannot be maintained elsewhere”. So parents create the atmosphere, which will either strengthen or weaken language maintenance. Studies such as Hayden (1966) examined the usage of three mother languages at home in America. The three languages were: French in Fall River (Massachusetts), Spanish in San Antonio and New York, and Ukrainian in Olyphant (Pennsylvania) and Newark (New Jersey) and he found that “ the active use of the ethnic mother tongue in the home is primarily responsible for enabling children to attain mastery

of it” (p. 198). His investigation revealed that Puerto Ricans in New York, Ukrainians in Newark, and San Antonio immigrants were the most successful communities in maintaining the mother tongue and transmitting it to the next generations because of the continual use of the mother tongue at home. The other two communities’ mother tongue cannot be maintained or transmitted to the next generations because of not using the mother tongues in their daily life. Duursma et al (2007) also discussed the importance of the family in maintaining the first language as a medium of interaction at home, which requires significant social support. Fillmore (2000) discusses the importance of immigrant families having a curriculum at home to maintain the ethnic language. This curriculum includes elements which the family must provide at home while the children are growing up like:

...a sense of belonging; knowledge of who one is and where one comes from; an understanding of how one is connected to the important others and events in one’s life; the ability to deal with adversity; and knowing one’s responsibility to self, family, community.

Fillmore (2000: 205)

Parents must pay attention to the languages used and language choices inside and outside the home domain if they want to maintain their heritage language. Fishman et al (1971) studied language choice in the Puerto Rican Community in New York and they found that Spanish was used almost exclusively in these domains: family, friendship and religion, while English was used in education and work domains. Pearson & McGee (1993) also studied language choice among Hispanic high school students in Miami and they noted that when these bilinguals speak to their parents, Spanish is used most of the time but not with friends and siblings or when reading and watching TV. This resulted in different degrees of maintenance.

If the heritage language is to be maintained, it is best for it to be used in multiple and different domains. As Hinton (1999: 2) points out, the main contributor to ethnic language maintenance is when “ language is used in multiple contexts, which not only allows for sufficient input for continued language development but also helps the child realize the usefulness of the

language and provides motivation”. It is also crucial for parents to make sure they use one language with their children: Döpke (1992) underlines the importance of the family when he examines the one parent, one language approach. He notes that this approach works best if one parent speaks L1 and the other parent speaks L2 and they are consistent with it and they do not let their child mix the two languages together.

In addition to the family being the core for language maintenance and transmission, Edwards (1994) and Hamers & Blanc (2000) point out that positive attitudes towards the heritage language is also a major factor in maintaining it. Similarly, Lao (2004) examined the role played by eighty-six parents who sent their children to Chinese-English bilingual schools in San Francisco and found that parents’ high expectations and enthusiastic views about raising their children bilingually had a major impact on maintaining it. But the same attitude can also be one of the factors that leads to language shift as has been proven by studies such as Kuncha & Bathula (2004) who investigated language attitude among the Telugu minority community’s mothers and children in New Zealand. They found that although children used their mother language at home, they were shifting towards English because of their parents’ negative attitudes towards their own language and because of their preference towards English.

Another factor that might be of importance is the influence of siblings and peers, which might be a significant factor in language maintenance and shift or an insignificant one as findings within this factor are contradictory (Bridge & Hoff, 2014; Wang, 2008; Jia & Aaronson, 2003; Zukow-Goldring, 2002). Older siblings might be the source of shift, as they will bring the dominant language home and use it as a means of interaction with younger siblings and sometimes even their parents, as it is the language of their peers at school. And their influence might be an advantage, an important source of input for learning the dominant language, for their younger siblings and their parents, but at the same time it might reduce the use and the acquisition of their first language for them and for their younger siblings. So in this study, I seek

to determine the role this factor plays in the families' language input and the effects it has on their language development.

Beside the role of the family other factors were taken into consideration when addressing language maintenance and shift, for example parents' proficiency in English and whether it facilitates or impedes language maintenance. Kleifgen et al. (1986) examined the effect of two factors, the use of the mother tongue at home and of the mothers' limited proficiency in English, on 300 children of foreign graduate students and visiting faculty in America. The results revealed that there was a shift towards English in different degrees. The fastest shift was among Arabic-speaking children because of their parents' support and attitude towards learning English while the slowest shift was among Korean and Japanese children because of their mothers' limited proficiency in English. Another study by Lin (1998) on minority language maintenance in Chinese-American communities compared the ways balanced (proficient in both languages) and pseudo bilinguals (their skills are more developed in one language than in the other) maintain and expand their ethnic language. Her study revealed that there were differences between pseudo and balanced bilingual parents' reasons for maintaining the ethnic language, the educational level of the parents, their attitudes, their relationship with their children as well as balanced bilingual attitudes and enjoyment in knowing two languages. All were important in determining the children's level of language maintenance. Chung & Zhang (2005) also suggested that Chinese parental attitudes about their children's heritage language maintenance and development were affected by parents educational as well as cultural and immigrant experiences. Lutz (2006) studied the role of the family in maintaining the first language (Spanish) used by English Latino youth, and the impact of other factors like race, gender, parents proficiency in the 2<sup>nd</sup> language, parental income and community, all of which had an effect on L1 proficiency. Sanchez & Gil (2008) investigated Spanish language maintenance among two groups, the newly arrived Salvadorian minority group in Queensland and the Spanish minority group in South Australia.

They noticed that Spanish was well maintained in the first minority group and that it was transmitted from the parents to their children for the following reasons: trips home, being newly arrived, positive attitudes to their mother language, which is seen as a symbol of their identity and culture, the use of the mother language in their daily life, and encouraging and supporting their children's integration within the Spanish community. Likewise, Takeuchi (2010) conducted a descriptive study on five Japanese families living in Australia, trying to maintain and transmit their mother language to their children. The researcher noticed that the parents were successful in doing so when they used the right methods and procedures. In addition, Gogonas (2010) explored the degree of mother tongue maintenance among second-generation Albanian and Egyptian immigrant pupils in Greece by examining certain factors affecting language maintenance such as the parents' role in transmitting the ethnic language; and the role of the educational system in enriching their linguistic and cultural identity.

As for studies on language maintenance and shift involving Arabic, several researchers recognize the different factors responsible for the differences in language maintenance rates, transmissions and shift within minority language groups. For example Bentahila & Davies's (1992) study of the Berber tribes in Morocco highlighted the factors that had led to language shift. They claimed:

The process of language loss among Berbers has been going on for centuries, but has been speeded up by many recent developments.... Factors such as increased communication and travel, the mass media, especially television, extensive migration from rural areas have all encouraged the spread of Arabic, and bilingualism in turn frequently leads to abandonment of Berber.

(Bentahila & Davies 1992: 198)

Clyne & Kipp (1999) highlighted the factors that motivated the maintenance of Arabic in Australia like: communication with family members, trips to the home country, access to the Quran, Arabic schools, and the media (Arabic broadcasting radio stations).

Other researchers have studied language maintenance and the use/shift of Arabic minority languages in the UK. For example, Othman (2006) investigated language choice among Arabic-

English bilingual speakers in Manchester. The findings revealed that Arabic was maintained in the domains of home, friends, the media and the mosque; while English was used in the domains of work and shops, with few instances of overlapping between the two languages. The study also suggested that Arabic is likely to be maintained in the second generation too due to its maintenance in the home among the community investigated; as well as the availability of Arabic satellite channels, Arabic schools and mosques, and frequency of visits to home countries. Jamai (2008) questioned the use and the maintenance of Arabic by the Moroccan minority in Britain. He investigated language use among young British-Moroccan immigrants to find out what roles English played in their daily lives, their use of the mother tongue and the reasons for choosing one language over the other. He emphasized the importance of studying the usage and maintenance of an immigrant minority language in order to analyse the patterns of language usage, which plays a crucial role in their integration within the host society. Gomaa (2011) also conducted a micro level study in which he examined the experiences of five Egyptian families living in Durham, UK, in transmitting their Egyptian Arabic which they used in everyday interaction with their children who were exposed to English at school and peer-interaction. The parents faced a challenge because the children were shifting towards the majority language. He found that the factors which played an important role in maintaining and transmitting Egyptian Arabic to the children include: identity, parents' educational level, media, religion and above all using their first language at home in their daily routine.

Studies on language maintenance and shift within the Iraqi Arabic minorities are very rare. There is one study by Ridha (2015) investigating the cross-linguistic influence of twelve Iraqi Arabic-Swedish bilingual children between the ages (5-7) living in Sweden. It studies the lexical, morphological and syntactic usages in the children's speech that do not belong to Iraqi Arabic. The results revealed: diglossia and bilingualism affected children's speech, in that diglossia has led to lexical influence and bilingualism has led to lexical and syntactic influence

and that many of the linguistic uses were related to Modern Standard Arabic and other varieties of Arabic in addition to Swedish which may create a mixed variety in the future.

All the studies mentioned above noted the importance of the continual usage of the first language in different settings, which provides the stimulation and motivation for the children to realize the importance of their heritage language. Research on immigrant communities also found that minority children deserted the usage of the parents' language and used the dominant language because of the prestigious attitude towards the host language together with the negative attitudes towards the parent language.

The family and home domain play crucial roles in language maintenance. The relationship between parents' attitudes towards their own language, parents' language practices inside the home domain and their children's language development in their heritage language is a complicated one. The families in this study differ in their home language policies and practices and the inconsistencies in the home domain played a major role in shaping up each child's linguistic environment, which in turn affected his formation of BP. The components of family language policies and practices will be discussed more fully in chapter 5 with reference to the correlation between social factors and the linguistic results of each bilingual child.

## **Chapter 4                      Analysis of the informants' data and their repair strategies**

This chapter is an analysis of the data produced from all the informants in this study. The data produced is classified into 'correct target form' and 'incorrect target forms'. The incorrect forms, or as I prefer to call them 'the repair strategies', used by all informants were examined further, similarly to previous studies (e.g. Daana, 2009; Ravid & Farah, 1999; Ravid & Hayek, 2003; Aljenaie et. al., 2010; Sa'eed, 2010). This chapter is divided into three sections, it discusses the repair strategies used in the formation of BP words by the adult informants living in the UK (control group II) (sections 4. 2), by the monolingual children (control group III) and the bilingual children (sections 4. 3)

### **4.1            Control group I: monolingual adults**

The data produced by this group of speakers contained no errors. The judgements of this group were used as the standard against which I classified the data produced by all other speakers in the study.

### **4.2            Control group II: adults living in the UK**

Data were collected from nine female adults living in the UK; five of them (*Cenana, Fatin, Batool, Enaas, Deema*) are the mothers of nine bilingual children taking part in the study and the rest are close friends of mine. Table 4. 1 shows the number of correct and incorrect plural form given, and length of stay in the UK for each speaker.

**Table 4. 1. Control group II correct and incorrect**

| Informants/Age | Years in UK | Correct | Incorrect | Total |
|----------------|-------------|---------|-----------|-------|
| Mayy.42        | 10          | 428     | 9         | 437   |
| Sama.40        | 9           | 425     | 12        | 437   |
| Tebah.29       | 8           | 428     | 8         | 437   |
| Layla.28       | 8           | 430     | 7         | 437   |
| Batool.32      | 7           | 433     | 4         | 437   |
| Cenana.35      | 5           | 433     | 4         | 437   |
| Enaas.34       | 4           | 434     | 3         | 437   |
| Deema.36       | 4           | 437     | 0         | 437   |
| Fatin.37       | 3           | 432     | 5         | 437   |

Table 4. 1 shows some correlation between length of stay in the UK and the number of errors committed, such that the speakers who have lived in the UK longest (Sama and Mayy) are the ones with the highest number of errors. The speaker with least number of errors (Deema, 0 errors) has lived in the UK for four years; while Enaas whose length of stay in the UK is also four years scores three errors. The most recent arrival in the UK (Faten, 3 years) made five errors.

The variability in the number of errors in these data can be further clarified by referring to the questionnaire data, particularly the data pertaining to the speakers' English language proficiency and domain of usage of L1 (Arabic) and L2 (English). This information is shown in Table 4. 2 (see also appendices A & E).

**Table 4. 2. Daily usage of L1 & L2<sup>8 9</sup>**

| Speakers      | Years in UK | Work | Home            | Friends         | Proficiency in L2 | No. of errors |
|---------------|-------------|------|-----------------|-----------------|-------------------|---------------|
| <i>Fatin</i>  | 3           | L1   | L1              | L1 more than L2 | Basic/No          | 5             |
| <i>Deema</i>  | 4           | L1   | L1              | L1              | No                | 0             |
| <i>Enaas</i>  | 4           | N/A  | L1              | L1 more than L2 | Moderate          | 3             |
| <i>Cenana</i> | 5           | L2   | L2 more than L1 | Both            | High              | 4             |
| <i>Batool</i> | 7           | N/A  | L1              | L1 more than L2 | Basic/No          | 4             |
| Tebah         | 8           | N/A  | L2 more than L1 | L2 more than L1 | High              | 8             |
| Layla         | 8           | N/A  | L2 more than L1 | L2 more than L1 | High              | 7             |
| Sama          | 9           | L2   | L2 more than L1 | Both            | High              | 12            |
| Mayy          | 10          | L2   | L2 more than L1 | Both            | High              | 9             |

Table 4. 2 shows that the speakers use the two languages differently in their daily lives. Sama and Mayy use the same language patterns at work, home and with friends with a preference towards L2; they both use L2 with their children and husbands more than L1 because the children understand English better. They both assessed their English proficiency as ‘HIGH’<sup>10</sup>. The same applies to Tebah and Layla—who also assessed their proficiency as ‘High’. They are housewives and they use the same language patterns at home and with friends. They use English with their children and husbands at home. The rest of the participants—all use the two languages differently. Fatin uses L1 more often than L2. She uses L1 at work (because she works as a teacher in an Arabic school) and with her children (Furaat and Fay), with her husband and with her friends. Batool is a housewife: she uses L1 with her children (Bader and Bedour); with her husband and with her Arab friends (Iraqis, Palestinians and Egyptians). Both Batool and Fatin assessed their English proficiency skills as ‘Basic’ in speaking and listening and as ‘NO’ in reading and writing. Deema uses L1 all the time: at work (teaching in an Arabic school); with her children (Danyal and Dana); with her husband and with her friends. She

<sup>7</sup> Italics and bold names are the mothers

<sup>8</sup> L1= Iraqi Arabic; L2= English

<sup>10</sup>HIGH: you can communicate effectively in most social and work situations. MODERATE: You can communicate comfortably in familiar social and work situations. BASIC: You can communicate in predictable contexts and on familiar topics but with some difficulty. NO: You cannot meet the above criteria for basic proficiency.

assessed herself as 'NO' in all skills. Enaas is a housewife, she uses L1 with her children (Ebaa' and Esraa'); with her husband and with friends. She assessed herself as 'Moderate' in all skills. As for Cenana, she assessed herself as 'High' in all skills so she uses L2 at work with her colleagues (she was a PhD student) and with her son Caram, but she uses L1 more often with her husband and with her Arabic speaking friends.

During the observations and the interviews, four speakers - Layla, Tebah, Mayy and Sama - were the only ones who code switched/code mixed in their daily speech in addition to some cases where they lacked confidence when using Iraqi Arabic, especially Sama who kept asking about 'the correct form/meaning of a structure or a word'.

With respect to correlation between number of errors on the one hand and patterns and domain of usage of L1/L2 and proficiency in L2 on the other, Table 4. 2 does indeed suggest such a relationship. We notice for instance that Deema who uses L1 in all domains exclusively and who rated her English proficiency as low makes no errors at all; while the highest number of errors were committed by those speakers who use L2 more often, and rate their English proficiency as 'high'. These are the same speakers who also code-switched most often, Layla, Teba, Mayy and Sama. This apparent correlation needs to be verified through further research, appropriately designed to measure proficiency in L2 objectively. For the purpose of the current study, this group of speakers are included as a control group, to provide information about the possible 'input' that the bilingual children –the group tested in this study- are exposed to in the home environment.

The incorrect forms used by this group were further analysed in order to compare them with the strategies followed by the other groups. The most preferred strategy was **'overregularisation broken to sound' (towards the SFP marker)** which was used twenty-five times. This pattern consists of the singular form + the regular feminine marker *-āt* without any

internal change to the word (not shifting from one CV template to another). Below are some examples:

\**kubbāt* for *kubab* ('kubba', Middle-eastern food)

\**ti'lāgāt* for *ti'ālīg* (hangers)

\**taqwīmāt* for *taqāwīm* (calendars)

All the speakers except Enaas and Deema used this pattern. One reason for this overregularisation can be because this type of plural does not have any semantic restrictions; it can be used with [ $\pm$  human,  $\pm$  animate] (Ravid & Farah, 1999, 2009; Daana, 2009). Another reason is that it can be attached to foreign borrowings that cannot be accommodated by a Broken Plural template. Additionally, using this plural form will yield most of the time acceptable words; and all the words produced were plausible apart from the word \**farḥāt* for '*afrāḥ* 'happy occasions' produced by Layla. Danna (2009: 173) also argued in her study on the pluralisation process in Jordanian Arabic that her female adults used this pattern in their plural formation with nonsense-words in 59% of the cases, and that it was their favourite repair strategy. According to Holes (1995), the sound feminine plural (SFP) is the default plural pattern in spoken Arabic varieties.

The second most frequent repair strategy used was a non-morphological one: '**same singular form for plural**', which was used fifteen times. This repair strategy was used by all speakers except for Batool, Layla and Deema and in two ways:

1. Repeating the same singular word given to them, as in the word '*ālim* 'scientist'. Six speakers used this strategy, three of them are mothers of five bilinguals (Fatin, Furaat & Fay's mother), (Cenana, Caram's mother) and (Enaas, Ebaa' & Esraa''s mother). Sama used it five times; Tebah four times; Fatin and Cenana twice each and both Enaas and Mayy used it once each. They maintained that the same form can be used in the plural, thus \*'*ālim* 'scientists', which is incorrect as the plural form '*ulamā* 'scientists' does

exist and is used widely in spoken and written forms. Other examples include the following:

\**sēr* for *seyūr* (watch bands)

\**aṣīr* for *aṣāyir* (juice)

\**čiffiyya* for *čifāfi* (handkerchiefs)

2. Using a quantifier before the singular noun. For instance, the plural of the word *šugul* ‘job/work’, which is normally pluralized in Iraqi Arabic as *ašgāl* ‘jobs, works/chores’, was rendered as *hwāya šugul* ‘many/much work’ by one speaker (Sama). Ravid & Farah (1999) noted the usage of this pattern in their study of the acquisition of noun plural in Palestinian Arabic.

The third repair strategy used was ‘**incorrect BP templates (irregularisation) broken ⇔ broken**’, which was used nine times, in which the BP templates were associated with wrong words which resulted in producing unacceptable and nonsense words. The most used BP templates were: [’aCCuC] four times by Enaas and Mayy producing words like \*’*asruj* ‘saddles’ and \*’*ajruš* ‘bells’; [’aCCaaC] used twice by Sama and Mayy producing words like \*’*asrāj* ‘saddles’ and \*’*ajdā* ‘tree trunks’ and three templates which were used only once each: [CaCaaCiiC] by Batoool producing the word \*’*falāsīn* ‘little money’; [CCuuC] by Layla producing the word \*’*bḩūt* ‘ducks’ and [CiCuuC] by Mayy producing the word \*’*jilūd* ‘skins/leathers’. The last BP template [CiCuuC] used by Mayy produced a new word \*’*jilūd* conveys a completely different meaning form of the singular word being asked - *tajlīd* ‘book cover’ - in which the BP form should be *tajālīd* [CaCaaCiiC]. The produced word does occur in IA as a BP form for the word *jilid*. The template used by Batoool [CaCaaCiiC] with the word \*’*falāsīn* ‘pennies’ as plural of *fil* ‘penny’, instead of correct form *flūs* ‘pennies’, resulted in a well-formed word that can be used in IA to mean ‘penniless’.

In addition to the strategies above, three speakers Enaas, Layla and Mayy used the template [CuCaaCa] in \* *huwāta* ‘whales’ instead of *hītān* to form the plural of the word *hūt* ‘whale’.

I also noticed some speakers (Sama, Mayy, Layla, Tebah and Batool) asked about the meaning of some words like *xirza* ‘one bead’, *taqwīm* ‘calendar’, *sēr* ‘watch band’ as they said they could not remember them. With most of the words it took them a longer time to give answers, whether correctly or not, than it took the monolingual speakers. This supports the suggestion by Cohen (1989), Russell (1999); Bardovi-Harling & Stinger (2013) that the speed of the retrieval/recalling process is much more affected than the correctness of the word. Another observation was that all speakers, apart from Deema and Enaas, paused using fillers, like (‘ahem, ‘ah) when they could not remember the word and they also experienced the tip-of-the-tongue phenomenon (TOT) when they knew the word, but couldn’t recall it spontaneously. Ecke (2009) defined this state as:

A temporary word-retrieval failure in which the speaker is certain that s/he knows the target word, and often has access to partial target information and other words related to it.

Ecke (2009: 185)

This phenomenon occurs with both monolingual and bilingual speakers but it is more frequent with the latter because of the limited use of L1 and has been reported as evidence of attrition in the lexical domain in L1, which is the first and most affected area (Ecke, 2004; Schmid & Kopke, 2008).

All speakers, except Deema and Enaas, shared the same remarks about the BP list, for example ‘where did you get these words from!’, ‘Where did you find these words!’ and ‘it has been a long time since I used/I heard these words’ which are normal expressions used by language users after long periods of not using that language.

All the phenomena noticed during the recordings of this group ‘in their oral production’

is “well-documented attrition phenomena” and have been noted and mentioned by (Hulsen 2000, Schmid 2007, Hansen 2001) like hesitation, slower responses, repetitions, difficulty with lexical retrieval and reduction in lexical access during production. All the speakers, apart from Deema and Enaas, required a longer time to recall/retrieve the words or to recognize the required forms. To recall a word, a higher level of activation is needed. For recognition, a lower level is sufficient but the word can no longer be recalled if the activation drops down further (Nelson 1978) and failure to use the remaining knowledge will lead to attrition which might be predicted as Optiz (2011) states:

"the result of long-term lack of stimulation" (Paradis 2001: 11) or "as a natural consequence of lack of use" (Köpke and Schmid 2004: 23).

Optiz (2011: 38)

The findings support ATH theory predictions, which relate the retrievability of items stored in memory to the frequency of their use and reinforcement in an activation/inhibition framework. Paradis (2001) states:

An item is activated when a sufficient amount of positive impulses have reached it. The amount necessary to activate the item constitutes its activation threshold. Every time the item is activated, its threshold is lowered and fewer impulses are required to reactivate it.

Paradis (2001: 11)

Since the disuse of L1 and frequent use of L2 will lead to a higher activation threshold, which means reduced accessibility of lexical knowledge, the area that will be affected first and most severely by attrition is lexical access (Schmid 2007). Paradis (2007) also states:

The Threshold hypothesis predicts that.... language disuse leads to gradual loss; the most frequently used elements of L2 will replace their (less used) L1 counterparts; comprehension of forms will be retained longer than the ability to produce them. Elements sustained by declarative memory (e.g., vocabulary) are more vulnerable to attrition than those sustained by procedural memory (i.e., phonology, morphosyntax, lexicon). Declarative items are also more susceptible to interference (and hence to attrition by substitution) than implicit items.

Paradis (2007: 121)

The linguistic behaviour of these adults might be due to lack of regular L1 use, so they experience L1 regression when L2 is used as a regular means of communication. Hyltenstam and Viberg (1993) defined regression as the period when a language is not used as a regular means of

communication. So, in a bilingual situation, these speakers use two languages in different contexts, and when one language is used more extensively, the other language shows signs of change and little by little language regression occurs. Using the above repair strategies might be supported by the Regression hypothesis, which predicts that the path of attrition is the reverse of acquisition, as Bardovi-Harling & Stinger 2013 state: “The first things learned remain longest in memory; the last things learned are the first things forgotten” (p. 292).

Weltens and Grendel (1993) used the term *forgotten* rather than the term *lost* since the lexical items are hard to find but not totally erased from the memory; they distinguished between two psychological theories. Firstly, the retrieval-failure theory, which was defined by Loftus & Loftus (1976) as:

...a failure to retrieve some desired information... forgetting is much like being unable to find something that we have misplaced somewhere. Forgetting occurs because the information we seek is temporarily inaccessible, if we only had the right retrieval cue, the information we seek could be successfully retrieved.

Loftus & Loftus (1976: 78)

Secondly, the interference theory, which means that we forget as a result of interference between what we are looking for and what we have learnt previously in general. In the case at hand, for these adults, there was variability in their performances but their underlying competence is the same; so, what happened might be that they knew the rules for the formation of the BP and they were able to retrieve the right templates and the right word form at one point but they were unable to do it at another. It may be the case for some words they remembered the meaning and the forms (the syntactic features) but other aspects were forgotten.

We can therefore argue that when adults show signs of attrition, it might not be because the words are lost in their memories but because they are blocked by other interfering elements which prevent them from producing the desired forms as has been referred to by Cohen (1989),

or maybe because they did not have enough time to force their memory to recall all the forms, as was mentioned in Welten's (1988) 'retrieval failure' theory.

Since adults' spoken language directed at children is very important as a direct input to children's speech, one expects adults' erroneous usages to be replicated by the children, as indeed turns out to be the case –as will be demonstrated presently.

### **4.3 Monolingual (control group III) and bilingual children's repair strategies**

A two-way detailed analysis of each child's responses was done. In the first way, the answers were classified into two categories, correct versus incorrect with the frequency of its usage. The second way was a detailed analysis of the 'incorrect' repair strategies used by each child.

Tables 4. 3 & 4. 4 show monolingual and bilingual children's responses regarding the correct and incorrect arranged according to the participants age from younger to older. In Table 4. 3 the overall correctness of the BP increased as the monolingual children get older, for example if we look at early age starting from 7.5 years old up to 16.1 years old the incorrect responses are much higher in the younger ages than the older ones.

**Table 4. 3. Monolingual children's correct vs. incorrect**

| Monolinguals | Age  | Correct | Incorrect | Total Tokens |
|--------------|------|---------|-----------|--------------|
| Ali          | 7.5  | 384     | 53        | 437          |
| Hasan        | 7.7  | 368     | 69        | 437          |
| Muhannad     | 7.8  | 418     | 19        | 437          |
| Adel         | 8.3  | 360     | 77        | 437          |
| Rayyaan      | 8.9  | 385     | 52        | 437          |
| Amna         | 9.1  | 414     | 23        | 437          |
| Dalya        | 10.1 | 417     | 20        | 437          |
| Kareem       | 10.7 | 411     | 26        | 437          |
| Teba         | 11.5 | 434     | 3         | 437          |
| Anas         | 11.6 | 424     | 13        | 437          |
| Amaani       | 11.8 | 422     | 15        | 437          |
| Fatma        | 12.1 | 435     | 2         | 437          |
| Nada         | 13.7 | 433     | 4         | 437          |
| Adam         | 14.0 | 434     | 3         | 437          |
| Yusef        | 15.5 | 437     | 0         | 437          |
| Rana         | 15.7 | 437     | 0         | 437          |
| Fadi         | 16.1 | 437     | 0         | 437          |

In Table 4. 4, there is a completely different pattern from the monolingual one. The total correct does not rises as the bilingual children get older and there is no developmental pattern as in the monolingual one.

**Table 4. 4. Bilingual children's correct vs. incorrect**

| Bilinguals | Age  | Correct | Incorrect | Total |
|------------|------|---------|-----------|-------|
| Caram      | 7.4  | 0       | 437       | 437   |
| Dana       | 7.4  | 201     | 236       | 437   |
| Amily      | 7.4  | 13      | 424       | 437   |
| Furaat     | 8.2  | 121     | 316       | 437   |
| Ahmad      | 8.9  | 20      | 417       | 437   |
| Esraa'     | 9.3  | 124     | 313       | 437   |
| Bedour     | 10.7 | 118     | 319       | 437   |
| Ebaa'      | 11.3 | 277     | 160       | 437   |
| Danyal     | 11.4 | 409     | 28        | 437   |
| Bader      | 14.2 | 251     | 186       | 437   |
| Fay        | 15.2 | 384     | 53        | 437   |

The results in Tables 4. 3 & 4. 4 can be illustrated in Figures 4. 1 & 4. 2 showing that the differences between 'correct versus incorrect' in the two groups are considerable.

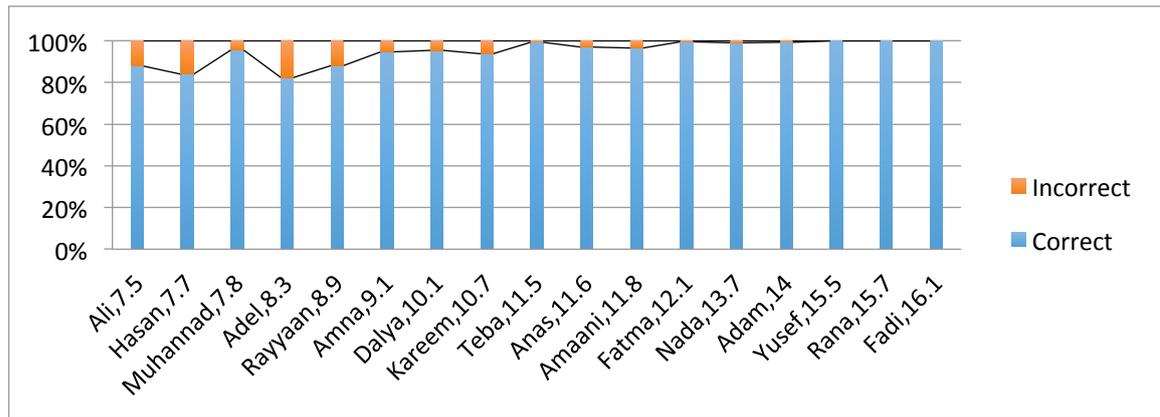


Figure 4. 1. Monolinguals' correct versus incorrect (total 437 words)

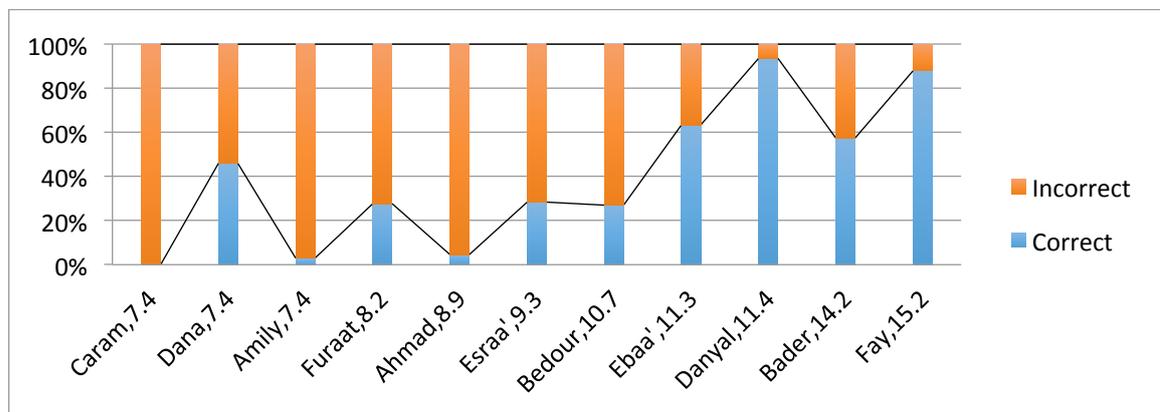


Figure 4. 2. Bilinguals' correct versus incorrect (total 437 words)

In Figure 4. 1, there is a clear correlation between age and overall correctness. There is a developmental path monolinguals go through starting from age 7.5 with 90% correct responses and ending at age 12 where overall correctness across all ages increased as they got older, which shows that this might be the age where full acquisition of the BP is achieved by monolingual children. Younger monolinguals made mistakes, which do not exist in monolingual adults' speech; they behave similarly to 'less proficient speakers' when they use different techniques to verify the possible plural rules of the targeted words (Korecky-kroll & Dressler 2009). We also notice that the general picture is disrupted by the individual performance of two children (Muhammad, 7.8) and his sister (Teba, 11.5) who are exceptions in that they scored higher in their correct responses in comparison to other children around their ages. Muhammad and Teba live in an extended family home, which in addition to their nuclear family is home to their grandmother,

aunt and uncle and his family. This set-up used to be the norm in Iraq (as well as other Arab societies). The children in such households usually interact with many adults, in addition to their parents. In other words, the linguistic input received by children in such circumstances is considerably more frequent. It is therefore quite plausible that the family set-up is the reason for the higher than average success in the formation of the BP by these two children. All other children in this group live with their immediate nuclear family only (parents and young siblings).

But the picture is completely different when we look at the results for the bilingual children (Figure 4. 2). Their scores range from 100% incorrect (Caram, 7.4 years) to 10% incorrect (Fay, 15 years), with no clear pattern of correlation with age. The total correct responses do not increase with age; there is, therefore, no evidence for a developmental pattern. Each child seems to follow his/her idiosyncratic own strategy.

If we look at both figures together we can see that the older bilingual children's performances were sometimes about or even below the younger monolingual children's performance, which clearly indicates that with the bilingual children there is no correlation between age and correctness. In other words, 'age' seems to play a role in the monolingual group, but in the case of the bilingual group other factors affect their acquisition process, which will be discussed in detail in chapter 5.

The repair strategies used by monolingual and bilingual children were further classified into different categories, as below:

- SFP markers
- SMP markers
- Dual markers
- Singular forms
- New words
- Incorrect BP templates
- Random patterns
- Collectives

- Cross-linguistic influence
- Nunation (*tanwīn*).

Some of these repair strategies were shared between the two groups but with differences in the frequency of usage between the two groups; and some were used exclusively by bilinguals (Cross-linguistic influence and Nunation (*tanwīn*)). The categories listed above are similar to those used in other previous studies on the acquisition of plurals in Arabic, namely Ravid & Farah 1999, 2009 (Palestinian Arabic), Ravid & Hayek 2003 (Palestinian Arabic) and Daana 2009 (Jordanian Arabic).

These categories are explained and illustrated below.

**1. Overregularisation towards the sound feminine marker (SFP) *-āt* and sound masculine markers (SMP) *-īn* and *-ūn*.** By using these strategies, some of the children added the markers to the singular word without internal change and some changed the CV template of the singular words. The pattern showed by the data can be summarised as follows:

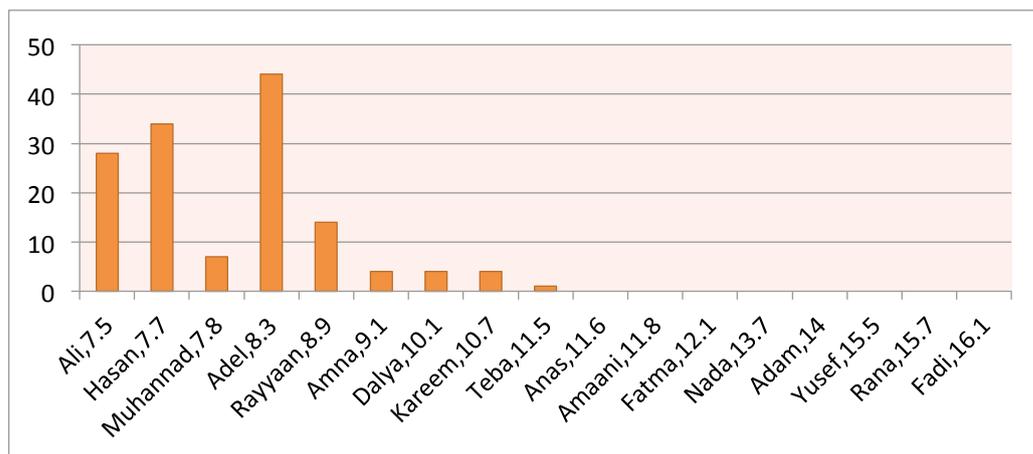
*A. Overregularisation towards the sound feminine marker *-āt** was used 140 times by monolingual children and 1608 by bilingual children. Examples of this strategy include:

\**šammūnāt* for *šammūn* (sing. *šammūna*) ‘bread roll’

\**šixxātāt* for *šixxāt* (sing. *šixxāta*) ‘matches’,

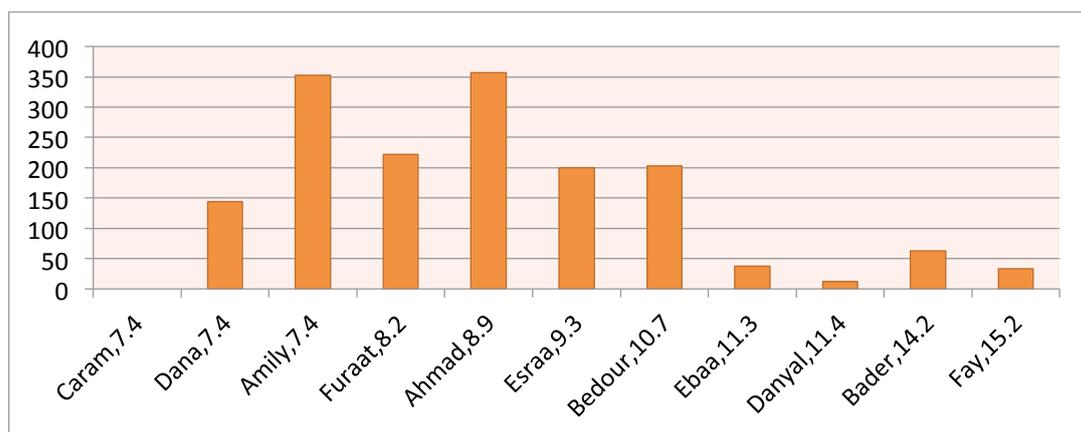
\**kāšīyyāt* for *kāši* (sing. *kāšiyya*) ‘tiles’.

Nine of the monolingual children between the ages of 7.5 and 11.5 years old used this pattern, as shown in Figure 4. 3. There is a gradual decrease in its usage as monolinguals grow older.



**Figure 4. 3. Monolinguals' usage of -āt**

As for the bilinguals, the picture is completely different. Figure 4. 4 shows that all children, except Caram (7.4), used this marker as one of their repair strategies. The highest usage of this pattern was by two siblings Amily (7.4) and her brother Ahmad (8.9).



**Figure 4. 4. Bilinguals' usage of -āt**

Analysis of the words produced by the nine monolinguals, revealed that four of them - Ali, Hasan, Adel and Rayyaan - produced unacceptable words while the other five monolinguals produced acceptable and grammatical words but not the target BP forms. As for the bilinguals, they all produced unacceptable words. Table 4. 5 provides a breakdown by speaker of the frequency of occurrence of -āt.

**Table 4. 5. Bilinguals and Monolinguals usage of acceptable and unacceptable SFP marker *-āt***

| Bilingual children | Frequency | *   | +   | Monolingual children | Frequency | *  | +  |
|--------------------|-----------|-----|-----|----------------------|-----------|----|----|
| Caram, 7.4         | -         | -   | -   | Ali, 7.5             | 28        | 17 | 11 |
| Dana, 7.4          | 141       | 52  | 89  | Hasan, 7.7           | 34        | 22 | 12 |
| Amily, 7.4         | 353       | 135 | 218 | Muhannad, 7.8        | 7         | 7  | -  |
| Furaat, 8.2        | 217       | 109 | 108 | Adel, 8.3            | 44        | 23 | 21 |
| Ahmad, 8.9         | 355       | 130 | 225 | Rayyaan, 8.9         | 14        | 9  | 5  |
| Esraa', 9.3        | 198       | 105 | 93  | Amna, 9.1            | 4         | 4  | -  |
| Bedour, 10.7       | 201       | 87  | 114 | Dalya, 10.1          | 4         | 4  | -  |
| Ebaa', 11.3        | 37        | 23  | 14  | Kareem, 10.7         | 4         | 4  | -  |
| Danyal, 11.4       | 12        | 8   | 4   | Teba, 11.5           | 1         | 1  | -  |
| Bader, 14.2        | 62        | 37  | 25  | Anas, 11.6           | -         |    |    |
| Fay, 15.2          | 32        | 23  | 9   | Amaane, 11.8         | -         |    |    |
|                    |           |     |     | Fatma, 12.1          | -         |    |    |
|                    |           |     |     | Nada, 13.7           | -         |    |    |
|                    |           |     |     | Adam, 14             | -         |    |    |
|                    |           |     |     | Yusef, 15.5          | -         |    |    |
|                    |           |     |     | Rana, 15.7           | -         |    |    |
|                    |           |     |     | Fadi, 16.1           | -         |    |    |
| Total              | 1608      |     |     | Total                | 140       |    |    |

*\*/acceptable, +/unacceptable*

The tendency for young monolinguals to use this marker is widely documented in previous studies (e.g. Ravid & Farah 1999, 2009; Ravid & Hayek 2003; Daana 2009; Aljenaie et al 2010, Omar 1973). The SFP is considered the 'default' plural pattern that young children produce. As they grow older and get exposed to a wider set of vocabulary, they start to use other plural markers (see El-Aissati 1997).

According to Walter (2006: 3), the presence of final vowel /a/ implies that the noun is feminine, and hence the tendency on the part of young children to add the regular feminine plural suffix *-āt* to all nouns ending in /a/. As far as my data are concerned, there are 146 singular words out of a total of 437 words that end in /a/, in addition to 27 singular feminine words that end in this vowel, Walter's suggestion explains the use of this ending to pluralise nouns ending in /a/, as in the examples listed above; more examples of such words are listed below:

\**'ašīrāt* for *'ašāyir* (sing. *'ašīra*) 'tribe'

\**rīšāt* for *rīš* (sing. *rīša*) 'feather'

\**nuqāt* for *nuqaṭ* (sing. *nuqṭa*) 'full stop'

*\*maknasāt* for *makānīs* (sing. *muknāsa*) ‘broom’

Ridha (2015) also noticed in his study of 12 Iraqi Arabic-Swedish bilingual children between the ages of 5-7 living in Sweden, that these children used the SFP with the word *\*‘aṣḡūrāt* ‘birds’ about which he explains that “maybe the child was thinking that the bird was feminine *‘aṣḡūra* and he/she had the feminine gender in his/her mind when he/she attached it” (p. 71) and this might be the reason why the bilingual children in our study resort to it.

However, the data contain examples of nouns that do not end in /a/ in the singular- 264 singular words in addition to 27 singular masculine words- and yet the speakers pluralised them using the SFP, as in the following examples:

*\*čaraxāt* for *črōx* (sing. *čarex*) ‘tyre’

*\*šaharāt* for *šuhūr-* *‘ašhur* (sing. *šahar*) ‘month’

*\*‘isbū‘āt* for *‘asābī‘* (sing. *‘isbū‘*) ‘week’

*\*qalamāt* for *(‘a)qlām* (sing. *qalam*) ‘pen’

As for the bilingual children, as noted above, even the oldest child (Fay, 15) produced erroneous plurals using this pattern. Recall, section 4. 2, the most preferred strategy of repair by the mothers of these children was precisely to use this ending. The children’s behaviour seems to reflect their mothers’ input. In other words, it seems that the limitations in their input and the restricted exposure and use of Iraqi Arabic, lead them to restore and use the most frequent form in their input. Due to these limitations it is hard for bilingual children to form the BP as they need to know the different templates to be used with each word, which means that these templates should occur in their input more frequently so they can associate it later with the words, and for some bilinguals this did not happen. Bilingual children’s behaviour is the same as young monolinguals in restoring to this default system to make up for their restricted knowledge. This may be taken as an indication that this system (SFP) is the default one for the bilingual

children too (similarly to the case of monolingual children, as suggested by the literature, see above).

*B. Overregularisation towards the sound masculine markers -īn and -ūn.* The suffix *-īn* occurs in Iraqi Arabic and in standard Arabic either as the sound masculine plural suffix, e.g. *mudarrisīn* ‘male teachers’, *ta’bānīn* ‘MPL adj. tired’, *muzāri’īn* ‘male farmers’. Or as a verbal ending in the 2SF imperfect verb forms, e.g. *tāklīn* ‘FSing. you eat’, *tili’bīn* ‘FSing. you play’, *turukḏīn* ‘FSing. you run’. The suffix *-un*, also occurs in both varieties but its usage in the spoken variety (IA) is restricted to the imperfect 2PL and 3PL verb forms (Altoma 1969, pp. 47- 48), e.g. *yāklūn* ‘they eat’ and *tāklūn* ‘you (pl.) eat’.

According to the rules of standard Arabic and Iraqi Arabic, all SMP nouns have a semantic restriction [+human, +male], and to apply this to singular words, children need to know this restriction. Both monolingual and bilingual children used both SMP (*-īn* and *-ūn*) markers but there are fluctuations in their usage and in whether the produced word was a correct SMP word, a random pattern or an unacceptable word. Below are some examples from the data to demonstrate these patterns.

\**jāhlīn* for *jahhāl* (sing. *jāhil*) ‘children’

\**‘ā’ilīn* for *‘awā’il* (sing. *‘ā’ila*) ‘families’

\**ṭiliyīn* for *ṭilyān* (sing. *ṭili*) ‘sheep’

\**čākōčīn* for *čuwākīč* (sing. *čākūč*) ‘hammers’

\**masjidīn* for *masājid* (sing. *masjid*) ‘mosques’

\**buṭlīn* for *ḃṭāla* (sing. *ḃuṭul*) ‘bottles’

1. *The SMP marker -īn.* Younger monolinguals used this marker more than older monolinguals as shown in Table 4. 6. In addition, monolinguals up to age 12 still do not have full mastery of

the rule [+human, +male]; as the data show, once they learn the syntactic rule they do not make mistakes of overgeneralisation.

**Table 4. 6. Monolinguals and Bilinguals usage of SMP marker -*ṭn***

| Monolingual children | Acceptable | Unacceptable | Bilingual children | Acceptable | Unacceptable |
|----------------------|------------|--------------|--------------------|------------|--------------|
| Ali, 7.5             | 1          | 10           | Caram, 7.4         | -          | -            |
| Hasan, 7.7           | 1          | 9            | Dana, 7.4          | 1          | 17           |
| Muhannad, 7.8        | -          | -            | Amily, 7.4         | -          | -            |
| Adel, 8.3            | 1          | 6            | Furaat, 8.2        | -          | 14           |
| Rayyaan, 8.9         | -          | 1            | Ahmad, 8.9         | -          | -            |
| Amna, 9.1            | -          | 3            | Esraa', 9.3        | -          | -            |
| Dalya, 10.1          | -          | 4            | Bedour, 10.7       | -          | 5            |
| Kareem, 10.7         | 1          | 10           | Ebaa', 11.3        | -          | 2            |
| Teba, 11.5           | -          | -            | Danyal, 11.4       | 1          | 1            |
| Anas, 11.6           | 1          | 2            | Bader, 14.2        | 1          | 7            |
| Amaane, 11.8         | -          | 3            | Fay, 15.2          | 2          | 6            |
| Fatma, 12.1          | 1          | 1            |                    |            |              |
| Nada, 13.7           | -          | -            |                    |            |              |
| Adam, 14             | -          | -            |                    |            |              |
| Yusef, 15.5          | -          | -            |                    |            |              |
| Rana, 15.7           | -          | -            |                    |            |              |
| Fadi, 16.1           | -          | -            |                    |            |              |
| Total                | 6          | 49           | Total              | 5          | 52           |
| Totals               | 55         |              |                    | 57         |              |

As can be seen, ten monolinguals used it and two of them, Adel (8.3) and Amna (9.1) violated the [+human] condition. Adel violated it in two words out of the six unacceptable ones he produced; these occurrences are listed below:

\**ḥuwātīn* for *ḥītān* (sing. *ḥūt*) 'whales'

\**sāḥilīn* for *sawāḥil* (sing. *sāḥil*) 'sea shores'

Amna violated it with the three unacceptable ones she produced, as below:

\**awādīn* for *uwad* (sing. *uda*) 'sticks'

\**ṭuwāgīn* for *ṭūg* (sing. *ṭāg*) 'hairbands'

\**ḥayātīn* for *ḥītān* (sing. *ḥūt*) 'whales'

Monolingual children might have used this marker because they know they cannot use the default marker SFP; or they used it because they can still produce plausible words.

As for bilinguals, there are two interesting points to be mentioned. Firstly, this marker was used by two groups of bilinguals: those who had studied standard Arabic grammar at school before moving to the UK (Ebaa', Danyal, Bader and Fay); and their brothers and sisters –except for Esraa' (Dana, Bedour and Furaat)- the latter had not received formal schooling in Arabic, but some home tuition. Dana (7.4) used this marker the most (18 times), which means she is familiar with the form; but out of the 18 occurrences only one form is acceptable, which is a strong indication that she has not acquired the grammatical restriction on the use of this ending. On the other hand, her brother, Danyal (11.4), used this suffix only twice, and one of these occurrences was unacceptable. A similar pattern, where the younger bilinguals use the form considerably more frequently than their older bilingual siblings, can be noticed in the case of Furaat (8.2) and his sister Fay (15.2). Furaat used the form 14 times all of which were unacceptable, while Fay used it 8 times (6 forms were unacceptable).

The fact that this form was not used at all by the three bilinguals who were never taught Arabic formally (Caram, Amily and her brother Ahmad) is a reflection of the observation that this type of plural does not occur in IA daily speech frequently (section 1. 3); for the form to be produced by the bilingual children, it seems more frequent input is required (for example through tuition in the standard variety)

Secondly, all bilinguals apart from Fay violated the restriction [+human], which means that even at age 14+ the appropriate rules of the use of this suffix are not mastered. Below are some examples of this violation.

\**sā`ilīn* for *sawā`il* (sing. *sā`il*) 'liquids'

\**ḥmārīn* for *ḥamīr* (sing. *ḥmār*) 'donkeys'

\**čākōčīn* for *čuwākīč* (sing. *čākūč*) 'hammers'

\**manšfīn* for *manāšif* (sing. *manšafa*) 'towels'

2. *The nominative case marker -ūn*. Monolingual and bilingual children used this marker differently. Table 4. 7 displays frequencies of occurrence for both groups.

**Table 4. 7. Monolinguals and Bilinguals usage of -ūn**

| Monolingual children | Acceptable | Unacceptable | Random | Bilingual children | Acceptable | Unacceptable | Random |
|----------------------|------------|--------------|--------|--------------------|------------|--------------|--------|
| Ali, 7.5             | -          | -            | -      | Caram, 7.4         | -          | -            | -      |
| Hasan, 7.7           | 1 MSA      | -            | -      | Dana, 7.4          | -          | 2            | -      |
| Muhannad, 7.8        | -          | -            | -      | Amily, 7.4         | -          | 14           | -      |
| Adel, 8.3            | -          | -            | 1      | Furaat, 8.2        | -          | 2            | -      |
| Rayyaan, 8.9         | 1 MSA      | 4            | -      | Ahmad, 8.9         | -          | -            | 10     |
| Amna, 9.1            | -          | -            | -      | Esraa', 9.3        | -          | 4            | 1      |
| Dalya, 10.1          | -          | -            | -      | Bedour, 10.7       | -          | -            | 1      |
| Kareem, 10.7         | -          | -            | -      | Ebaa', 11.3        | -          | -            | 3      |
| Teba, 11.5           | -          | -            | -      | Danyal, 11.4       | -          | -            | -      |
| Anas, 11.6           | 3 MSA      | -            | -      | Bader, 14.2        | -          | -            | 1      |
| Amaane, 11.8         | -          | -            | -      | Fay, 15.2          | -          | -            | -      |
| Fatma, 12.1          | -          | -            | -      |                    |            |              |        |
| Nada, 13.7           | -          | -            | -      |                    |            |              |        |
| Adam, 14             | -          | -            | -      |                    |            |              |        |
| Yusef, 15.5          | -          | -            | -      |                    |            |              |        |
| Rana, 15.7           | -          | -            | -      |                    |            |              |        |
| Fadi, 16.1           | -          | -            | -      |                    |            |              |        |
| Total                | 3          | 4            | 1      | Total              | -          | 22           | 16     |
|                      | 8          |              |        |                    | 38         |              |        |

The ending *-ūn* was used by three monolinguals - Hasan (7.7), Rayyaan (8.9) and Anas (11.6); and they all produced MSA sound masculine plural words, which are never used in spoken Iraqi Arabic. These are:

*\*šā'irūn* 'poets', *\*baḥḥārūn* 'sailors', *\*nā'ibūn* 'MPs', *\*kātibūn* 'writers' and *\*sā'iqūn* 'drivers'

In addition to these words, Rayyaan produced four unacceptable/nonsense words by using this marker but none of these words violated the syntactic restrictions of the SMP [+human, +male]. One monolingual Adel (8.3) used this marker as a part of a random pattern producing a nonsense word.

As for the bilinguals, four bilingual children used the SMP marker and they produced unacceptable/nonsense words; some of the produced words violated the syntactic restrictions.

For example, Amily (7.4) produced fourteen unacceptable words, which violated the [+human] condition, e.g.

\**ḥāyṭūn* for *ḥyāṭīn* (sing. *ḥāyīṭ*) ‘walls’

\**dīnārūn* for *danānīr* (sing. *dīnār*) ‘Iraqi currency’

\**sitrūn* for *sitar* (sing. *sitra*) ‘jackets’

On other hand, Dana who is the same age as Amily, produced two unacceptable words but did not violate the restrictions:

\**ašīrūn* for *ašāyir* (sing. *ašīra*) ‘tribes’

\**ḍābiṭatūn* for *ḍubbāṭ* (sing. *ḍābuṭ*) ‘military officers’

Furaat also produced two unacceptable words but one word violated the [+human] condition:

\**aqrabūn* for *agārub* (sing. *agrab*) ‘scorpion’

Esraa’ produced four unacceptable words, one of which violated the [+human] condition: \**fīrūn* for *afrān* (sing. *fīrin*) ‘ovens’

Five bilingual children between the ages of 8.9 -14 years old used this marker as part of random patterns, which resulted in nonsense words, and most of these words violated the SMP restrictions. For example Ahmad, who is Amily’s brother, produced 10 words violating the [+human] condition; Esraa’ and Bedour violated this condition too but Ebaa’ and Bader did not violate the conditions. Some examples are listed below:

\**maṣfūn* for *maṣāfī* (sing. *maṣfī*) ‘sieves’

\**maktabūn* for *makātib* (sing. *maktab*) ‘offices’

\**birmīlūn* for *barāmīl* (sing. *birmīl*) ‘barrels’

Two bilinguals, Danyal and Fay, did not use this marker at all, which might indicate that they know that this form is not used in IA. However we cannot say that they know the SMP rules because they had already used the other marker (Table 4. 6) as one of their repair strategies. In addition, two bilinguals, Amily and her brother Ahmad, who did not use SMP marker *-īn*, used *-ūn* and they both scored the highest usage.

As mentioned earlier, the use of *-ūn* in the spoken variety (IA) is restricted to the imperfect 2PL and 3PL verb forms, whereas *-īn* is used for both verbal and nominal endings. If we compare the overall frequency of occurrence of the two forms in the productions of both groups, we notice that *-īn* occurs considerably more frequently (112) than *-ūn* (46). This pattern is valid also if we look at each group separately: in the case of the monolingual group, *-ūn* only occurs 8 times compared with 55 times for *-īn*; in the bilingual group, *-ūn* was used 38 times and *-īn* 57 times. This suggests that (i) the bilingual group show a similar pattern to that of the monolingual group; and (ii) frequency of occurrence of these forms is important in the frequency with which the children produce the forms assuming that since *-īn* occurs as an ending with nouns, adjective as well as verbs, whereas the use of *-ūn* is more restricted in the spoken variety (2PL imperfect verbs).

The use of the form to pluralise nouns, albeit erroneously, is interesting as the children who used the *-ūn* must have heard it from their parents and other family members since *-ūn* is part of various IA singular words used on daily basis, like for example:

*bidūn* ‘without’, *ṣālūn* ‘hairdresser’, *mam-nūn* ‘very grateful’, *mā-ūn* ‘a plate’,  
*ṣābūn* ‘soaps’, *zaytūn* ‘olives’.

**2. Dual markers ‘MSA dual markers *-ān* and *-ayn*’ and ‘IA dual marker *-ēn*’.** In Modern standard Arabic dual is a grammatical category with its own markers to be applied to all lexical classes but in Iraqi Arabic - as in other dialects - dual has limited usage in general and usually a

plural is used unless we want to specify the dual category ‘the two-ness’ (Ravid & Farah, 2009). Two markers were shared by both monolingual and bilingual children, MSA dual marker *-ān* (which is never used in Iraqi Arabic) and Iraqi Arabic dual marker *-ēn*. In addition to these two markers, bilingual children used another MSA dual marker *-ayn* but monolingual children never used it. These markers are explained and illustrated below.

*A. MSA dual marker -ān.* Monolingual and bilingual children used this marker differently, monolinguals produced MSA dual form words but bilinguals produced both MSA dual words and nonsense/unacceptable words when they attached it to IA words. Table 4. 8 displays frequencies of occurrence for both groups.

**Table 4. 8. Monolinguals and bilinguals usage of MSA dual marker *-ān***

| Monolingual children | Acceptable | Bilingual children | Acceptable | Unacceptable |
|----------------------|------------|--------------------|------------|--------------|
| Ali, 7.5             | -          | Caram 7.4          | -          |              |
| Hasan, 7.7           | -          | Dana, 7.4          | -          |              |
| Muhannad, 7.8        | MSA dual 1 | Amily, 7.4         | 6          | 2            |
| Adel, 8.3            | -          | Furaat, 8.2        | 4          |              |
| Rayyaan, 8.9         | MSA dual 1 | Ahmad, 8.9         | 3          |              |
| Amna, 9.1            | -          | Esraa', 9.3        | 2          | 7            |
| Dalya, 10.1          | -          | Bedour, 10.7       | 3          |              |
| Kareem, 10.7         | -          | Ebaa', 11.3        | 2          |              |
| Teba, 11.5           | -          | Danyal, 11.4       | -          |              |
| Anas, 11.6           | -          | Bader, 14.2        | 2          |              |
| Amaane, 11.8         | -          | Fay, 15.2          |            | 1            |
| Fatma, 12.1          | -          |                    |            |              |
| Nada, 13.7           | -          |                    |            |              |
| Adam, 14             | -          |                    |            |              |
| Yusef, 15.5          | -          |                    |            |              |
| Rana, 15.7           | -          |                    |            |              |
| Fadi, 16.1           | -          |                    |            |              |
| Total                | 2          | Total              | 22         | 10           |

Two monolinguals, Muhaanad (7.8) and Rayyaan (8.9), used this marker and produced one word each, *\*xaṭarān* ‘two dangers’ for *'axṭār* and *\*'iḍnān* ‘two ears’ for *\*'iḍḍān* by attaching it to the singular words *xaṭar* ‘danger’ and *'iḍn* ‘ear’. As for the Bilinguals, all of them - except Caram, Dana and her brother Danyal- used this marker but they used it differently. Some bilinguals produced MSA dual words, some attached this marker to IA words

producing unacceptable words and others produced MSA dual words and attached it to IA words. The bilingual children who produced MSA dual words were: Furaat (8.2), he produced four MSA dual words for example *\*daqīqtān* ‘two minutes; Ahmad (8.9) and Bedour (10.7) produced three MSA dual words each for example, *\*’aṭarān* ‘two traces’, *\*nisrān* ‘two eagles’ and finally Ebaa’ and Bader produced two MSA dual words each *\*dabbūsān* ‘two pins’, *\*wādiyān* ‘two valleys’. Fay (15.2) was the only bilingual child who attached this marker to IA word *\*sērān* ‘two watch bands’.

As for the bilingual children who produced MSA dual words and attached it to IA words, they were: Amily (7.4), she produced eight words, six of these words were MSA dual words e.g., *\*dakiyyān* ‘two clever boys’, *\*’uxtān* ‘two sisters’ and two were attached to IA words *\*dōrān* ‘two roles’ and *\*čaffān* ‘two gloves’. Likewise, Esraa’ produced nine words, two were MSA dual words *\*najjārān* ‘two carpenters’, *\*daftarān* ‘two copybooks’ and seven were attached to IA words for example, *\*čalbān* ‘two dogs’, *\*gur’ānān* ‘two Qurans’.

Dana and Danyal, were the two bilingual siblings who did not use this marker, either because they know they cannot use this marker as it will produce an MSA dual word or this marker did not occur in their input which is in line with what was mentioned earlier that the dual form is rarely used in IA daily speech so it was not in their input. The fact that this form is rarely used in daily speech would mean that it is not in their daily input but some bilinguals use it and this leaves us with the question of why they use it if it was not in their input and where they got it from. For some bilinguals like Bedour, Ebaa’, Bader, and Fay they might find it difficult to retrieve the BP form or it might be that it is safer to use this form instead of the other sound plural markers or it might be because the *-ān* is part of various IA singular words used on daily basis, ‘active participle’ اسم الفاعل, like for example:

*jizdān* ‘purse’; *ta‘bān* ‘tired’; *ḥalmān* ‘dreamer’; *zamān* ‘ages’; *čān* ‘there was’;  
*ščān* ‘what was?’; *kaslān* ‘lazy’, *makān* ‘place’; *bardān* ‘feel cold’; *aṭšān* ‘thirsty’;  
*šab‘ān* ‘full of food’; *inwān* ‘address’; *galṭān* ‘wrong’

And this explains why Amily and her brother Ahmad, Esraa’ and Furaat used it in spite of the fact they have not received formal schooling in Arabic.

*B. MSA dual marker -ayn.* This marker was used twice exclusively by two bilingual children, Furaat (8.9) and Bedour (10.7). This marker takes the form of *-ayn* with masculine nouns and *-tayn* with feminine nouns. Furaat used the word *\*ḥādiṭayn* ‘two accidents’ for *ḥawādiṭ* and Bedour used the word *\*bahrayn* ‘two seas’ for *bahḥāra* ‘sailors’ in which she produced a word which conveys a completely different meaning to the word being asked *bahḥār* ‘sailor’ and the singular form of the word she produced is *baḥar* ‘sea’. This marker is never used in IA and the reasons why these two children used it might be that they must have heard it from either their friends, TV or their parents. It is worth mentioning here that these two children are close friends and this might be the reason why they were the only ones who used it.

*C. IA dual marker -ēn.* This marker was attached to the singular word without any change. One monolingual child and four bilingual children used it, as can be seen from Table 4. 9.

**Table 4. 9. Monolinguals' and bilinguals' usage of -ēn**

| Monolingual children | Acceptable | Bilingual children | Acceptable |
|----------------------|------------|--------------------|------------|
| Ali, 7.5             | -          | Caram, 7.4         | -          |
| Hasan, 7.7           | -          | Dana, 7.4          | 1          |
| Muhannad, 7.8        | -          | Amily, 7.4         | 1          |
| Adel, 8.3            | -          | Furaat, 8.2        | 2          |
| Rayyaan, 8.9         | 2          | Ahmad, 8.9         | -          |
| Amna, 9.1            | -          | Esraa', 9.3        | -          |
| Dalya, 10.1          | -          | Bedour, 10.7       | 5          |
| Kareem, 10.7         | -          | Ebaa', 11.3        | -          |
| Teba, 11.5           | -          | Danyal, 11.4       | -          |
| Anas, 11.6           | -          | Bader, 14.2        | -          |
| Amaane, 11.8         | -          | Fay, 15.2          | -          |
| Fatma, 12.1          | -          |                    |            |
| Nada, 13.7           | -          |                    |            |
| Adam, 14             | -          |                    |            |
| Yusef, 15.5          | -          |                    |            |
| Rana, 15.7           | -          |                    |            |
| Fadi, 16.1           | -          |                    |            |
| Total                | 2          | Total              | 9          |

Rayyaan (8.9) used it twice with the words *\*šār'ēn* 'two streets' and *\*ḥṣānēn* 'two horses' both of which are acceptable form in IA as dual forms. As for the bilinguals, two of them used it once each, Dana (7.4) and Amily (7.4), with the word *\*yōmēn* 'two days' for 'ayyām and it was used twice by Furaat (8.2) with the words *\*dōrēn* 'two roles' for 'adwār and *\*saḥḥēn* 'two roofs' for *ṣṭūḥ* but Bedour (10.7), used it with five words for example, *\*ṭōbēn* 'two dresses' for *ṭwāb*, *\*'alfēn* 'two thousands' for 'ālāf.

As mentioned earlier that the dual marker -ēn is not used in IA unless we want to specify the dual category 'the two-ness', the children who used it must have heard it from either their friends, TV or their parents. Or it might be because the -ēn is part of various IA singular words used on daily basis, like for example:

*wēn* 'where'; *mnēn* 'from where'; *zēn* 'ok, fine'; *ba'dēn* 'later'; *hamzēn* 'great, thank God'; *bēn* 'between, among'.

**3. Singular forms.** Two different methods were used to produce the singular form, either repeating the stimuli word, that is they repeated the singular words given to them or they used singular markers:

*A. Repetition of the stimuli word.* Three monolingual children repeated the same singular words given to them. They maintained that the same form can be used in the plural. Rayyaan (8.9) produced two words e.g., \**qāmūs* ‘dictionary’ for *qawāmīs*; Amna (9.1) produced two words \**gaṣṣāb* ‘butcher’ for *giṣāṣīb* and \**baḥḥār* ‘sailor’ for *baḥḥāra* and Dalya (10.1) produced one word \**aqid* ‘century’ for *iqūd*. These children might have resorted to this strategy because it is their safest option.

As for the bilinguals, eight of them used this pattern with different frequencies. Two bilinguals used it once each Bader (14.2) with the word \**ilhāf* ‘duvet’ for *lihif/lihfān* and Fay (15.2) with the word \**hāris* ‘guard’ for *hurrās*. Two bilinguals used it twice Danyal (11.4) with \**sēr* ‘watch bands’ for *seyūra* and \**gaṣṣāb* ‘butcher’ for *giṣāṣīb* and his sister Dana (7.4) with \**a‘mā* ‘MSA, one blind male’ for *imyān* and \**ma‘raq* ‘one exhibition’ for *ma‘ariḍ*. Two bilinguals used this pattern three times each Furaat (8.2) with \**maḡsala* ‘basins’ for *maḡāsīl*, \**kāšiya* ‘tiles’ for *kāši* and \**zmāl* ‘donkeys’ for *zmāyil* and Esraa’ (9.3) with \**baḥār* ‘sailor’ for *baḥḥāra*, \**šamsiyya* ‘umbrella’ for *šamāsi* and \**xarūf* ‘sheep’ for *xirfān*. One bilingual used it four times Ebaa’ (11.3) with \**jilāfa* ‘wire sponge ball’ for *jillāf*, \**hīdā* ‘shoes’ for *ahḍiya*, \**risāla* ‘letter’ for *rasāyil* and \**agrūb* ‘scorpion’ for *agārūb* and finally one bilingual Bedour (10.7) used it eight times with the words \**xālū* ‘my uncle’ for *xawāl*, \**muknāsa* ‘broom’ for *mukānīs*, \**jidū* ‘grandfather’ for *ajdād*, \**axū* ‘his brother’ for *uxwān*, \**dub* ‘bear’ for *dubaba*, \**agrūb* ‘scorpion’ for *agārūb*, \**ma‘raq* ‘exhibition’ for *ma‘ariḍ* and \**tlāṭa* ‘cardinal number 3’ for *tawālīt*.

Monolingual children used this method up to the age of 10 but bilinguals used it across all ages. Two interesting points can be noted within bilingual children's usage: firstly, it was not used by bilinguals who were never taught Arabic formally and who arrived at a younger age in the L2 environment like Caram, Amily and her brother Ahmad; and secondly, all the bilinguals who used it are siblings. In addition, in section 4.2 (group II) repeating the same singular word given to them, five speakers from this group used this strategy, two of them are the mothers of four bilinguals (Fatin, Furaat & Fay's mother) and (Enaas, Ebaa & Esraa's mother), so the children's behaviour seems to reflect their mothers' input.

The tendency for young monolinguals to use this marker is widely documented in previous studies (e.g. Ravid & Farah 1999; Daana 2009; Omar 1973). As for bilingual children's usage, in Ridha's (2015) study, he noticed that one of his bilingual children aged 6 years old produced a singular word *\*ilxarūf* 'the sheep' instead of the plural form *ilxurfān*, when he produced the sentence *rikaḍ itta'lab 'ala waḥda min ilxarūf* 'the fox ran towards one of the sheep'.

*B. IA singular feminine marker -āya.* This marker was used twenty-three times by one bilingual child, Amily (7.4). Altoma (1969: 37) and Erwin (2004: 167- 168) pointed out that this marker is used to form feminine singular words and it is usually formed in two ways:

- Words ending in *-a*, drop the *-a* and add the marker *-āya* for example, *glāda* 'necklace' → *glādāya*.
- Words not ending in *-a*, by adding the marker to the word for example, *jīl* 'generation' → *jīlāya*.

Some of the produced words are acceptable singular words used in IA and some are not, for example words like *glādāya* 'necklace', *xirzāya* 'bead' are acceptable singular feminine words, but *\*tannūrāya* 'skirt', *\*li'bāya* 'doll' are wrong words. Amily used this strategy as a

result of having the *singular feminine marker* *-āya* more frequently in her input as it is used in everyday speech to produce singular feminine words.

**4. New words.** Monolingual and bilingual children produced new words, which means they produced words with a completely different meaning from the singular words being asked. Table 4. 10 displays the methods used and the frequency of occurrence for both groups.

**Table 4. 10. Monolinguals' and bilinguals' 'new word' usage**

| Monolinguals                 |                                    | Bilinguals                   |                                    |                             |                                |
|------------------------------|------------------------------------|------------------------------|------------------------------------|-----------------------------|--------------------------------|
| SFP marker/-<br>āt/Frequency | Incorrect BP<br>template/frequency | SFP marker/-<br>āt/frequency | Incorrect BP<br>template/frequency | Random<br>pattern/frequency | New singular<br>word/frequency |
| Hasan (7.7)-1                | -                                  | Dana (7.4)-3                 | 1                                  | 2                           | -                              |
| Adel (8.3)-1                 | 2                                  | Amily (7.4)-3                | 1                                  | -                           | -                              |
| -                            | Amna (9.1)-1                       | Furaat (8.2)-5               | -                                  | 2                           | -                              |
| -                            | Anas (11.6)-1                      | Ahmad (8.9)-2                | -                                  | 2                           | -                              |
| -                            | Fatma (12.1)-1                     | Esraa' (9.3)-2               | 6                                  | -                           | 1                              |
| -                            | -                                  | Bedour (10.7)-<br>2          | 4                                  | 5                           | 1                              |
| -                            | -                                  | Ebaa' (11.3)1                | 9                                  | 1                           | 3                              |
| -                            | -                                  | Bader (14.2)-1               | 6                                  | 1                           | -                              |
| -                            | -                                  | Fay (15.2)-1                 | 2                                  | -                           | 1                              |
| -                            | -                                  | -                            | Danyal (11.4)-1                    | -                           | -                              |
| Total/ 2                     | 5                                  | Total/ 20                    | 30                                 | 13                          | 6                              |
| Total                        | 7                                  | Total                        | 69                                 |                             |                                |

These methods are explained and illustrated below.

*A. The SFP marker -āt.* In this method, the children attached the SFP marker to some singular words, which resulted in new words with different meanings to the stimuli words. Two young monolinguals used it, Hasan (7.7) with the word *\*hālāt* 'cases' for the word *aḥwāl* 'situations' and Adel (8.3) with the word *\*jāmī'āt* 'universities' for the word *jawāmi'* 'mosques'. But bilinguals across all ages used it, except for Danyal. Dana (7.4) used this marker with three words for example, *\*jāmī'āt* 'universities' instead of *jawāmi'* 'mosques', *\*manḍarāt* 'glasses' instead of *manāḍīr* 'natural views'; Amily (7.4) used it with three words, for example, *\*manḍarāt* 'glasses' and *\*ḥarāmāt* 'with regret-unfortunately' instead of *ḥarāmiyya* 'thieves'. Furaat (8.2) used it with five words, for example, *\*jāmī'āt* 'universities', *\*īdiyāt* 'treats given to

children during Eid)'. Ahmad (8.9) used it with two words, *\*kitābāt* 'written articles' instead of *kuttāb* 'writers' and *\*maṇḍarāt* 'glasses'. Esraa' (9.3) used it with two words *\*ktābāt* 'writings' instead of *kuttāb* 'writers' and *\*jāmī'āt* 'universities'. Bedour (10.7) used it with *\*jāmī'āt* 'universities' and *\*maṇḍarāt* 'glasses'. Ebaa' (11.3) used it with one word *\*jāmī'āt* 'universities'. Bader (14.2) used it with one word *\*maṇḍarāt* 'glasses' and Fay (15.2) used it with the word *\*ḥālāt* 'conditions'.

*B. Incorrect BP templates.* This method was used by four monolinguals starting from age (8.3) to (12.1): Adel (8.3) used two BP templates, [ʾaCCaaC] with the word *\*'aḥkām* 'legislations' instead of producing the word *ḥukkām* 'referee' and [CiCuuC] with the word *\*šī'ūr* 'feeling' instead of producing the word *ša'ar* 'hair'. But other monolinguals used one BP template: Amna (9.1) used [CiCuuC] with the word *\*'ilūm* 'sciences' instead of *'ulamā* 'scientists'. Anas (11.6) used [CuCaCaaC] with the word *\*ḥukamā* 'wise men' instead of *ḥukkām* 'referee' and Fatima (12.1) used [CaCaaCiC] with the word *\*xawāṭir* 'thoughts' instead of *'axṭār* 'dangers'.

As for bilinguals, Dana (7.4) used [CaCaaCiC] with the word *\*ḥaqā'iq* 'facts' instead of *ḥiqūq* 'rights'. Amily (7.4) used [CiCCaaC] with the word *\*'idwān* 'aggression' instead of the word *'a'dā* 'enemies'. Esraa' (9.3) used three templates: [CiCuuC] with three words for example, *\*šī'ūr* 'feeling', *\*'ilūm* 'sciences'; [ʾaCCaaC] with two words *\*'a'māl* 'works' instead of the word *'ummāl* 'workers' and *\*'amrād* 'diseases' instead of the word *murḍa* 'patients' and [CiiCaaC] with the word *\*qīṭān* 'shoe lace' instead of the word *qūṭ* 'suits'. Bedour (10.7) used [CiCuuC] with four words, for example, *\*'ilūm* 'sciences' instead of *'a'lām* 'flags', *\*biyūḍ* 'insects eggs' instead of *bīḍ* 'white coloured items' and *\*qilūb* 'hearts' instead of *qawālib* 'cake tins'; Ebaa' (11.3) used [CiCuuC] with nine words for example, *\*'iṣūr* 'eras' instead of *'aṣāyir* 'juices'; *\*šī'ūr* 'feeling' instead of *aš'ār* 'poetry'; Danyal (11.4) used [CiCiC] with the word *\*šī'ir* 'poetry' instead of *šu'arā* 'poets'. Bader (14.2) used two templates: /CaCaaCiC/ with the word *\*maṣāyif* 'resorts' instead of *maṣāfi* 'sieves' and /CiCuuC/ with five words for example,

\**biyūḍ* ‘insects eggs’ instead of *bēḍ* ‘chicken eggs’ and \*‘*uṣūr* ‘eras’ instead of ‘*aṣāyir* ‘juices’.

Fay (15.4) used [CuCaCaa’] with the word \**ḥukamā* ‘wise men’ instead of *ḥukkām* and

[’aCCiCa] with the word \*‘*amṭila* ‘examples’ instead of the word ‘*amṭāl* ‘proverbs’.

*C. Random patterns.* Only bilinguals used this method. Dana (7.4) used the pattern \*[CuuCaaC] with the word \**sūwāq* ‘drivers; and she produced the word \**mālna* ‘belongs to us’ or she just attached the word /māl+na/ which means ‘our money’ for the word ‘*amwāl* ‘money’. Furaat (8.2) used the collective form \**bunduq* ‘hazelnut’ instead of *banādiq* ‘rifles’ and the pattern \*[CaCaaC] with the word \**šaḡḡāl* ‘he works’ which is a verb for the word ‘*aṣḡāl* ‘work, jobs’. Ahmad (8.9) used the pattern \*[CaCCuuC] with two words \**maṭbūx* ‘cooked food’ which is a participle instead of *maṭābux* ‘kitchens’ and \**maxzūn* which is a participle instead of *maxāzin* ‘storage rooms’. Bedour (10.7) produced five random words \*‘*aqrab* ‘nearer to’ instead of *garāyib* ‘relatives’, \*‘*ibna* ‘his son’ instead of ‘*abnā* ‘sons’; the verb \**tumṭur* ‘raining’ instead of ‘*amṭār* ‘rains’ and the comparative adjective \*‘*aṭwal* ‘taller than’ instead of *tuwwāl* ‘tall people’. Ebaa’ (11.3) produced the word \**farḥānīn* ‘happy people’ which is an adjective instead of the word ‘*afrāḥ* ‘happiness’. Bader (14.2) used a random pattern \*[CaCaaC] \**sawād* ‘black’ instead of *sūd* ‘black coloured items’.

*D. New singular words.* Four bilinguals produced new singular words with different meanings to the ones being asked. Esraa’ (9.3) produce one word \**qīṭān* ‘shoelace’ instead of the word *qūt* ‘suits’ and so did her brother Ebaa’ (11.3) when he produced three words \**jilād* ‘book cover’ instead of *tajālīd* ‘book covers’, \**miṭāl* ‘an example’ instead of ‘*amṭāl* and \**šaḡla* ‘a specific request’ instead of ‘*aṣḡāl* ‘works/jobs’. Bedour (10.7) produced the word \**marāḍ* ‘disease’ instead of *murḍa* ‘patients’ and Fay (15.2) produced the word \*‘*amṭila* ‘examples’ instead of ‘*amṭāl* ‘proverbs’.

If we compare the overall usage and frequency of the ‘new word’ strategy, Table 4. 10, we notice: (i) the huge difference in the total frequency of usage of this strategy between monolinguals (7) and bilinguals (69). (ii) monolinguals used only two methods, the SFP (2) and incorrect BP templates (5). While bilinguals used four different methods with higher frequencies: SFP (20), incorrect BP templates (30), random patterns (13) and new singular words (6). (iii) younger monolinguals applied the default SFP marker but older monolinguals applied BP templates, which is in line with previous findings that the SFP marker is the default system for younger children and as they grow older they start using the BP templates. These young monolinguals found it safer to use the default system while older ones preferred to use BP templates even if they were incorrect as they know that by using the SFP marker they are violating the requested form. (iv) all of the bilingual children, except Danyal, used the default SFP, which is in line with what we found earlier that even bilinguals used this marker as a default system across all ages. (v) both groups used incorrect BP templates that already exist in IA but with much higher frequency for the bilinguals. (vi) some bilingual children used random patterns, for example using verbs and adjectives and some used singular words, as they might have resorted to this method by analogy, and they might have thought that these words share some graphemes/phonemes or orthographic units.

**5. Incorrect broken plural templates.** This repair strategy was the second preferred one to score high in its frequency in spite of the fact the produced words were completely wrong and most of them were unacceptable/nonsense ones. By this we mean the usage of an incorrect broken plural template, whether it is an IA or a MSA BP template.

When children are exposed to many varieties of BP templates, the difficulty of learning them will increase too. Monolingual children used it 143 times and bilingual children used it 472. The frequency of usage varies between the two groups and within each group as in Table 4.

**Table 4. 11. Monolinguals and Bilinguals usage of incorrect Broken Plural templates**

| Monolingual children | Frequency | Bilingual children | Frequency |
|----------------------|-----------|--------------------|-----------|
| Ali, 7.5             | 13        | Caram, 7.4         | -         |
| Hasan, 7.7           | 19        | Dana, 7.4          | 51        |
| Muhannad, 7.8        | 5         | Amily, 7.4         | 7         |
| Adel, 8.3            | 23        | Furaat, 8.2        | 55        |
| Rayyaan, 8.9         | 25        | Ahmad, 8.9         | 11        |
| Amna, 9.1            | 10        | Esraa', 9.3        | 73        |
| Dalya, 10.1          | 9         | Bedour, 10.7       | 70        |
| Kareem, 10.7         | 10        | Ebaa', 11.3        | 82        |
| Teba, 11.5           | 2         | Danyal, 11.4       | 11        |
| Anas, 11.6           | 7         | Bader, 14.2        | 102       |
| Amaane, 11.8         | 12        | Fay, 15.2          | 10        |
| Fatma, 12.1          | 1         |                    |           |
| Nada, 13.7           | 4         |                    |           |
| Adam, 14             | 3         |                    |           |
| Yusef, 15.5          | -         |                    |           |
| Rana, 15.7           | -         |                    |           |
| Fadi, 16.1           | -         |                    |           |
| Total                | 143       | Total              | 472       |

Both groups used this strategy across all ages but the only difference is their frequency of usage. There is a considerable difference between the two groups and within each group. For the monolingual group, their frequency of usage decreased as they get older up to the age 14, which might indicate that this is the age when they have mastered the usage of the broken plural. With bilinguals, there is fluctuation in their usage and no developmental path is detected.

Monolingual and bilingual children shared certain templates while other templates were used exclusively by bilinguals. The twenty shared templates and their frequency varied between the two groups as in Table 4. 12, with preference for some templates rather than others:

**Table 4. 12 Incorrect templates used by both groups and its frequency of usage**

| Incorrect BP templates / Examples                           | Bilinguals' Frequency | Monolinguals' Frequency |
|---|-----------------------|-------------------------|
| CiCūC * <i>bilūd</i> for <i>buldān</i> 'countries'          | 153                   | 16                      |
| 'aCCāC * <i>'aḥkām</i> for <i>ḥukkām</i> 'legislations'     | 80                    | 20                      |
| CaCāCiC * <i>sabā'ib</i> for <i>'asbāb</i> 'reasons'        | 34                    | 39                      |
| 'aCCiCa * <i>'aswiqa</i> for <i>suwāq</i> 'drivers'         | 33                    | 5                       |
| CaCāCiC * <i>taḥāḥḥ</i> for <i>tuhaf</i> 'antiques'         | 24                    | 5                       |
| CiCūCa * <i>ḥibūxa</i> for <i>ḥabābīx</i> 'cooks'           | 18                    | 3                       |
| CiCāC * <i>ḥihād</i> for <i>ḥihūd</i> 'leopards'            | 18                    | 2                       |
| CaCāCi * <i>sawārī</i> for <i>syūr</i> 'watch bracelets'    | 16                    | 3                       |
| CuCūC * <i>kuwūb</i> for <i>'akwāb</i> 'mugs'               | 13                    | 1                       |
| CCūC * <i>ḥbūx</i> for <i>ḥabābīx</i> 'cooks'               | 11                    | 23                      |
| CCāC * <i>srāj</i> for <i>srūj</i> 'saddles'                | 7                     | 1                       |
| CīCāC * <i>xīḥān</i> for <i>xiyūt</i> 'threads'             | 6                     | 1                       |
| CCāCa * <i>ḥbāga</i> for <i>'aḥbāg</i> 'paints'             | 9                     | 1                       |
| CuCCāC * <i>suffār</i> for <i>sufarā</i> 'ambassadors'      | 6                     | -                       |
| CuCuC * <i>nu'ub</i> for <i>nuwwāb</i> 'MPs'                | 6                     | 1                       |
| CiCCāC * <i>ḥilsān</i> for <i>ḥlūs</i> 'money'              | 5                     | -                       |
| CūC * <i>jūš</i> for <i>jyūš</i> 'armies'                   | 4                     | 4                       |
| CuCaC * <i>ḥtuwar</i> for <i>ḥtūrān</i> 'bulls'             | 4                     | 1                       |
| CuCaCā' * <i>ḥurasā</i> for <i>ḥurās</i> 'guards'           | 4                     | 2                       |
| CCūCa * <i>ḥsbūba</i> for <i>'asbāb</i> 'reasons'           | 7                     | 3                       |
| CuCāC * <i>ḥtuwār</i> for <i>ḥtūrān</i> 'bulls'             | 3                     | 6                       |
| 'aCCuC * <i>'afrūq</i> for <i>firaq</i> 'teams'             | 2                     | 6                       |
| CuCCa * <i>sufna</i> for <i>sufun</i> 'ships'               | 2                     | -                       |
| CuCCuC * <i>bunduq</i> for <i>banādiq</i> 'rifles'          | 2                     | -                       |
| CaCaC * <i>maradh</i> for <i>murDha</i> 'illness'           | 1                     | -                       |
| CaCāCā * <i>maqāhā</i> for <i>maqāhī</i> 'cafes'            | 1                     | -                       |
| 'aCCiCCā' * <i>'a'miyā</i> for <i>'imyān</i> 'blind people' | 1                     | -                       |
| CiCaC * <i>dīfaf</i> for <i>dīfūf</i> 'tambours'            | 1                     | -                       |
| CiCiC * <i>ḥi'ir</i> for <i>ḥu'arā</i> 'poets'              | 1                     | -                       |
| Total   | 472                   | 143                     |

Looking at Table 4.12 raises the question of which templates were used the most by bilinguals and why. We can notice a massive difference in the frequency of usage for some templates bilinguals used like [CiCūC], ['aCCāC], ['aCCiCa], [CaCāCiC], [CiCāC], [CaCāCi], [CuCūC] and the reason for this preference might be that these templates have

occurred in their input more than the others and since they are stored more frequently and they are more familiar with them, they used them more than the other templates. That is to say, the frequency of the times children hear these templates from their environment might determine the frequency of their usage of these templates. Daana (2009) noticed two incorrect BP templates [CCVVC] with /-ā-/ or /-ū-/ vowels and [CVCVCVVC] used by most Jordanian children as their repair strategy and by Jordanian female adults when she tested them with nonsense words. She stated that this phenomena was discussed previously by different researchers:

Bybee 1988, 1991, 1998; Huttenlocher et al 1991; Barrett et al 1991 and Pierrehumbert 2001, suggest that patterns range over large numbers of lexical items are generally reinforced or strengthened and apply more readily to new items whereas patterns that are found in smaller numbers of items are correspondently weaker and less likely to be productive.

(Daana 2009: 215)

and further:

...the answer may lie in the number of tokens that actually exist in daily conversations-whether amongst adults, children or both-rather than the number of words associated with this or that template.

(Ibid 2009: 215)

Ravid & Farah (1999) also noticed that the same templates in Daana's study [CCVVC] and [CVCVCVVC] were used to exchange the correct BP templates in their study on Palestinian Arabic too.

As we have seen in the incorrect patterns used by (control group II), speakers used incorrect templates when they could not retrieve/remember the correct ones to use with these words and it was their safest option, as they know that using other sound plurals is wrong. As for the monolingual children, their usage shows that the BP templates were in their input but they had not mastered them yet. The use of an incorrect template was mostly observed in children aged 8 - 12. They know they cannot apply the SFP marker, so they used the other frequent rules in their input, and since SMP has syntactic restrictions and it is not used in IA daily speech, they

used the most familiar BP templates they have stored initially. In fact their usage might be influenced by the fact that they are still not familiar with these words, which need to be learned and mastered individually. As they grew older, they used correct templates, as they were more aware of them, and they were more experienced with these words as BP words are more widely used in everyday speech than the other sound plurals.

For bilinguals, we have different scenarios. There is no correlation between their usage and their ages, as we have seen with monolinguals. For example, Dana (aged 7.4) used it 51 times while another child with the same age (Amily) used it 7 times. The same is true with Ebaa' (aged 11.3) when he used it 82 times while Danyal used it 11 times. And even when they got older as in Bader's case, (aged 14.2) he used it 102 times, which is the highest usage compared to the younger children. So there must be other factors affecting their usage, and that is their input. These children resorted to what they had in their input and since the frequency of the input determine what is being acquired, they used it and each child had his/her own way of using these templates depending on his/her input.

**6. Random patterns.** Monolingual and bilingual children used random patterns, which means they produced words with patterns that cannot be categorised under any other repair strategies used and discussed previously. Seven monolinguals between the ages 7.8 and 10.7 used it once each and one child Hasan (7.7) used it three times, as in Table 4. 13. As for the bilingual children, it was used by all of them - except Caram and Fay. There were differences in their frequency of usage with Ahmad (8.9) scoring the highest frequency of usage (34).

**Table 4. 13 Monolinguals and Bilinguals usage of random patterns**

| Monolingual children | Frequency | Bilingual children | Frequency |
|----------------------|-----------|--------------------|-----------|
| Ali, 7.5             | -         | Caram, 7.4         | -         |
| Hasan, 7.7           | 3         | Dana, 7.4          | 15        |
| Muhannad, 7.8        | 1         | Amily, 7.4         | 9         |
| Adel, 8.3            | 1         | Furaat, 8.2        | 14        |
| Rayyaan, 8.9         | 1         | Ahmad, 8.9         | 34        |
| Amna, 9.1            | 1         | Esraa', 9.3        | 22        |
| Dalya, 10.1          | 1         | Bedour, 10.7       | 12        |
| Kareem, 10.7         | 1         | Ebaa', 11.3        | 24        |
| Teba, 11.5           | -         | Danyal, 11.4       | 1         |
| Anas, 11.6           | -         | Bader, 14.2        | 10        |
| Amaane, 11.8         | -         | Fay, 15.2          | -         |
| Fatma, 12.1          | -         |                    |           |
| Nada, 13.7           | -         |                    |           |
| Adam, 14             | -         |                    |           |
| Yusef, 15.5          | -         |                    |           |
| Rana, 15.7           | -         |                    |           |
| Fadi, 16.1           | -         |                    |           |
| Total                | 9         | Total              | 141       |

Looking at Table 4.13, there is considerable difference between the two groups and within each group: monolingual children used it nine times and bilinguals one hundred and forty one times. For the monolingual group, their frequency of usage decreased, as they get older up to the age 10.7. With bilinguals, there is fluctuation in their usage and no developmental path is detected.

The total number of the random patterns used was fifty-one, as in Figure 4. 5; one of these patterns was used by one monolingual child; four of these patterns were shared between the two groups and forty-six were used exclusively by bilinguals.

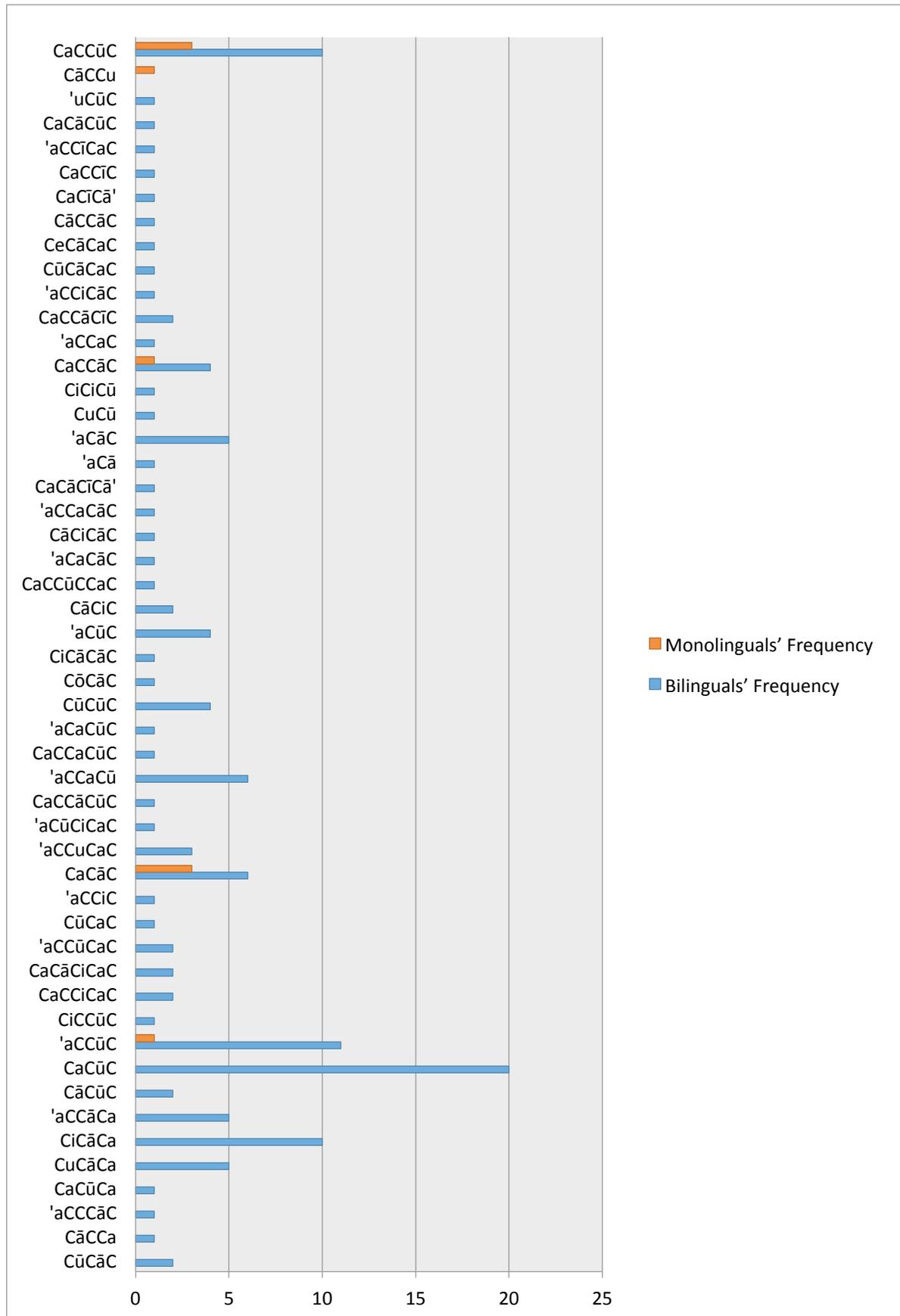


Figure 4. 5. Monolinguals and bilinguals usage of random patterns

One random pattern was used by one monolingual child, Hasan (aged 7.7), when he produced the word \**sāfaru* ‘they travelled’ which is a verb, when being asked to produce the BP plural of the singular word *safīr* and *safīra* which should be *sufarā* ‘ambassadors’. The produced word is a MSA verb never used in IA and the pattern he used was \*[CāCaCu] which is normally used in MSA words like *ḥāwalu* ‘they tried’, *hājaru* ‘they immigrate’.

As for the four random patterns shared by both monolingual and bilingual children, the first one was \*[CaCCūC] which was used with ten words by bilingual children: Amily (7.4) and her brother Ahmad (8.9) used it with four words each for example, \**kalyūm* for *‘aqlām* ‘pens’, \**sathūm* for *ṣūḥ* ‘roofs’, \**baxyūl* for *buxalā* ‘misers’; Esraa’ (9.3) and Bedour (10.7) used it with one word each, \**xašmūm* for *xšūm* ‘noses’ and \**xanjūr* for *xanājir* ‘daggers’. As for monolinguals, it was used with three words: Hasan (7.7) with the word \**maštūl* for *mašātil* ‘green houses’, Adel (8.3) with the word \**farḥūn* for *‘afrāḥ* ‘happy occasions’ and Rayyaan (8.9) with the word \**anjūs* for *‘injās* ‘plums’. The reason why these children used this random pattern might be due to their input, as in IA we have singular words that have the same CV pattern like for example:

*mašlūl* ‘SM paralysed person’, *maštūl* ‘SM delirious’, *maḥlūl* ‘solution’, *‘arbūn* ‘commission’, *markūn* ‘something lied a side’, *matrūs* ‘full’, *maḥbūs* ‘imprisoned’, *majnūn* ‘SM crazy’, *ṣandūg* ‘a box’, *mačbūḥ* ‘feel down’.

The second shared pattern was \*[‘aCCūC]. One young monolingual child, Muhannad (7.8), used it in the production of the word \**‘alhūf* for *liḥfān/liḥif* ‘duvets’. As for bilinguals, it was used with eleven words: Furaat (8.2) produced two words \**‘ašmūs* for *šmūs* ‘suns’ and \**‘ajbūl* for *jbāl* ‘mountains’; Ahmad (8.9) produced four words for example, \**‘abyūd* for *bīd* ‘white coloured items’, \**baxyūl* for *buxalā* ‘misers’; Esraa’ (9.3) and her brother Ebaa’ (11.3)

produced two words each, \**'a'mūd* for *'awāmīd* 'lamp posts', \**'azrūg* for *zurug* 'blue coloured items' and Bader (14.2) used it with one word \**'abyūḍ* for *bīḍ* 'white coloured items'.

The third shared random pattern was \*[CaCāC], and bilinguals used it with six words: Furaat (8.9) used it with the word \**šagāl* for *'ašgāl* 'works, jobs'; Bedour (10.7) used it with three words, for example, \**xawāx* for *xūx* 'peaches', \**wakāl* for *wikalā* 'agents' and her brother Bader (14.2) used it with two words \**sadād* for *sdūd* 'dams' and \**sawād* for *sūd* 'black'. As for monolinguals, it was used with two words: Amna (9.1) with the word \**sarāj* for *srūj* 'saddles' and Kareem (10.7) with the word \**rawāf* for *rifūf* 'shelves'. The reason why these children used this random pattern might be that it is in their input, as in IA we have singular words that have the same CV pattern like for example, *garāge* 'garage', *na'āl* 'lip flop'.

The last shared random pattern was \*[CaCCāC], and bilinguals used it with four words: Bedour (10.7) produced two words \**tamrān* for *tamārīn* 'exercises' and \**mablāg* for *mabālīg* 'sum of money' and her brother Bader (14.2) used it with one word \**waklān* for *wikalā* 'agents'; Ebaa' (11.3) used it with one word \**'alwān* for \**'alāwi* 'fruit markets'. As for monolinguals, it was used by one child Dalya (10.1) with one word \**qawwāt* for *qūt* 'suits'. The usage of this pattern might be because it is in their input as in IA we have singular words that have the same CV pattern like for example:

*'aššān* 'thirsty', *za'lān* 'upset', *farḥān* 'happy, male's name', *ḥaywān* 'animal', *ramḍān* 'fasting month, male's name', *šayṭān* 'devil', *fallāḥ* 'farmer'.

**7. Collective nouns.** Six monolingual children up to the age of nine years old produced the collective form but with the wrong words. Three monolinguals Ali (7.5), Adel (8.3) and Amna (9.1) used the same word \**šaṭīl* 'bucket' for *šūla*; likewise Hasan (7.7) and Dalya (10.1) used the word \**'aḍum* 'bone' for *'iḍām* and Muhannad (7.7), used two words \**šaṭīl* and \**'aḍum*. As for bilinguals, only one child Furaat (8.2) used the word \**bunduq* 'Hazelnut' which has a

completely different meaning from the stimuli word *bunduqiya* ‘one rifle’ where the BP words should be *banādiq* ‘rifles’.

**8. Cross-linguistic influence from English.** Two of the youngest bilinguals, Caram and Amily both aged (7.4) used this strategy. Caram was influenced by the English plural system when he produced 473 spoken Iraqi Arabic words attached to the regular English plural markers *\*burtukalis* ‘oranges’, *\*sūriz* ‘pictures’. As for Amily, she used the word *\*alamatful* for *’ālām* ‘pains’. The linguistic explanations as to why these two young bilinguals behaved in this way will be discussed more fully in the next chapter with reference to social factors.

**9. ‘Nunation’ /tanwīn/, -’an and -’un.** These suffixes are known in Arabic as *tanwīn* ‘nunation’. It is a grammatical suffix attached to the end of the words (nouns & adjectives) by adding a “n” sound. The purpose of it is to mark indefiniteness and usually it functions just like the ‘a’ and ‘an’ in English (indefinite articles). The suffix (-un, َ) is used in the nominative case, (-in, ِ) & (-an, ِ) in the genitive and accusative cases (Qafisheh, 1977: 115).

This repair strategy was used by bilingual children and monolinguals did not use it. The suffix /’an/ was used ten times by three bilinguals, two of whom were siblings - Amily (7.4) and Ahmad (8.9) and Esraa’ (9.3). Amily used this suffix seven times, for example, *\*ṣaġīr’an* for *ṣaġār* ‘young people’, *\*qafaṣ’an* for *’aqffāṣ* ‘cages’, *\*ċibīr’an* for *kbār* ‘old people’; Ahmad produced one word *\*ḥad’an* for *ḥidūd* ‘boarders’ and Esraa’ used it with two words *\*’isbū’an* for *’asābī’* ‘weeks’; *\*nabiy’an* for *’anbiyā’* ‘prophets’ and she also used the nominative case (-’un) with the word *’īdu’un* for *’a’yād* ‘festivals’.

The only reason that might explain why they used this repair strategy is that it is in their input (chapter 5 discusses the bilinguals’ input) and indeed in IA, many words used on a daily base have the same ending (-’an). These words are derived from nouns and adjectives where the

suffix (-'an) is added and they function as adverbs (Erwin 2004), so they must have accommodated this part and used as one of their repair strategies, for example words like:

*'axīr'an* 'finally', *ṭab'a'an* 'of course, naturally', *ra's'an* 'immediately', *šukr'an* 'thank you', *'afw'an* 'do not mention it, excuse me', *na'īm'an* (this expression is said to someone after having a bath or a hair cut), *'ayna'an* 'the same as', *bayy'an* 'appear, look', *zayy'an* 'shave, had a hair cut', *'a'an* 'concerning, about what', *taqrīb'an* 'almost', *'ahl'an* 'hello, welcome', *'abad'an* 'never'.

As for the other suffix -'un which was used by Esraa' with the word \*'īdu'un 'festival', she must have heard it from her environment.

As expected, the repair strategies most used by the bilingual children were overgeneralisation of the SFP marker, irregularisation of the BP templates and the 'random patterns' strategy.

So in general, we can say that the results of the monolingual children, go in line with other studies like Omar 1973, Ravid and Farah 1999, 2003, Ravid and Hayek 2003, Danna 2009, Aljenaie et al. 2010 on the acquisition of the plural system where the default plural SFP is overgeneralised. Children apply SMP when they know that they cannot use SFP and BP templates are irregularised and most of these errors fall into one of the pre-existing broken plural templates, rather than being entirely erroneous. Zaretsky et al (2013) state:

It could be assumed that younger children, like any other linguistically less proficient group, often produce plural forms which are non-existent in the language of adults.

Zaretsky et al (2013: 564)

As monolinguals grow up they start to learn the irregular plural spontaneously as they expand their vocabulary, but for bilingual children, this general trend was disrupted by individual performances for each child. Each one of them utilised what he/she has stored in his/her memory and used it in the ways he/she thought it is right, making hybrid types of errors when they

applied numerous processes in forming the BP. Some bilinguals relied heavily and incorrectly on a limited number of repair strategies because they exist in their input.

We have also noticed from each child's case, that some of them have linguistic competence, which means they were able to produce correct BP forms, and they know the basic structure of their language but others do not have it. In addition, some bilinguals' command of gender is deficient. Bilinguals across all ages, as well as some younger monolinguals, applied the SFP marker that must be only associated with feminine words and others used the SMP marker that must be only associated with masculine words. Adding to this, bilinguals' lexical competence was affected when they failed to choose the correct lexical words (when they produced incorrect lexical words) either because they did not know it or because they forgot it as Cohen (1989) concluded from his investigation of the loss of productive vocabulary by bilingual children in Portuguese:

...these words were not lost from memory but that the memory links were increasingly blocked by other interfering material, preventing the production of the desired words.

(Cohen 1989: 147)

We also have qualitative differences between monolingual and bilingual children. It is true that bilinguals follow somehow the same sequence of development as monolinguals but there were delays for some in addition to an interesting characteristic of the monolingual children, which is that they rely on a limited number of repair strategies in their formation of the Broken Plural while bilinguals across all ages have innovated extra strategies.

This study is in line with other studies on bilingual children's acquisition, which shows delays in the acquisition of the grammatical inflections, which in turn leads to incomplete acquisition as in Bolonyai's (2007) study of Hungarian-English bilingual children aged 7-9, living in the US. Five of these children were born there and the other two migrated at the age of two. Their parents were all Hungarians and all the children attended English schools only. He

claimed that these children showed delays and imperfect acquisition of verbal arguments and possessive ones, which are not problematic for monolingual children of the same age. Another study done by Zaretsky et al (2013) on the acquisition of the German plural markers by comparing monolingual and bi/multi-bilingual preschool children aged 3-5 and the results show that the error patterns of bilingual children resembled those of younger monolingual children and they both showed the same universal error patterns but with different redundancies.

## **Chapter 5                    The correlation between repair strategies implemented by each bilingual child and social factors**

This chapter discusses the correlation between sociolinguistic factors and the linguistic results of each bilingual child. It consists of three sections: (A) a descriptive analysis of each bilingual child's input and usage and the repair strategies used (section 5. 1), (B) the sociolinguistic factors and the correlation between these factors and bilingual children's linguistic results (section 5. 2), and (C) is the discussion (section 5. 3).

When languages come into contact this creates the best habitat for language change and this change affects the language of the first and the second generation. For individuals who use two languages, little by little one language - usually the dominant language- often replaces the other - their heritage language- as a regular means of communication with family members.

Besides the effect of language contact, sociolinguistic factors may affect these changes. The six families in this study use the same two languages but their children differ in age, the age when they were exposed to English and how much exposure to each language they have had. Each child is individual in his/her language experience and his/her language exposure. This language exposure might be a balanced one or it might be in favour of one language over the other, which has a major effect on the quantity and quality of his/her languages input and usage.

### **5.1            A descriptive analysis of each bilingual child's input and usage**

Studies on bilingual language acquisition stress the importance of linking the quantitative and qualitative variables together with the children's language experience and development. So in order to establish whether there is a correlation between bilingual children's linguistic behaviour and social factors, a full report about each bilingual's language environment is provided.

Information obtained from questionnaires and observations were used to calculate the quantity and quality of exposure in each language, their inputs and usage, taking into account whether they have had any variation over their time of exposure (home, school); the variety and richness of the sources, for example, parents, siblings, friends, relatives and activities such as watching TV, listening to songs, playing games, reading and writing; whether the input provider speaks the heritage language exclusively or whether they mix the two languages or use the dominant language. It is also crucial to know the output, 'the active use of the language by the child', as this variable correlates significantly with bilingual usage (Place & Hoff, 2011). In terms of child-directed input, the amount of IA and English spoken was different in each case. Parents' interactions with visitors and with the community outside the home were mainly in English for most of them, thus, input that was not specifically directed to the child was mainly in English.

Each bilingual child in our study is an individual case, and the rate of acquisition between and amongst them is different, depending on differences in their input, which affects their usage. There are also several other factors, which may lead to a considerable variety in his/her languages experiences. Each child's language path is shaped by his/her adult's direct speech and the frequency of the forms they produce on a daily base. As they hear more, they learn more and they learn how to imitate adults' speech and adjust their own one to sound like adults (Clark & Nikitina, 2009; Hart & Risley, 1995). In this section, a detailed report on the quantity and quality of each bilingual child's input and usage is discussed separately, since variability is a characteristic of bilinguals' language experience and language outcomes. This is followed by an analysis of the reasons behind an individual's preference for repair strategies and then the correlation with the home policies implemented by their parents are highlighted in order to determine whether Broken Plural is part of their input and was used by their language providers.

### 5.1.1 Family A

#### A. Ahmad (8.9)

Ahmad was born and brought up in Libya in an Iraqi-Arabic speaking environment until the age of 4.6 He had an Iraqi babysitter and his input was only IA, as he did not have any contact with other varieties of Arabic, including the variety of the host community 'Libyan Arabic'. The family moved permanently to the UK and lived in London for about one year where he was enrolled in a mainstream school and started reception full time (9:00- 3:15). He was speaking IA as fluently as expected of a child at his age. He was able to use English to communicate with his classmates within the first month.

Since Ahmad is my son, personal observations had started, naturally, long before the actual collection of the data. At home, he started to use English words with me, his father and with his sister (Amily). As parents, we used IA with each other and mixed English and IA with our children. We watched English channels only, listened to English songs and played games all in English. Ahmad and his sister played daily after school with their friends and they always used English.

After one year we moved to Colchester where his brother was born. We settled in an English-speaking neighbourhood where Ahmad spent his time with English-speaking children, playing together, reading books and magazines, listening to songs and watching English channels. Ahmad understood what was being said to him in Arabic (in general) except when new ideas were being expressed so switching into English was the norm in such cases and as he got older, he used English all the time even when being addressed in Arabic and with Arabic speaking children. He used English with relatives, as most of them know English, (from his mother's side) but with relatives from his father's side, he used Arabic but his conversation was limited to greetings and then his father had to translate the conversation for both sides. Ahmad was

registered in the Arabic school in Colchester and he attended it for two weeks (Sundays) but then he refused to go because he did not like it and it was hard for him to understand what was being said to him as they used another variety of Arabic. The teachers did not know English so the only way to communicate was with the help of another child who translated everything being said to him in English. He read English books and played online Xbox games with his friends and he favoured the English language and did not express any interest in learning Arabic.

He produced wrong words that seemed to rhyme with correct ones, e.g. \**'ubba* instead of *'abū* 'his father', which rhymes with the correct word *'umma* 'his mother'. He also used English ending *'-ing* and *'ed* with Arabic lexemes: \**nasiying* < 'lower the volume' in sentence like *'I am nasiying the TV*', \**'abadling* *'I need to 'abadling* 'I need to change my clothes' or \**limd* *'ānī limd everything* 'I put everything back'.

Based on the information obtained from the questionnaires and observations, Ahmad's direct languages input was predominantly English as in Figure 5. 1. As for his Arabic input, it was only 40% from his parents and 60% from his relatives. As for his usage of both languages (see Figure 5. 2) it was still in favour of English as he only used Arabic 10% with his parents and relatives.

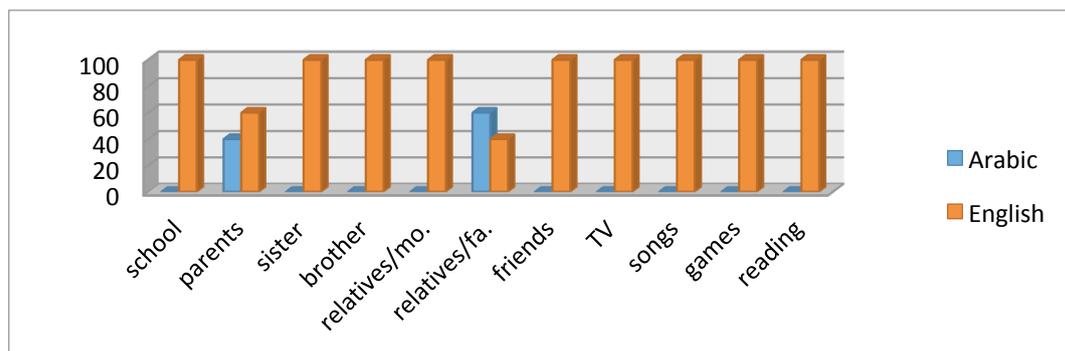


Figure 5. 1. Ahmed's language input

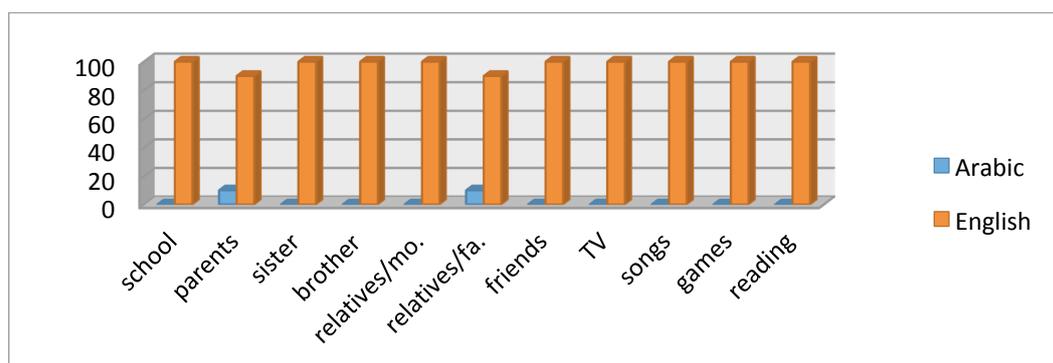


Figure 5. 2. Ahmed's language usage

Ahmad's literacy levels in both languages were assessed and as English was his dominant language, we rated him at 5 out of 5 for English and 2 out of 5 for Arabic. He understood daily basic IA conversation, he could produce few IA words or phrases but never complete sentences and he could not read Arabic books or stories nor express any interest in Arabic writing. As for English, he could speak it fluently, he read and wrote very well and he understood everything being said to him.

Ahmad was 8.9 years old and had been living in the UK for four years and three months when I did the recordings to elicit data about the BP. The lack in his IA input had a major effect on the quantity and quality of his repair strategies. He made 417 (95%) incorrect (not target form) words out of the total number 437, which means he only produced 20 (5%) correct forms. He used limited repair strategies in his production of the BP words and these strategies are illustrated below.

1. His most preferred strategy was overgeneralisation of the SFP marker *-āt* which scored the highest frequency with 355 in total (130 words were acceptable (\*) and 225 of these words were unacceptable (+) e.g. *+čafāt* ‘cloves’, *+sā’ilāt* ‘liquids’. Monolinguals around his age scored much less in their usage of this marker for example, Hasan (7.7) used it 34 times (\*22, +12); Muhannad (7.8) used it 7 times and they were all acceptable words (\*7, +0); Adel (8.3) used it 44 times (\*23, +21) while Rayyaan (8.9) used it 14 times (\*9, +5). Ahmad also used it in the production of two new words e.g. *\*mandarāt* ‘glasses’ for *manāḍir* ‘views’ (note he used voiced interdental fricative /ḍ/ instead of IA emphatic voiced interdental fricative /ḍ̣/)- increasing his total use of this marker to 357 times - which had a completely different meaning from the singular target words given to him. This means he did not know the difference in the meaning between the words he produced and the words given to him although the meaning of the singular words were explained to him upon his request and accompanied by pictures of the plural target.
2. He used ‘random pattern’ (RP) 34 times. His most favoured RP was *\*[CaCūC]* which was used by other bilingual children but never by monolinguals and this pattern is used in IA singular words like *xarūf* ‘sheep’.
3. He irregularised BP templates when he used them with 11 words with preference for some like *[CiCūC]* which is used in everyday situations and was the most favoured template used by other bilinguals but not by monolinguals e.g. *\*nigūr* for *nugar* ‘holes’, *\*sitūr* for *sitar* ‘suits’. This indicates that these templates were in his input but he did not associate them with the right words.
4. He attached the suffix *-ūn* to 10 singular words resulting in nonsense words e.g. *\*masfūn* for *maṣāfi* ‘sieves’, *\*simčūn* for *simač* ‘fish’.

5. He used the MSA dual marker *-ān* in 3 words e.g. \**ʾaṭarān* for *ʾāṭār* ‘traces’, \**ʾiḡnān* for *ʾiḡān* ‘ears’.

6. He used the suffix *-ʾan* in one word e.g. \**ḥadʾan* for *ḥdūd* ‘edges’ as did his sister (only 3 bilinguals used it: Ahmad, Amily and Esraa).

#### B. Amily (7.4)

Like her brother, Amily was born and brought up in Libya in an Iraqi Arabic speaking environment until the age of 3.1. When we settled in London, she started nursery full time at the age of 3.3 and was speaking IA as any child of her age. When she started nursery, she went into a ‘silent period’ and she did not speak a word in the nursery for a few weeks. Her teacher was worried and she had a bilingual assistant (she spoke Moroccan Arabic) in case she wanted to speak to her but Amily never spoke Arabic with her. I had to explain to the teacher that she could not even understand what the assistant would say to her because of the differences between the two dialects and even if she used Standard Arabic, she would not be able to understand her. I had to work closely with her teacher as we both knew what she was going through and we supported and encouraged her. I used to read English books with her and her brother, who had already started reception, watched English cartoons and played letters and word games that were appropriate for their ages. At the beginning of the fourth week since starting nursery when I went to pick her up her teacher approached me and she said “*she did not stop talking since this morning, she kept on talking and talking and never stopped the whole day, she even enjoyed retelling her favourite picture book to her friends*” and she elaborated further “*as if she was recording everything in her mind and practicing it*” and ever since that day her use of English increased while her use of IA decreased. At home, she used English with us and played with her brother after school in the playground with their friends.

Like her brother, Amily understood what was being said to her in Arabic (in general)

except when new ideas were being expressed so switching into English was the norm in such cases. She used English all the time even when being addressed in Arabic and even with Arabic speaking children. She used English with her relatives (on her mother’s side) but with relatives from her father’s side her conversation was limited to greetings and then her father had to translate the conversation to her. She read English books a lot and wrote her own stories but unlike her brother she expressed a desire to learn Arabic, and she knew some of the letters and numbers.

Based on the information obtained from the questionnaires and observations, Amily’s direct language input was predominantly English as in Figures 5. 3, except for 50% in Arabic from her parents and 60% from her father’s relatives. As for her use of both languages, in Figure 5. 4 we can see that it was still in favour of English with only 10% in Arabic with her parents and relatives:

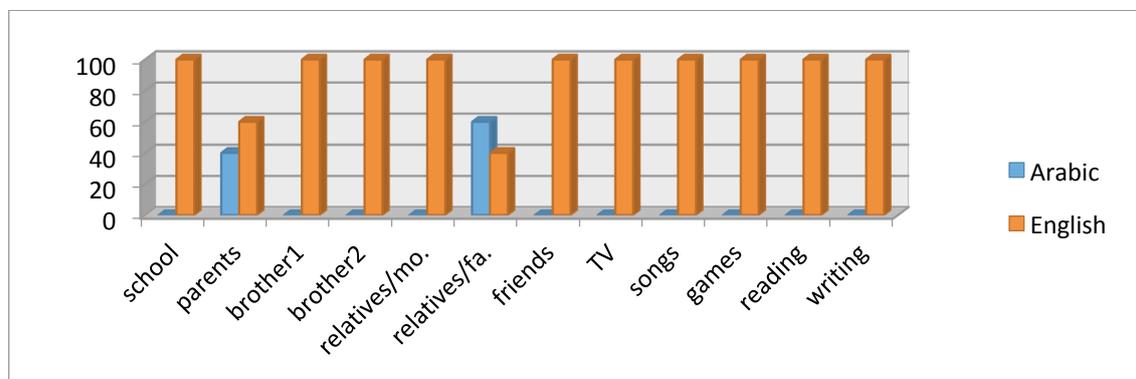


Figure 5. 3. Amily’s language input

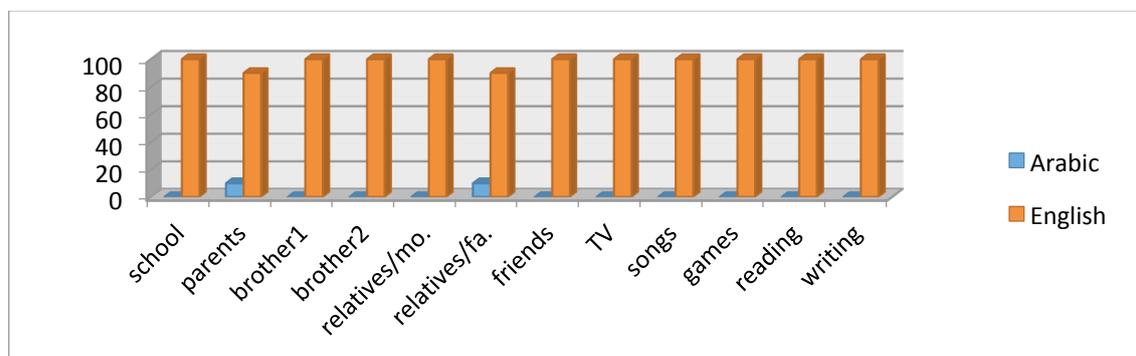


Figure 5. 4. Amily’s language usage

Amily liked English and considered it as her main language and she liked to learn Arabic. She found it hard to speak Arabic, as she did not know the words so it was easy for her to use English.

Amily's literacy levels in both languages were assessed and as English was her dominant language, we rated her at 5 out of 5 for English and 2 out of 5 for Arabic. Like her brother, she understood basic daily Arabic conversation, and she could produce few IA words (she code switches/mixes) but never complete sentences. She could not read Arabic books or stories but she could write few Arabic words like her name or her brother's name in Arabic but from left to right. As for English, she could speak it fluently, she read and wrote very well, she understood everything being said to her and her overall competence in English was far superior to that of IA as her productive abilities in IA were clearly very limited.

Amily was 7.4 years old and had been living in the UK for four years and three months when I did the recordings to elicit data about the BP. The lack in her IA input had a major effect on the quantity and quality of her repair strategies. She made 424 (97%) incorrect (not target form) words out of the total number 437, which means she only produced 13 (3%) correct forms. She used limited repair strategies in her production of the BP words and these strategies are illustrated below.

1. Her most preferred strategy was overgeneralisation of the SFP marker *-āt* which scored the highest frequency with 353 in total (+218 of these words were unacceptable and \*135 were acceptable) e.g. *+rijālāt* for *riyājīl* 'men', *+waladāt* for *'awlād* 'boys', *\*mastarāt* for *maṣāṭīr* 'rulers' (note that she used voiceless alveolar fricative /s/ instead of the IA emphatic voiceless alveolar fricative /ṣ/ in her production of this word which was also used in her production of other words with the IA /ṣ/). While monolinguals around her age Ali (7.5) used it 28 times (+11, \*17); Hasan (7.7) used it 34 times (\*22,

+12); Muhannad (7.8) used it 7 times and they were all acceptable words (\*7, +0). She also used it in the production of three new words - increasing her use of this marker to 356 times, which have completely different meaning from the singular target words given to her e.g. \**ḥarāmāt* ‘with regret- unfortunately’ for *harāmiyya* and the singular form was *ḥarāmī* ‘thief’ which means she did not know the difference in the meaning between the words she produced and the words given to her although the meaning of the singular words were explained to her upon her request and accompanied by pictures of the plural target.

2. The second highest strategy used was adding the singular feminine suffix *-āya* to 23 singular words and she was the only child in this study who used this suffix. The reason for this might be that it is used in everyday situations to form feminine singular words like *tufāhāya* ‘one apple’; *čukletāya* ‘one chocolate’. Some of the produced words are acceptable singular words used in IA daily speech \**glādāya* ‘one necklace’, \**xirzāya* ‘one bead’ but some are not \**miftāhāya* ‘one key’, \**xitāya* ‘one thread’.

3. She attached the suffix *-ūn* to 14 singular words resulting in nonsense words e.g. \**xidūn* for *xidūd* ‘checks’, \**sitrūn* for *sitar* ‘jackets’. Amily and Ahmad scored the highest use of this suffix among the bilinguals, and like her brother, her use of this suffix might be because it occurred in her input.

4. She irregularised BP templates with 7 words with preference for some templates which were also used by her brother, like [CCūC], [CiCūC], [CīCāC] e.g. \**jyūm* for *jām* ‘glass’, \**sdūm* for *sidūd* ‘dames’. These are used in every day situations and were used by both bilingual and monolingual children. This indicates that these templates were in her input but she did not associate them with the right words.

5. She used the same random patterns used by her brother in 9 words. For example the random pattern \*[CaCCuuC] \**kalyūm* which is a nonsense word instead of BP template [ʾaCCaaC] to produce the word ʾ*aqlām* ‘pens’ (note that she used the English voiceless velar stop /k/ instead of the IA voiceless uvular /q/ in her production of this word which was also used in her production of other words with the IA /q/); \**šarbūt* instead of the correct BP template [CaCaaCiC] to produce the correct word *šarābit* ‘juices’.

6. The other shared strategies with her brother, Ahmad, were the usage of the MSA dual marker *-ān* in 8 words e.g. \**ʾuxtān* ‘two sister’ for *xawāt* ‘sisters’, the IA dual marker *-ēn* in 1 word \**yōmēn* ‘two days’ for *ʾayyām* ‘days’ and the suffix *-ʾan* in 7 words e.g. \**kafas ʾan* for *ʾaqfāš* ‘cages’.

7. The last strategy used was when she produced the word \**ʾalamatful* when asked to produce the BP form of the word *ʾalam* ‘pain’ and the BP form should be *ʾallām*. In this pattern we can see the influence of English on Arabic: when I explained the meaning of ‘pain’ to her and she used the adjective form of it, ‘painful’, without realizing that she was attaching an English suffix to an IA word.

So for Ahmad and Amily, the qualitative and quantitative properties of their IA/English input and use led to the use of the above repair strategies. They could not recognize the meaning of the words, correct forms from incorrect ones and they violated all the surface rules of IA. In addition to their motivation for using English, the natural settings for learning it and the age at which their acquisition of IA was interrupted all had a major impact on their language preferences. Low input had influenced their repair strategies, and they resorted to a limited set of strategies. They used a range of forms they had in their input, or they simply do not know how the formation of the plural works in IA.

As parents, we were both enthusiastic and eager for them to learn, understand and absorb the new language as soon as possible to make it easy for them to integrate well with the other children. Our positive attitude towards English affected our language choice and our language use as we both preferred and used English with them on a daily basis. Another factor which has led to less use of IA by the younger siblings is that Ahmad, the oldest, has set up a pattern, which was followed by the younger ones; he would use English in all home domains, watch English channels all the time, read English books and play games which use English instructions. His preference for using English all the time has had a major impact on his sister's choices and language use. His attitude towards the two languages affected his preference in general. He liked English and considered it as his main language. He did not like to use Arabic as he could not see any benefits from using or even learning it since everyone could understand him and he did not feel it was necessary for his daily life.

An important factor to be mentioned too was their age when they settled in the UK. It has been observed in language attrition and incomplete acquisition that young children are expected to shift to the majority language as soon as they are around preschool age, as they are looking for a sense of belonging and acceptance to be part of the new community. One note worth mentioning here is the difference between language attrition and incomplete acquisitions, as Schmid (2013) draws a distinction between both terms:

L1 attrition is taken to be the process that takes place in late bilinguals who emigrated above an age that is commonly set around ten to twelve years, while incomplete acquisition refers to younger migrants or heritage speakers who grew up using a family language and were then exposed to the environmental language, e.g. when they started school.

Schmid (2013)

Language attrition studies differentiate between younger children and older children when they examine Age of Onset (AoO) as they all agree with the lower likelihood of younger children maintaining their L1 which was not established yet or is still in the process of being acquired in comparison to older children who somehow have a mastery of their L1 before being

introduced to another language (Kopke & Schmid 2004, Ecke 2004). So for Ahmad and Amily, their incomplete and interrupted acquisition of IA tends to lag behind, their linguistic and grammatical abilities in IA did not reach age appropriate levels because it is used less than English and in a very restricted contexts, as a consequence all these factors had a major effect on their formation of the broken plural in particular and on their acquisition of IA in general.

### **5.1.2 Family B**

#### **A. Bader (14.2)**

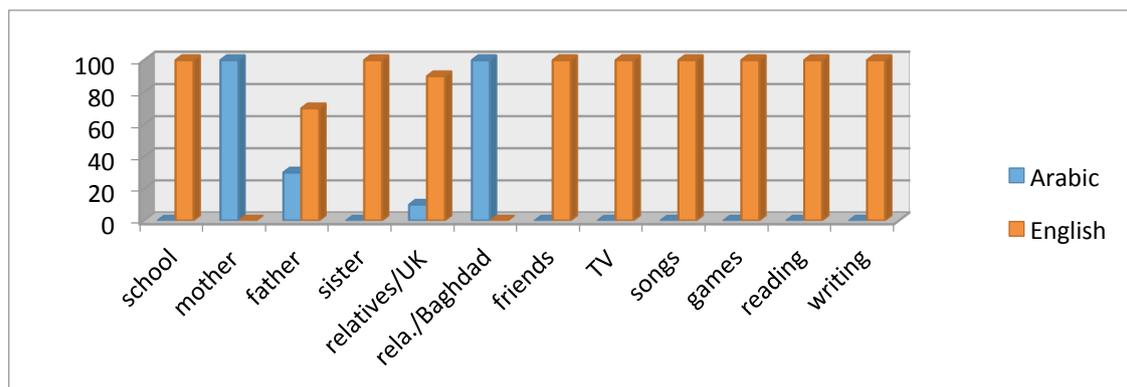
Bader was born and brought up in Bagdad until the age of 7.9 when he moved to the UK with his family to settle down. He attended a private school in Baghdad where English is taught from Year 1 and was speaking IA as any normal child of his age. At the time of the questionnaires, they had been living in the UK for about 6 years and they lived in a middle class British neighbourhood. Based on the information obtained from the questionnaire (Appendix A), his parents used IA with each other; his father used English with him and his sister while his mother used IA with them because her English proficiency skills were very limited. As a family, they have Arabic-speaking friends and the adults always use Arabic but the children always use English with each other. They have never travelled to Iraq before and they have relatives living in the UK, Holland and Sweden. Bader used to mix English and Arabic (in favour of English) with his relatives but he always used IA with his relatives in Baghdad, as he knows they do not know English. His mother mentioned that he used to mix English words when he used Arabic with his adult relatives especially when it was hard for him to find the exact word to express his thoughts, so switching to English was the norm in such cases.

For about a year, the family had mostly English input in the home domain. Bader watched English children's programs with his sister to make it easy for them to adjust to an environment where only English is spoken, and then they had a satellite to watch Arabic

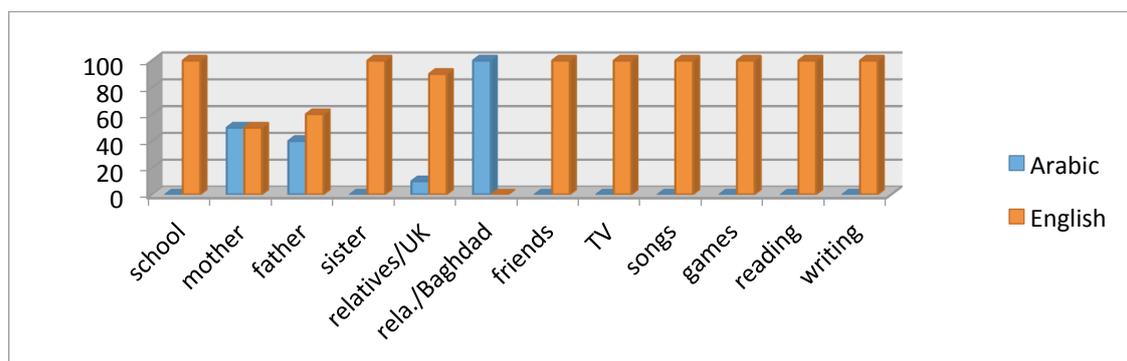
channels and IA ones. The only English input for him at first was from school, TV, his father, sister, relatives and friends at school. He did not have friends to play with after school, so he spent most of his time watching English channels with his sister and after a while he forged a strong friendship with an English speaking boy who he spent most of his time with. Then the family gradually started building up good relationships with other non-Iraqi families and the children became more and more immersed in an English-speaking environment.

When asked about whether they have a language policy with their children (Appendix A), Batool mentioned that she encouraged them to use English all the time as she wanted to learn English from her children before she started college and they wanted his sister to learn English when he interact with her. However she regretted this as she noticed the gradual decrease in his Arabic skills. In addition, she mentioned that *“there is a gap between us now and he prefers to spend his time either with his friends or in his bedroom”*. All this contributed towards his decreasing use of IA and despite having Arabic satellite TV, he never watched or even expressed any interest in watching Arabic channels.

Based on the information obtained from the questionnaires and observations, Bader’s direct languages input was predominantly English, (see Figure 5. 5), with 100% English from school, his sister and friends, watching TV, listening to songs and reading and writing. It was 90% from UK relatives and 70% from his father in comparison to his Arabic input which was 100% from his mother and relatives living in Baghdad and 30% from his father and 10% from UK relatives. As for his usage, (see Figure 5. 6), it is mainly English too with 100% at school, with his sister and friends, watching TV, listening to songs, gaming, reading and writing; 90% with UK relatives and 60% with his father in comparison to his usage of Arabic with 100% with his relatives living in Baghdad (he used basic Arabic greetings and words with grammatical mistakes); 50% with his mother; 40% with his father and 10% with UK relatives.



**Figure 5.5. Bader's language input**



**Figure 5.6. Bader's language usage**

Bader also mentioned that he liked and preferred English to Arabic. He did not feel Arabic is necessary for his daily life (Appendix B). The family also reported that they are happy with their life in Manchester, they have friends speaking both languages, both parents are happy for their children to be raised as bilinguals, even if their dominant language is English, because this will give them better lives in the future and they want them to know Arabic for social reasons so that they will be able to communicate with their remaining relatives in Baghdad.

Bader's parents assessed their son's literacy levels in both languages and they considered English to be his dominant language. Based on data obtained from two questionnaires (Appendices C and D) they rated him at 5 out of 5 for English and 3 out of 5 for Arabic. His mother said that he understood daily Arabic conversation and that he could speak Arabic in a limited way, in that he could produce very simple sentences but never a complex one. He could not read books fluently but he could write some Arabic letters. As for English, he could speak it fluently, he read and wrote very well and he understood everything being said to him.

Bader was 14.2 years old and had been living in the UK for six years and three months when I did the recordings to elicit data about the BP. The lack in his IA input had a major effect on the quantity and quality of his repair strategies. He made 186 (43%) incorrect (not target form) words out of a total number of 437, which means he only produced 251 (57%) correct forms. He used different repair strategies in his production of the BP words which are illustrated below.

1. His most preferred one was irregularising BP templates. He used 15 templates with 102 words with a preference for some like [CaCāCiC]; [CiCūC] (this template scored the highest for him and his sister) and [’aCCāC] in addition to other templates which are used in everyday situations and are used by both bilinguals and monolinguals and this indicates that these templates are in his input but he did not associate them with the right words e.g. \*čiyūs for čiyāsa ‘carrier bags’, \*’ajmā’ for jawāmi ‘mosques’, \*dagāyim for dugam ‘buttons’.
2. The second highest repair strategy used was overgeneralisation of the SFP marker -āt when he used it with 62 words (25 of these words were unacceptable (+) and 37 words were acceptable (\*)) e.g. +katlāt instead of kitāli ‘kettles’, \*zūliyāt for zūwāli ‘rugs’. He also used it in the production of singular words (increasing the total usage to 63) when he produced a new word which has a completely different meaning from the singular target word given to him \*manḍarāt ‘glasses’ for manāḍir ‘views’ which means he did not know the difference in the meaning between the word he produced and the word given to him although the meaning of the singular words were explained to him upon his request and accompanied by pictures of the plural target.

3. Eight ‘random patterns’ were also used with 10 words resulting in nonsense words e.g. \**waklān* for *wukalā* ‘agents’, \**abyūḍ* for *bīḍ* ‘white coloured items’, \**sadād* for *sidūd* ‘dams’.
4. He used the SMP marker *-īn* with 8 words. Seven of these words were ungrammatical and never used in IA and only one word was acceptable in MSA e.g. \**sā’ilīn* for *sawā’il* ‘liquids’, \**āmilīn* for *umāl* ‘workers’.
5. He used the MSA dual marker *-ān* with 2 words \**wādiyān* ‘two valleys’ for *widyān* and \**šurṭiyān* ‘two policemen’ for *šurṭa*.
6. The last strategy was ‘repetition of the same word’ when he incorrectly produced the word \**ilḥāf* ‘duvet’ for *lḥfān*.

#### B. Bedour (10.7)

Bedour was born in Jordan. She was brought up and lived in Baghdad until the age of 4.4 when her family moved to the UK. Bedour was using IA as any normal child of her age then she gradually started using the same English words she heard from her brother, father and her relatives living in the UK or Europe and she used IA with her relatives living in Baghdad. She had some difficulties in the first few months after she joined school - she did not eat her lunch, she used to bite her fingernails and she was aggressive in her behaviour due to the fact she did not understand her peers. Her class teacher and a teaching assistance had to work with the family to ensure that she was happy at school. Her mother used to pick her up daily to give her lunch at home and then drop her back, and her father used to do voluntary work in her class to ensure that she felt safe. At home, her father had to use English in order to help her get used to an English environment. They used to read English books together and watch English cartoons and they encouraged her brother to use English with her while playing together. After about 4 or 5 months she made remarkable progress at school. She enjoyed it more and she was happy and

excited. Though she used to speak Arabic with her mother before starting reception, after that she started mixing the two languages, especially after her mother was enrolled onto an English language program.

She had lots of friends and she used English with all of them even if they knew Arabic. Like her brother, she preferred English to Arabic. Due to the difficulties she had, her parents encouraged her and her brother to use English more at home.

Based on the information obtained from the questionnaires and observations, her direct languages input was predominantly English, (see Figure 5. 7), with 100% English from school, brother, relatives (living in the UK, Holland and Sweden), friends, reading and writing in comparison to her Arabic input which was 100% from her mother and relatives living in Baghdad, 30% from her father and 20% each from TV and songs. As for her usage (Figure 5. 8), it was mainly English too with 100% in all domains except of the 60% each with her father and mother and 90% with her relatives living in Baghdad in comparison with her use of IA which is 40% each with her parents and 10% with her relatives in Baghdad.

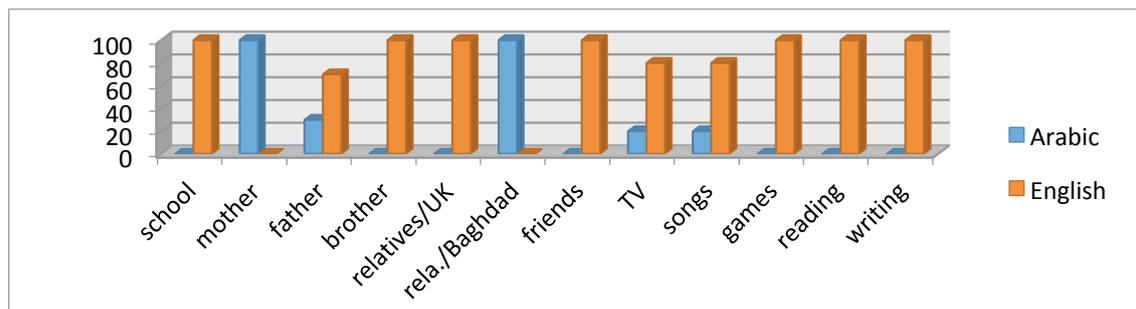


Figure 5. 7. Bedour's language input

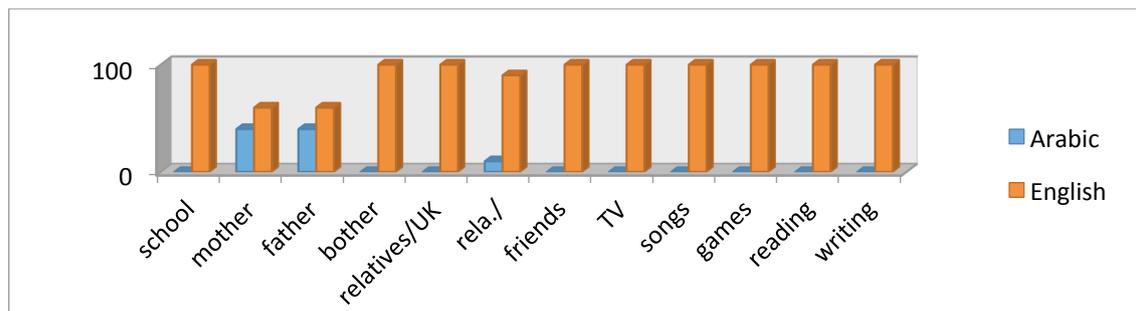


Figure 5. 8. Bedour's language usage

When her parents assessed her literacy levels in both languages (Appendices C & D) they rated her at 5 out of 5 for English and 2 out of 5 for Arabic. Her mother said that she understood daily Arabic speech and that she could speak basic Arabic conversation which was ungrammatical and mixed with English. She could produce basic words but not phrases or sentences. She could not read books nor write in Arabic. As for English, she used it fluently, she read and wrote very well and she understood everything being said to her. Her overall competence in English was far superior to that of IA as her productive abilities were clearly very limited.

Bedour was 10.7 years old and had been living in the UK for six years and three months when I did the recordings to elicit data about the BP. The lack in her IA input had a major effect on the quantity and quality of her repair strategies. She made 319 (73%) incorrect (not target form) words out of the total number 437, which means she only produced 118 (27%) correct forms. She used a range of repair strategies in her production of the BP words and these are illustrated below

1. The most preferred strategy was overgeneralising the SFP marker *-āt* which scored the highest frequency with 201 in total (114 of these words were unacceptable (+) and 87 words are acceptable) e.g. *+sandāt* for *sanādīn* ‘plant pots’, *\*nusxāt* for *nusax* ‘copies’ while a monolingual child with the same age, Kareem (10.7), used it four times producing acceptable words. She also used it in the production of two singular words (raising the total number of usage to 203) when she produced new words *\*jāmi‘āt* ‘universities’ for *jawāmi‘* ‘mosques’ and *\*manḍarāt* ‘glasses’ for *manāḍir* ‘views’ which have a completely different meaning from the singular target words given to her, which means she does not know the difference in the meaning between the words she produced and the words given to her although the meaning of the singular words were explained to her upon her request and accompanied by pictures of the plural target.

2. She irregularised BP templates when she used them with 70 words with preference for some like [CaCāCīC], [CiCūC], [CaCāCī] e.g. \**širū* ‘ for *šawāri* ‘ streets’, \**mašāfiḥ* for *mašāfi* ‘ sieves’, \**šarāṭi* for *šurṭa* ‘ police men’ which are used in every day situations and were used by both bilingual and monolingual children and this indicates that these templates are in her input but she did not associate them with the right words.
3. She used ‘random patterns’ with 12 words resulting in nonsense words e.g. \**šūqūn* for *sīqān* ‘trunks’, \**marwāhīn* for *marāwiḥ* ‘fans’. Some of these patterns were used by her brother Bader.
4. She produced 17 singular words by using different techniques as in the following examples:
- A. Singular words \**muknāsa* for *mukānīs* ‘brooms’, \**dubb* for *dubaba* ‘bears’, \**ma’raḍ* for *ma’arīḍ* ‘exhibition’.
- B. A cardinal number \**tlāta* ‘number 3’ for *tawālīt* ‘third grade/ third position’ and four ordinal singular feminine numbers e.g. \**rāb’a* ‘4<sup>th</sup> place’ for *rawābi* ‘fourth grade/fourth position’, \**xāmsa* ‘5<sup>th</sup> place’ for *xawāmis* ‘fifth grade/fifth position’.
- C. Two singular new words with completely different meanings \**aqrab* ‘nearer to’ instead of *garāyib* ‘relatives’ and \**marad* ‘disease’ instead of *murḍa* ‘patients’.
- D. Attaching IA possessive marker *-ū* to three singular words \**xālū* ‘my uncle’ for *xawāl*, \**jidū* ‘my grandparent’ for and \**ajdād* \**axū* ‘his brother’ for *uxwān*.
- E. Attaching IA possessive marker *-a* with the words \**’ibna* ‘his son’ for *’abnā* and \**’uxta* ‘his sister’ *xawāt*.

5. She used SMP markers *-īn* and *-ūn* in (5, 1) words consecutively. A closer inspection of the words revealed that for the *-īn* suffix, she produced five unacceptable words e.g. *\*buṭlīn* for *ʿaḅṭāla* ‘bottles’, *\*nafnūfīn* for *nafānīf* ‘dresses’ and for the other word produced by using the suffix *-ūn*, it was a nonsense one *\*ṣūqūn* ‘trunks’ for *ṣīqān*.

6. She used the dual markers in 9 words as in the following examples:

A. She used the IA dual marker *-ēn* in 5 words e.g. *\*rimšēn* ‘two eyelashes’ for *rimūš*, *\*šaxšēn* ‘two persons’ for *ʿašaxāš*.

B. Like her brother, she used the MSA dual marker *-ān* in 3 words e.g. , *\*nīsrān* ‘two eagles’ for *nsūr*, *\*baxīlān* ‘two misers’ for *buxala* and *\*fašlān* ‘two seasons’ for *fšūl*.

C. She used the MSA dual marker *-ayn* in the production of one new word *\*baḥrayn* ‘two seas’ for the word *baḥḥāra*.

The qualitative and quantitative properties of Bader and Bedour’s IA/English input and use led to language shift and higher proficiency in English and these factors correlate with each other. Like in Family A, the home policies used and the prolonged less intensive inconsistent IA input were not sufficient in comparison to English input from peers, schooling and their family in addition to home language policies. All these led to language shift. The children are more confident in using English, their knowledge of the rules to speak Iraqi Arabic was affected, they cannot recognize the meaning of the words, grammatical forms from ungrammatical ones and they broke the surface rules of spoken IA. An interesting point to be mentioned here is that most of Bader’s repair strategies were used by his sister but with different frequencies which indicates that they both resort to all sorts of forms they had in their input.

Their parents also played a major role, as in family A, as they were both enthusiastic and eager for their children to learn, understand and absorb the new language as soon as possible to

make it easy for them to integrate well with the other children, and their positive attitude towards English affected their language choice and their language use.

Another factor which has led to less use of IA by the younger siblings is that Bader, the oldest, has set up a pattern, which was followed by the younger ones; he would use English in all home domains, watch English channels all the time, read English books and play games which use English instructions. His preference for using English all the time has had a major impact on his sister's choices and language use. His attitude towards the two languages affected his preference in general.

Another factor was their ages when they travelled to the UK. It is true that Bader had a prior knowledge of English before travelling, but he started to acquire the second language naturally when he was around eight years old, which means his basic knowledge of IA must have been mastered. Carroll (1966:748) states (cited in Rouchdy (1971: 412)) "Language development is rapid in all respects. By the age of about six, the average child has mastered nearly all its common grammatical forms and construction" so it is presumed that the mastery of the basic structure of any language by a normal child will be around the age of six. Bader's case is the same as the child in Rouchdy's (1971) study when she examined interference in the speech of her son when he moved to the USA at the age of eight (around the same age of Bader). Her results showed that bilingualism had an effect on his performance of Egyptian Arabic but not on his competence. Bader arrived in the UK at an age where he should have mastered the basic structure of IA but his acquisition was interrupted and his incomplete acquisition shifted to English as soon as he started school. As for his sister, Bedour, her uncompleted and interrupted acquisition in addition to her younger age, all contributed towards shifting to English.

The children's preference for using English was approved by their parents in spite of their mother's basic knowledge of English and this has created a gap between them, as their mother mentioned during the parents' questionnaires. Their linguistic and grammatical abilities in IA tend to lag behind and did not reach age appropriate levels because IA is used in a very restricted context and as a consequence of all these factors together, this had a major effect on their knowledge of basic IA.

As the children grew older, and following the birth of their brother and the increase in the mother's English proficiency, the parents noticed that the use of English in the household increased too and at the same time there was a decrease in their IA, so they thought they needed to change their habits to make sure they can reverse the shift as they needed to make sure their third child heard and used IA and since the children could speak and practice their English outside the home they decided to have an IA environment in all home domains. They implemented efforts to reverse the shift by speaking and using IA exclusively with their children, interacting much more with family members (longer family visits), frequent trips to Baghdad and limiting social media to IA. When their daughter started to show some interest in learning Arabic, her mother taught her the Arabic letters and numbers, and sometimes she read Arabic books to her, watched Arabic series and listened to Arabic songs. Her mother mentioned once that Bedour overgeneralised some Arabic rules like for example adding the singular female marker *-a* when Bedour corrected her mother's speech when she said *hāy ḥāmil* 'she is pregnant' but Bedour said '*no you should say hāya ḥāmla*' because she thought that this marker *-a* should be added when we speak about females.

### 5.1.3 Family C

A. Caram (7.4)

Caram was born in Baghdad and lived there until he was 2.4 years old when he travelled to Colchester with his family. At the time of the questionnaires they had been living in the UK for 3 years. His parents mentioned that they used IA in their daily speech with their children and with each other, but later his mother admitted and as I have noticed from my observations that she used English most with her children and IA with her husband. Her use of IA with her children decreased gradually when her son started preschool. The mother used English most of the time and the father used IA, as his knowledge of English was basic. As a family they have never travelled to Baghdad since they moved to the UK. When asked about whether they have a language policy when talking to their children (Appendix A), his father said that they both know the importance of using both languages, so they used both languages with their children.

Caram used to watch English children channels all day long before he joined the nursery; he spent most of his time with his father while his mother was at the university and the daily routine was watching English cartoons or playing Xbox games. When he was 3 years old he joined the nursery and his English skills developed gradually. His mother, Cenana, described the gradual increase in using English: starting with few words, then code switching/mixing until he started to produce complex sentences, which was mirrored by a decrease in Arabic at the same time. He read English stories, and watched English programmes and English DVDs. There was no Arabic input except when his parents spoke to him or when the parents talked to each other. If we compare it to the English input, the score is very strongly in favour of English.

Caram used English with his relatives in Baghdad when they called them (greetings only) and he could not communicate further with them because they did not know English except for greetings and eventually he could not speak to them anymore. Caram predominantly used English with his sister, mum and dad and his friends even if they knew Arabic. His daily language input and use (see Figures 5. 9 and 5. 10), are based on the information obtained from

his parents with regards to which language they both used at home (input) and which language he used with them:

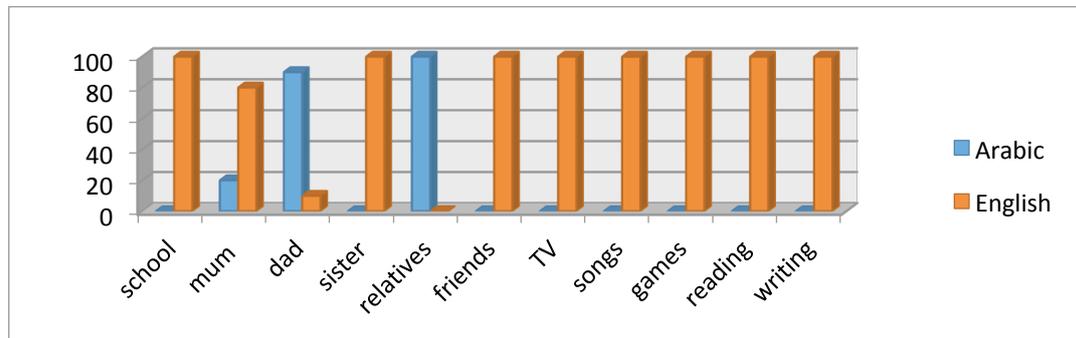


Figure 5.9. Caram's language input

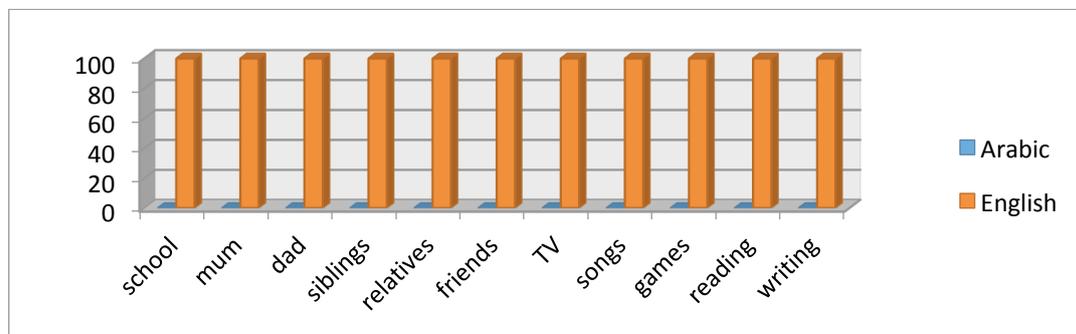


Figure 5.10. Caram's language usage

Caram's mother mentioned that he liked English and preferred it to Arabic and he also liked living in the UK. The family also reported that they were happy with their life in Colchester and for their children to be raised as bilinguals as they both have positive attitudes towards English and they both encouraged them to use it, even if this meant that their dominant language would be English, because they believed that this would give them better lives in the future. His father said *"we need to know Arabic for social reasons, so we can communicate with our relatives and for religious reasons to be able to read and understand the Quran"*.

Based on data obtained from two questionnaires (Appendices C and D), Cenani assessed her son's literacy levels in both languages and she considered English to be his dominant language. She rated him at 4 out of 5 for English and 2 out of 5 for Arabic. She said that he could understand basic daily Iraqi Arabic conversation and he could not read or write in Arabic.

As for English, he used it fluently, he read and wrote very well and he understood everything being said to him. Caram was deemed competent in English as he could express himself as well as any child of his age due to the fact that at home his input was overwhelmingly English and due to the fact that English has become his native language.

Caram's age at the time of recording was 7 years and 4 months and he had been living in the UK for five years. He showed a unique characteristic in his production of the BP words. He was the only child in this study who attached English plural suffixation to singular IA words - Amily attached the English suffix to one word only. The only repair strategy he used was under the influence of the English language, when he retained the IA words and attached English plural markers. This linguistic behaviour was observed in a study by Bader & Denise (2000) investigating the morphological and syntactic code switching in the speech of an Arabic-English bilingual child living in Jordan between the age of 3.8 and 4.3. This child in their study used the English plural marker *-s* quite often by attaching it to a singular variable which they said might have contributed to it being:

...transferred from English to Arabic nouns by analogy or in order to compensate for the subject's lack of mastery of the much more complicated process of plural formation in Arabic.  
(Bader & Denise, 2000: 393)

He produced words like *'asfūr*z 'birds', *šōks* 'thorns' and by doing so this child violated the 'free morpheme'<sup>11</sup> constraint (Redouane, 2005).

The reasons why Caram code switched might be because there were factors that led to this kind of code switching. The most likely reason was that he did not know any way to form the plural in Arabic so the only option for him was to use the English plural marker, as he was unable to find a way to express plurality in IA. He also did not know the meaning of most of the

---

<sup>11</sup> Free Morpheme Constraint refers to "Forbidding code switching between a bound morpheme and a lexical form unless the latter has been phonologically integrated into the language of the bound morpheme". (Sankoff & Poplack, 1981: 5)

words used in this study which can be attributed to his very limited IA inputs (Figure 5. 9), and not using IA (Figure 5. 10).

Different researchers like Grosjean (1982) and Harding & Riley (1988) mentioned that different reasons might trigger code switching like interlocutors, situations, functions and topics but in Caram's case the only reason that seems to be very significant is his very limited input in IA. The findings of Caram's linguistic behaviour is in line with findings from other studies like for example Kanakri & Ionescu (2010), who studied code-switching in the speech of Romanian/Arabic Bilinguals female adults in Jordan, and found that types of code switching like this "are encountered most often in the speech of less fluent bilinguals because it involves the least syntactic difficulty" (p. 185). This tendency was also observed by Al-Gussain (2002) in her study of code switching in bilingual children's and bilingual adults' speech. She noticed that children mixed Arabic and English grammatical features in their speech like for example adding the English past tense *-ed* to Arabic words to mark the past tense 'akalted 'ate' and adding the English plural *-s* to singular Arabic nouns as in *jāmi's* 'mosques' (p. 1390). Ridha (2015) also mentioned in his study of Swedish-Iraqi bilingual children living in Sweden, that unbalanced proficiency in two languages might lead to a transfer of grammatical properties from the dominant language to the weaker language. Paradis & Genesee (1996: 3) mentioned a point where an unbalanced proficiency in two languages will lead to transfer "if the child has reached a more advanced level of syntactic complexity in one language than in other".

Not only do the qualitative and quantitative properties of Caram's IA/English input and use lead to higher proficiency in English but other numerous factors also affect his language environment and these factors correlate with each other. His parents played a major role, as they were both enthusiastic and eager for him to learn, understand and absorb the new language as soon as possible to make it easy for him to integrate well with the other children at school. Their positive attitudes towards English affected their language choice and their language use. His

mother admitted this later when I noticed during mother-child interaction that she was using English with him as soon as she picked him up from the nursery and school, while they were making dinner and doing his homework and she was even using English with his young sister. When Caram's parents were asked about their efforts to maintain IA, they both mentioned that they did their best to maintain it like teaching him to read and write the Arabic alphabet, using IA in their daily speech and watching IA channels but from my observation no real methods were put in place to ensure this, and they did not make any effort to teach Arabic (his parents mentioned that he did not like to do it so they did not want to push him as they were concerned that it might have a bad impact on him and he would hate the Arabic language if they forced him to learn it). They did not watch IA channels as he preferred English ones and they did not use IA in their daily speech with their children.

Another factor which has led to less use of IA by his parents and sister is that Caram, the oldest, has set up a pattern, which was followed by his sister; he would use English in all home domains. Another factor was his age when he arrived in the UK, (he was 2.5 years old) and as has been mentioned before, young children are expected to shift to the majority language as soon as they are around preschool age, as they are looking for a sense of belonging and acceptance.

Because IA is used less than the English language and in very restricted contexts, Caram's IA incomplete and interrupted acquisition tends to lag behind, his linguistic and grammatical abilities in IA did not reach age appropriate levels when his acquisition was interrupted and as a consequence of all these factors together it had a major effect on his formation of the broken plural in particular and on his acquisition of IA in general.

When Caram's family returned to Baghdad, his mother said that he had problems adjusting to the life there due to the fact that he did not read and write in Arabic.<sup>12</sup> His understanding of IA is way behind his peers of the same age. Due to these problems he was not accepted at any public school and the only option for his parents was to enrol him in a private school. He was placed in Year 1 instead of Year 3 where they had to start teaching him the basics of the Arabic language.

#### 5.1.4 Family D

##### A. Danyal (11.4)

Danyal was born and brought up in Baghdad until the age of 7.9, apart from the time he travelled with his family to Egypt for about five months where his sister Dana was born. Danyal was in a private school in Baghdad so he knew basic English when he travelled to the UK and was using IA, as any child of his age. He started school after their arrival in Colchester. He integrated really well and did not have any problems. His mother mentioned that he started mixing the two languages, IA and English, with his sister and baby brother at home while interacting with each other but he only used IA with her and some English words with his father. At first his parents did not mind that he used English most of the time with his sister but when they noticed that this had affected his language preferences with his sister, his hesitation to read and write Arabic and his preference to use English with his aunt who also lives in the UK, they decided that it was better for their children to stop using English at home.

When asked about whether they have a language policy when they interact with their children (Appendix A), his father said that *“we both know the importance of using both languages and since our children are learning and using English at school, we think it is much more important to focus on IA as they will need it when they return to Baghdad”*. They did not

---

<sup>12</sup> This family returned to Baghdad and I am still in contact with them to the present time.

want their children to forget Arabic so their policy was only using IA with them, and their mother taught them Arabic by using the Iraqi curriculum books she brought with her. His mother also elaborated that they enrolled their children at an Arabic school for a few weeks but she noticed that they did not gain any benefit from attending it, as they used the Saudi curriculum, which was completely different from the Iraqi one, so she decided to home-school them by having a scheduled daily routine, 30 minutes for each lesson of reading, writing and maths. As for the other home policies, they watched Arabic channels, listened to Arabic music and he used IA while playing games with his sister. He read Arabic stories with his parents and with his aunt and as a family they travelled to Baghdad twice during their stay in the UK.

Danyal's mother Deema, mentioned that her son used IA with her (100%) because he knew she cannot speak English. His father mentioned that sometimes Danyal unconsciously used English with him on their way home after picking them up from school and with his sister when playing games but he switch to IA when he realized that. His mother also mentioned that he usually translate everything to her when they receive letters or phone calls. This was referred to as 'language brokering' by Tse (2001) which improves proficiency in both languages.

Based on the information obtained from questionnaires and observations, in terms of his direct languages input, it was predominantly IA as can be seen in Figures 5. 11 and 5. 12 below with 100% from parents, relatives, TV, songs, games and reading and writing and 90% from his sister in comparison with his English input 100% from school and friends and 10% from his sister.

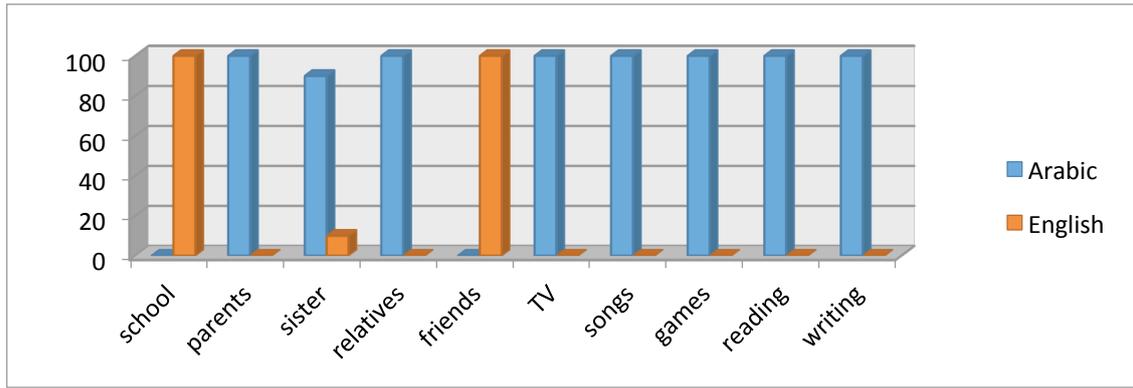


Figure 5.11. Danyal's language input

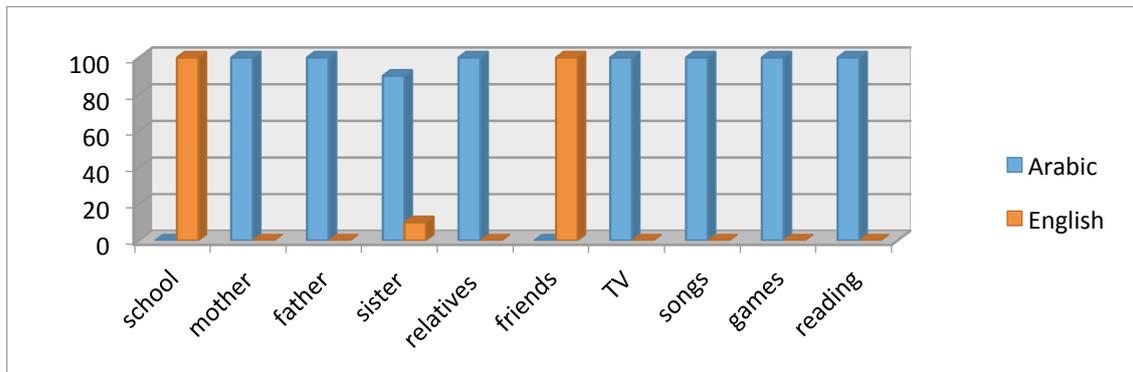


Figure 5.12. Danyal's language usage

Danyal's parents mentioned that he liked English and preferred it to Arabic and if it was his choice he would use it all the time. His parents also reported when I asked them about whether they were well-integrated into society in the UK and whether they were satisfied with living in the UK, the father said that *"it is hard to be integrated for social and religious reasons"* and when I asked in what ways it is hard, he elaborated that *"the culture and traditions here in the UK are completely different to ours and we do not want our children to start asking questions about things which are still early for their age to know about"*. The mother here interrupted and mentioned that she heard from other Arab families that in Year 5 and 6 children learn about health and relationships which they did not want their children to take part in and they had contacted their son's school informing them that they did not want their son to know anything about this subject because of their cultural background. Both parents elaborated that as a family they preferred to keep their relationships with Iraqi families only. The mother also

mentioned that for her it was hard to even make friendships with school mothers because she could not communicate with them and she even felt embarrassed when they talked to her when she dropped off and picked up her children from school so that is why she preferred to stay close to Arabic-speaking friends only.

Danyal's parents assessed their son's literacy levels in both languages and they considered IA to be his dominant language. Based on the data obtained from two questionnaires (Appendices C and D), his father rated him as 4 out of 5 in English and 5 out of 5 in Arabic. He spoke and understood Arabic conversation very well and he was fluent in reading and writing in Arabic and English.

He was 11.4 years old and had been living in the UK for three years and five months when I did the recordings to elicit data about the BP. His increased input in IA were mirrored by an increase in his linguistic abilities in IA, which had affected the quality and the quantity of his correct versus incorrect production. He made 28 (6%) incorrect (not target form) words out of the total number 437 which meant that he had 409 (94%) correct/target words. He used different repair strategies in his production of the BP words and these strategies are illustrated below.

1. His preferred strategy was overgeneralising the SFP marker *-āt*, he used it with 12 words (8 were acceptable and 4 were unacceptable) e.g. *+qāṭāt* for *qūṭ* 'men suits', *\*ḥaṣwāt* for *ḥaṣū* 'pebbles', which indicates that he knows that these are acceptable words but was not sure about the other four words and his safest option to form these words was by using this marker.
2. He irregularised BP templates when he used it with 11 words with a preference for some templates like [CaCaaCiC], [CiCuuC], [’aCCāC] e.g. *\*slūl* for *slāl* 'baskets', *\*’aḥdād* for *ḥidūd* 'edges' which are used in everyday words. The frequency of Danyal's

use of this repair strategy meant that these templates are in his input but he did not associate them with the right words and that he was still in the process of learning.

3. He used other repair strategies but with low frequency like the SMP marker *-īn* with 2 words. One word was acceptable as SMP form and did not violate the syntactic restrictions of the formation of this plural \**āmlīn* for *‘ummāl* ‘workers’ but the other word violated the [+human] condition \**uwādīn* for *‘uwad/‘īdān* ‘sticks’.

4. He used ‘singular-repetition of the stimuli word’, when he repeated 2 words given to him \**sēr* for *seyūra* ‘watch bands’ and \**gaṣṣāb* for *giṣāṣīb* ‘butcher’.

5. The last strategy used was a ‘random pattern’ \*[CaCCiiC] in his production of the word \**yašmīg* for *yašāmiḡ* ‘men’s head scarf’ which is a nonsense word. This random pattern does exist in IA words like for example *taḥwīl* ‘exchange’, *ta’jīr* ‘to let’ or in singular nouns like *taqrīr* ‘report’, *taḥlīl* ‘analysis’.

#### B. Dana (7.4)

Dana was born in Egypt and lived there until she was about five months old when her family travelled back to Baghdad and settled there until the age of 3.9 when she moved with her family to Colchester and she was speaking IA as any monolingual child of her age. She attended nursery when she was four years old for a 2-hour session on a daily basis. Her parents said that she started to use some English words with her brother when they interacted with each other. She used to mix the two languages together at first but later she used only English with him but it was always IA with her parents. Her parents did not mind that she used English most of the time with her brother but her parents noticed that she forgot Arabic words she used to know and she refused to speak IA with her aunt when she visited them, so they decided that it was best for her and her brother to stop using English at home. Another reason for this was when they noticed that she was reluctant to do her homework in Arabic.

So in terms of Dana's direct language input and based on the information obtained from questionnaires and observations, it was predominantly IA as can be seen in Figure 5. 13, with 100% input (each) from parents, relatives, TV, songs, games, reading and writing and 90% from her brother in comparison with her English input (100% from school and friends and 10% from her brother).

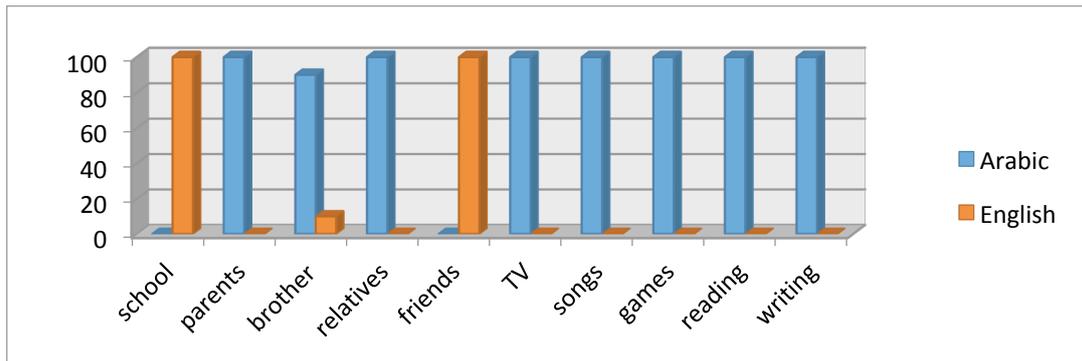


Figure 5. 13. Dana's language input

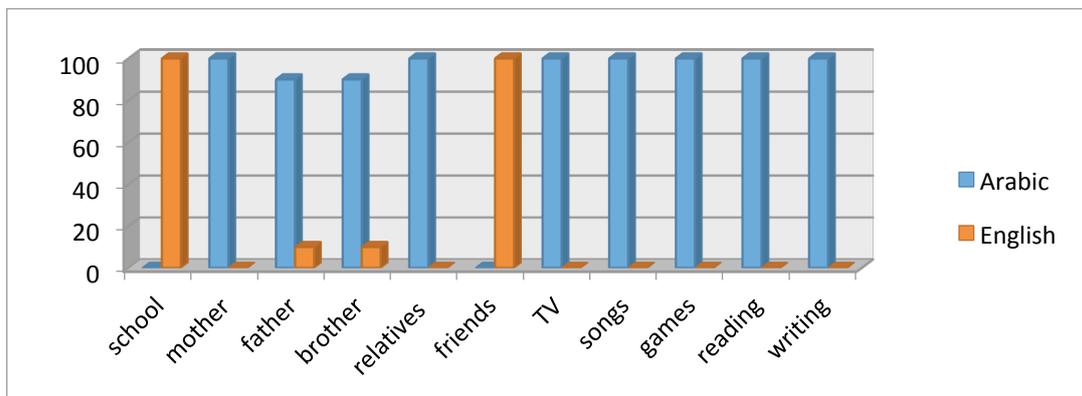


Figure 5. 14. Dana's language usage

Her mother, Deema, mentioned that her daughter used IA predominately with her (100%) because she did not know English but she used English (10%) with her father and brother, Figure 5. 14. Her father mentioned that sometimes she unconsciously used English with him and with her brother. He also mentioned that she liked English and preferred it to Arabic. Based on the data obtained from two questionnaires (Appendices C and D), Dana's father assessed her literacy levels in both languages and he considered IA as her dominant language. He rated her as 4 out of 5 in English and 5 out of 5 in Arabic. She spoke and understood Arabic conversation, and read

books and wrote in Arabic and English. She did not have any difficulties in understanding and speaking English or Arabic.

Dana was 7.4 years old and was living in the UK for three years and five months when I did the recordings to elicit data about the BP. Like her brother, the increased input in IA were also mirrored by an increase in her linguistic abilities in IA, which had affected the quality and the quantity of her correct versus incorrect BP production. She made 236 (54%) incorrect (not target form) words out of the total number 437 and produced 201 (46%) correct forms. She used different repair strategies in her production of the BP words and these strategies are illustrated below.

1. Her favourite strategy was overgeneralising the SFP *-āt* which scored the highest frequency with 141 in total (89 of these words were unacceptable and 52 words are acceptable) e.g. *+čarxāt* for *črūx* ‘wheels’, *+’abnāt* for ‘abnā’ ‘sons’ while a monolingual child around her age (Ali, aged 7.5) used it 28 times (11 of these words were unacceptable and 17 words were acceptable). She also used it in the production of 3 new words (raising the total usage to 144) which have a completely different meaning from the singular target words given to her, e.g. *\*jāmī’āt* ‘universities’ for *jawāmi’* ‘mosques’.

2. Dana irregularised BP templates when she used them with 51 words with preference for some like [CiCūC], [CCāCa], [’aCCāC] e.g. *\*zrāq* for *zurug* ‘blue coloured items’, *\*’afhād* for *fihūd* ‘leopards’ which are used in every day words and were also used by her brother. The frequency of Dana’s usage of this repair strategy is higher compared to another child in the same age, Amily, and even more than an older child like Ahmad. This indicates that these templates are in her input but she

did not associate them with the right words and she did not know which template to use with the right word but they are definitely in her inputs.

3. She used the SMP markers *-īn* and *-ūn*. The *-īn* marker was used with 18 words, one word was acceptable as a MSA word *\*šā'irīn* for *šu'arā'* 'poets' and 17 were unacceptable words for example like *\*rajālīn* for *rajājīl* 'men', *\*ā'ilīn* for *'awā'il* 'families'. The other MSP marker *-ūn* was used twice producing unacceptable words *\*ašīrūn* for *'ašāyir* 'tribes' and *\*ḍābiḥatūn* for *ḍubbāḥ* 'military officers'.

Monolinguals around this age and up to the age 12 years old still have difficulty acquiring it and were still using it as one of their repair strategies as we have seen in Tables (4. 6 & 4. 7).

4. She used 'random pattern' with 15 words producing nonsense words e.g. *\*sūwwāq* for *sīqān* 'trunks' and *\*juwāza* for *jūz* 'walnuts'. Some of these random patterns are used in IA speech as a singular word template and some are completely random and never used in IA speech.

5. She also used other repair strategies but with less frequency when she maintained the singular form of two words, one was a MSA word *\*'a'mā* 'blind man' for *'imyān* and she repeated the same word *\*ma'raḍ* 'exhibition' for *ma'āriḍ*.

6. The IA dual marker *-ēn* was also used with one word *\*yōmēn* 'two days' for *'ayyām*.

As we can notice, the repair strategies of both children were generally similar in that Danyal's preferred strategies were overgeneralising SFP and irregularising the BP followed by other strategies with low frequency SMP, singular and random patterns, and Dana's preferred strategies were overgeneralising SFP and irregularising the BP followed by the SMP and random patterns and finally with the lowest frequencies for the singular/repetition and the IA

dual form. Danyal's repair strategies comparable to another bilingual child of the same age Ebaa' are completely different in quantity and quality. The same is true for Dana, as her repair strategies comparable to another bilingual child of the same age Amily are completely different in quantity and quality. Danyal and Dana used the SFP marker and the BP templates as monolingual children did due to the considerable use of IA in their input by different providers and sources.

The qualitative and quantitative properties of Danyal and Dana's IA/English input and use in addition to other numerous factors affecting their language environment, meant that they maintained their first language, and these factors correlate with each other. Their parents played a major role, as they both show positive attitudes in order for them to learn English to integrate well with the other children at school but at the same time they have insisted on maintaining their IA implicitly and explicitly. A 'one language' policy at home had a major influence on their IA language development by establishing an Iraqi language environment, speaking exclusively in IA at home, watching IA channels, and conducting a range of activities to maintain and preserve their language like home-schooling, conducting reading and writing activities in Arabic, and yearly trips to Baghdad during the summer holidays. In addition to all these factors, their mother's inability to understand and use English had an important impact on them not using it at home. They both used to help their mother while shopping and during other activities in translating what is being said or written from English to Arabic and vice versa.

Another factor in maintaining their heritage language was the age when they started to acquire English. As has been mentioned before in Bader's case, Danyal arrived in the UK at an age where he had mastered the basic structure of the spoken IA and his sister was still in the process but their acquisition was interrupted. It is true that they did show at first a preference towards using English at home with each other and with their aunt but their parents noticed this and had to make sure they would not use this as the norm. They used different techniques like

rewarding them each time they did their Arabic homework, when they read Arabic books and praising them when they used IA in their daily speech. They were still acquiring IA when they arrived and they continued to do so with the support of their family. It is true that their acquisition was limited by their input within the home domain but this is crucial for L1 and heritage language maintenance. So the persistent and consistent efforts from the parents and their continuous usage of IA had a major effect on their children maintaining it and not shifting to English.

### **5.1.5 Family E**

#### **A. Ebaa' (11.3)**

Ebaa' was born and brought up in Baghdad and lived there until the age of 8 when he moved to Colchester. He was in a primary school -year 3 - and was speaking IA as fluent as expected of a child at his age. He joined school immediately after their arrival in Colchester and he had to work with an EAL teaching assistant for nearly two months as he did not know English and had never studied it before. The parents were worried at first about how their children would manage at school so they decided to teach them English at home. They encouraged their children to use English at home when interacting with each other, borrowed English books from the library and read it with them, watched English channels, they installed a program used by the school and spent about 30 minutes each day learning different aspects, spent a lot of time during the weekends and after school playing in the park with other English-speaking children and gradually with the school's assistance the children developed their English skills. As a family, their home strategies when they arrived were to use English in all domains to accelerate the learning process. Ebaa' was using English at home with his parents, sister and young brother (YA). He used to switch between English and Arabic in order to explain a few things to him but when his younger brother started nursery, he used English with him all the time. Ebaa''s daily

routine was playing in the park with friends after school for nearly an hour, doing his homework (in English) at home and then playing either with the Xbox or with his sister and brother and they always used English in their interaction.

During the parents' interview his father mentioned "*It took them about 3 months to produce complex sentences*". The children spoke only English when their youngest brother and when he joined the nursery, he started to use English too. The parents noticed, after about a year and a half, that their children were much more confident in using English, they preferred to use it all the time and that their IA basic skills were deteriorating. Ebaa' had difficulties reading and writing Arabic sentences he used to know, their daughter Esraa' forgot how to write and read Arabic letters, and their youngest son was using English much more than Arabic. They were worried that their youngest son would never learn Arabic so they decided to change their home policy to Iraqi Arabic and encouraging their children to use it too.

Their home strategy was then changed to Arabic; only Arabic channels were watched, they read Arabic books and their mother started teaching them Arabic at home. They were not allowed to speak English at home anymore and they had to use Arabic with each other, although this was the rule but it was not followed as they used English when they played together in their room. As with their relatives, they used Arabic when they called them but they kept using English with their friends even if they knew Arabic. So during their first year and a half of living in Colchester, their daily input and use was mostly in English except when their parents communicated with each other.

Based on the information obtained from questionnaires and observations, Ebaa's input, as can be seen in Figures 5. 15 in Arabic were 100% from parents, relatives and TV; 50% from reading and writing; 40% from his sister and 30% from his brother while his English input were 100% from school, friends and games; 70% from his youngest brother; 60% from his sister and

50% from reading and writing. As for his use of Arabic (Figure 5. 16) it was 100% with his parents, relatives and watching TV; 60% with his sister and brother and 50% in reading and writing while for English it was 100% at school, with friends and playing games; 50% each in reading and writing and 40% with his sister and brother:

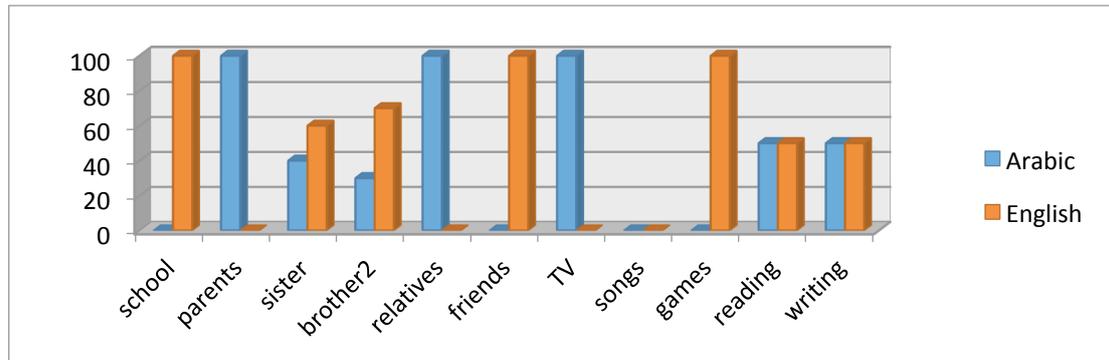


Figure 5. 15. Ebaa's language input

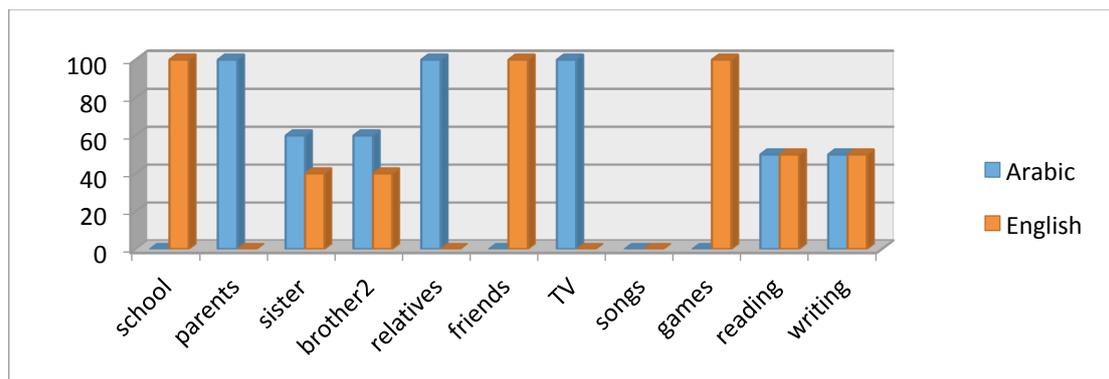


Figure 5. 16. Ebaa's language usage

Ebaa's parents also mentioned that he did not favour any language, *'it is 50/50'* as his father said, *'he liked both languages, he enjoyed chatting with his relatives everyday using Iraqi Arabic, he enjoyed doing his homework in English and the extra works they had to do at home in Arabic, he liked living in the UK and at the same time he liked living in Baghdad'*. They also mentioned that it is hard for them as parents to monitor their children's language use and that they do not force them to use Arabic all the time. They let them use the language they want. They reported that they had noticed that their children always used Arabic with them when the whole family are together, but use English when they played with each other. The family also

reported that they were satisfied with their life in Colchester; they had Iraqi friends but they have kept their social relationships formal.

Ebaa's parents assessed his literacy levels in both languages and they rated him at 4 out of 5 for English and 5 out of 5 for Arabic. They said that he understood Arabic conversation and used it fluently. He read and wrote very well, produced complex sentences and the same applied to English. His father also elaborated that Ebaa's Arabic skills even progressed after implementing extra activities in Arabic.

Ebaa' was 11.3 years old and had been living in the UK for three years and three months when I did the recordings to elicit data about the BP. The lack in his IA input for a year and a half had a major effect on the quantity and quality of his repair strategies. He had 160 (37%) incorrect words out of the total number 437, which means he produced 277 (63%) correct forms. He used different repair strategies in his production of the BP words and these strategies are illustrated below.

1. His preferred strategy was irregularising BP templates. He used twenty templates with 82 words with a preference for some templates like [CiCaaC], [CaCaaCiC], [CiCuuC] e.g. \**jirūš* for *'ijrāš* 'bells', \**čilūb* for *člāb* 'dogs', \**mašātiṭ* for \**mšūta* 'combs' which were also used by his sister but with different frequencies in addition to other templates used in every day situations. Both monolingual and bilingual children used these template.
2. The second favourite strategy was overgeneralising the SFP marker *-āt* which scored 37 in total (14 of these words were unacceptable and 23 words are acceptable) e.g. + *'āmūdāt* for *'awāmīd* 'lamp posts', \**šamūnāt* for *šammūn* 'Iraqi bread'. He also used it in the production of one singular word (raising the total number of usage to 38) when he produced a new word \**jāmi'āt* 'universities', which has a completely different meaning

from the singular target word given to him *jāmi* ‘mosque’. This means he did not know the difference in the meaning between the word he produced and the word given to him in spite of the fact that two pictures were used one for a singular mosque and the second one was for mosques.

3. He used ‘random patterns’ with 24 words. He used 14 (RP) resulting in nonsense words and his sister used 5 of these patterns e.g. *\*ṭibāxa* for *ṭubābīx* ‘cooks’, *\*meyāza* for *myūza* ‘tables’.

4. He used the strategy ‘singular/repetition’ with 7 words when he repeated 4 singular words given to him e.g. *\*ḥīdā* for *’aḥḍiya* ‘shoes’ and produced 3 new words in the singular form e.g. *’isūd* ‘lions’ for *sūd* ‘black coloured items’.

5. He used the SMP markers *-īn* and *-ūn* (2,3) consecutively e.g. *\*ḥmārīn* for *ḥamīr* ‘donkeys’, *\*jībūn* for *’ajbān* ‘cheese’. By attaching these markers to the singular words he produced some nonsense words and he violated the syntactic restrictions of the SMP.

6. He used the MSA dual marker *-ān* with two words e.g. *\*dabūsān* for *danābīs* ‘two pins’.

#### B. Esraa’ (9.3)

She was born and brought up in Baghdad until the age of 6 where she attended primary school until they travelled to Colchester and like her brother, she did not study English before and was speaking IA as fluently as expected of a child at her age. Esraa’ started school immediately after their arrival and she had to work with an EAL teaching assistant for nearly two months. The home language policy used by the parents for about a year and six months had a major impact on her language choices and preferences. She used English at home with her parents and brothers, she used to switch between the two languages with her younger brother but when he

started nursery, she used English with him all the time. Her daily routine was playing at the park with friends after school for nearly an hour then doing her homework (in English) at home and then playing with her brothers and they always used English in their interactions.

The parents noticed that she preferred to use English all the time and she was much more confident in using it. They also noticed that she forgot how to write Arabic letters she used to know and Arabic words, and that it was hard for her to read the same books she used to read. Her Arabic skills were deteriorating. The parents decided to use Arabic and to home-school their children by using Iraqi books and doing 20 minutes homework after school. Even after implementing their new language strategies, Esraa' continued to enjoy reading books in English and she spent most of her time playing with her younger brother and communicating with him in English when they were by themselves. She used Arabic with her parents. She used English with her friends even those who knew Arabic. Her mother mentioned that "*she preferred English to Arabic and if it was her choice she would use English all the time*" and her father elaborated by saying "*she knew that we did not mind if she used English most of the time except when we are together as a family having our meals or watching TV*". They also mentioned that she liked living in the UK much more than in Baghdad.

Based on the information obtained from questionnaires and observations, Esraa's predominant input and use were English, as can be seen from Figures 5. 17. For her input it was 100% from school, friends and games, 70% each from her younger brother; 50% from reading and writing and 40% from her older brother while in Arabic it was 100% from her parents, relatives and TV; 60% from her older brother; 50% from reading and writing and 30% from her younger brother. As for her use, Figure 5. 18, it was also in favour of English with 100% at school, with friends and games; 80% with her younger brother; 60% with her older brother; 50% in reading and writing and 30% with her parents in comparison to Arabic with 100% with her

relatives and watching Arabic TV; 70% with her parents; 50% in reading and doing her written homework and 40% with her older brother and 20% with her younger brother:

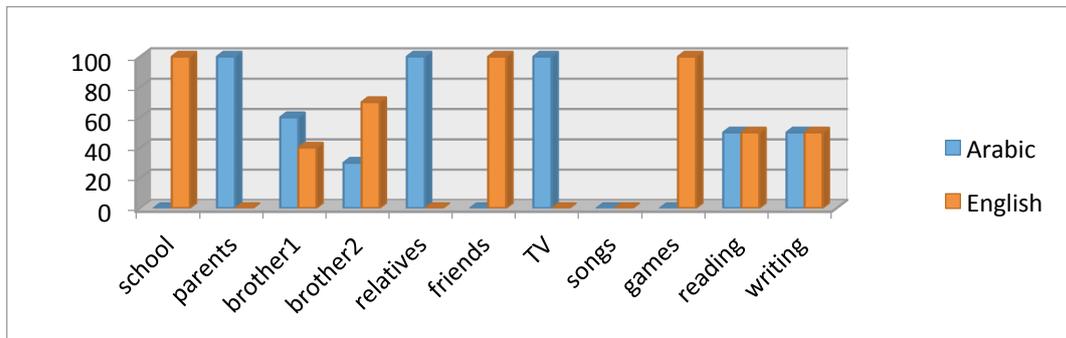


Figure 5.17. Esraa's language input

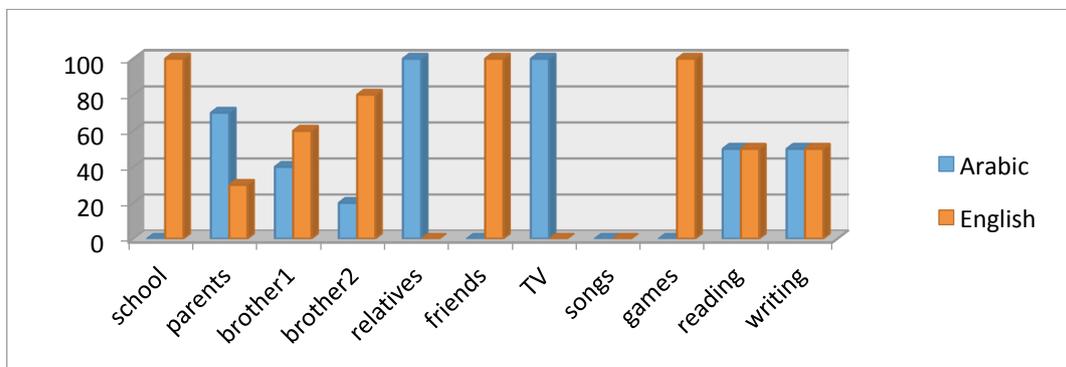


Figure 5.18. Esraa's language usage

Based on the data obtained from two questionnaires (Appendices C and D), Esraa's parents assessed her literacy levels in both languages at 4 out of 5 for English and 4 out of 5 for Arabic. They said that she understood Arabic conversation and used it fluently, she read and wrote very well, produced simple sentences but not complex ones. The same applied to English, though she could produce more complex sentences in English. Her father elaborated that her Arabic skills would not be the same as other monolingual children of her age would be and that she was not as competent as her older brother Ebaa' was in Arabic.

Esraa' was 9.3 years old and had been living in Colchester for three years and three months when I did the recordings to elicit data about the BP. The home policies used during these three years had a major effect on the quantity and quality of her repair strategies. She had

313 (72%) incorrect words out of the total number 437 (28%), which means she produced 124 correct forms. She used different repair strategies in her production of the BP words and these strategies are illustrated below.

1. Her preferred strategy was overgeneralising the SFP marker *-āt* which scored the highest frequency with 198 in total (93 of these words were unacceptable and 105 words are acceptable) e.g. *+būrāt* for *buwāri* ‘water pipes’, *\*kantōrāt* for *kanātīr* ‘wardrobes’. She also used it in the production of 2 singular words (raising the total number of uses to 200) e.g. *\*ktābāt* ‘writings’ for *kutub* ‘books’ when she produced new words, which have a completely different meaning from the singular target words given to her which means she did not know the difference in meaning between the words she produced and the words given to her although the meaning of the singular words were explained to her upon request and accompanied by pictures of the plural target.
2. She irregularised BP templates when she used 14 templates with 73 words with a preference for some like [*’aCCāC*], [*’aCCiCa*], [*CiCuuC*] e.g. *\*’adrisa* for *drūs* ‘lessons’, *\*’ashāt* for *ṣūḥ* ‘roofs’ which were also used by her brother but with different frequencies. In addition to other templates used in everyday situations and both monolingual and bilingual children used.
3. She used 15 ‘random patterns’ with 22 words resulting in nonsense words e.g. *\*ḥimūra* for *ḥamīr* ‘donkeys’, *\*’atāl* for *tilāl* ‘hills’.
4. She used the SMP marker *-ūn* with 5 words resulting in some nonsense words and she violated the syntactic restrictions of the SMP e.g. *\*firūn* for *’afrān* ‘ovens’, *\*xazūn* for *maxāzin* ‘storages’.

5. She used the MSA dual marker *-ān* with 9 words. Two of the words produced were MSA words *\*najārān* ‘two carpenters’ and *\*daftarān* ‘two copybooks’. She attached this marker to 7 IA words like *\*čalbān* ‘two dogs’, *\*gur’ānān* ‘two Quran’.
6. She used two grammatical suffix attached to the end of the words known in Arabic as *tanwīn* ‘nunation’ - *'an* and - *'un*. Esraa’ used - *'an* with 2 words *\*'isbū'an* for *'asābī* ‘weeks’, *\*nabiy'an* for *'anbiyā* ‘prophets’ and she also used the nominative case - *'un* with the word *'idu'un* for *'a'yād* ‘festivals’. These suffixes were also used by two siblings, Ahmad and Amily.
7. She repeated 3 singular words given to her e.g. *\*šamsiya* for *šamāsi* ‘umbrella’, *\*xarūf* for *xirfān* ‘sheep’.

As we can notice, the repair strategies of both children were somehow different in that Ebaa’s preferred strategies were irregularising the BP followed by overgeneralising the SFP then random patterns and lower frequencies for the other repair strategies. His repair strategies comparable to another bilingual child of the same age (Danyal) were completely different in terms of the quantity and the quality. While Esraa’s preferred strategies were overgeneralising SFP and irregularising the BP followed by random patterns and lower percentages for the other repair strategies. Her repair strategies comparable to another bilingual child of the same age (Amily) were completely different in terms of the quantity and the quality. Ebaa’ and Esraa’s use of these strategies were affected by their input due to the fluctuation in the use of IA/English in the home domains by different providers. In addition, the parents’ preference for using English in the home domain when they arrived in the UK had a major effect on their linguistic knowledge.

The qualitative and quantitative properties of Ebaa’ and Esraa’s IA and English input and use led to them to use all these repair strategies. In addition, there were other numerous

factors affecting their language environment and these factors correlate with each other. The parents played a major role and like the other parents in this study, they were both enthusiastic and eager for them to learn, understand and absorb the new language as soon as possible to make it easy for Ebaa' to integrate well with the other children. Their positive attitudes towards English affected their language domains, as they both showed their children that was acceptable to use English with them and inside the home domain but when they noticed the fast and drastic impact their policies had on their children's preferences and linguistic knowledge they wanted to reverse the shift.

Another factor, which has led to less use of IA by the younger siblings is that Ebaa', the oldest, has set up a pattern- like the other older siblings in this study- which was followed by the younger ones; he would use English in all domains. Another factor was their age of when they started to acquire English. As has been mentioned before in Bader and Danyal's cases, Ebaa' and his sister Esraa' arrived in the UK at an age where Ebaa' had mastered the basic structure of the spoken IA and his sister was still in the process but their acquisition was interrupted. Iraqi Arabic was used less and in restricted contexts at first and that is why their uncompleted and interrupted acquisition of IA tended to lag behind. Their linguistic and grammatical abilities in IA did not reach age appropriate levels and as a consequence of all these factors together it had a major effect on their formation of the BP in particular and on their acquisition of IA in general.

### **5.1.6 Family F**

#### **A. Fay (15.2)**

Fay was born and brought up in Baghdad until the age of 12.7 when she moved to the UK with her family. She attended a private school in Baghdad where she studied English from Year 1 as an additional language but she never used English in her daily life in Baghdad. She was speaking IA as fluently as expected of a child at her age. When the family travelled to the UK

they lived with their relatives for nearly two months before they moved to Manchester, where they lived in an English-speaking neighbourhood. Their relatives had three primary-age children who used English and they understood basic IA conversation. Fay used English with the children but IA with adults. During their stay, Fay and her brother Furaat spent most of their time in an English environment except when their mother and their adult relatives used it with them. Their relatives watched English channels only, listened to English songs and played games in English. When they moved to Manchester Fay started school in Year 8.

Fay's father said *"in spite of the fact she had studied English from Year 1, it was not used outside the classroom and usually the teacher used Arabic when English was being taught and as a family, the children never used English in their daily life"*. He also mentioned that he had to monitor Fay's progress in English when she started secondary school. She did not have any difficulties with her study or when communicating with others in English. The policy used at home was using the two languages but the parents always used Arabic with each other. They watched Arabic and English channels but the children favoured English one. As a family Arabic was the language of interaction but English was used when Fay and her brother interacted with each other in spite of their mother's encouragement to use Arabic. They used English when reading books, playing online games and with their friends.

Based on the information obtained from questionnaire (Appendix A) and observations, Fay's predominant input (Figure 5. 19), was in English with 100% from school, friends, reading and writing, 80% from her brother and 50% each from TV, social media and songs in comparison to Arabic with 100% from parents and relatives, 50% each from TV, social media and songs and 20% from her brother. As for her use of the two languages, (Figure 5. 20), it was still in favour of English.

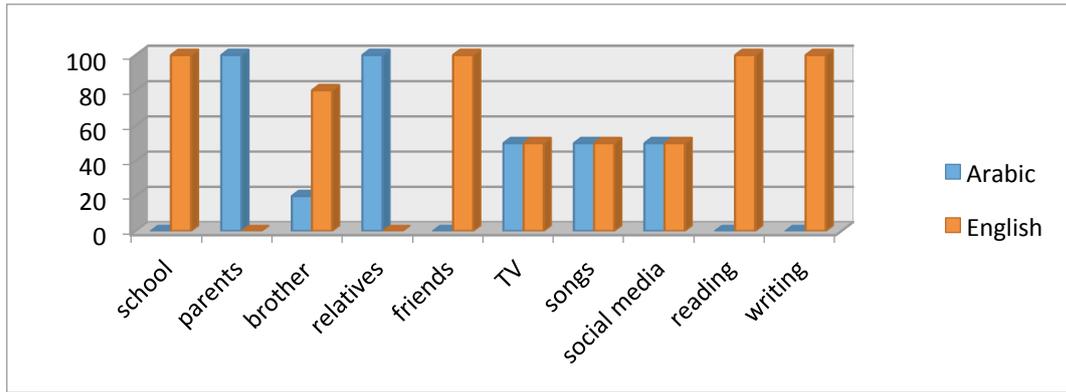


Figure 5.19. Fay's language input

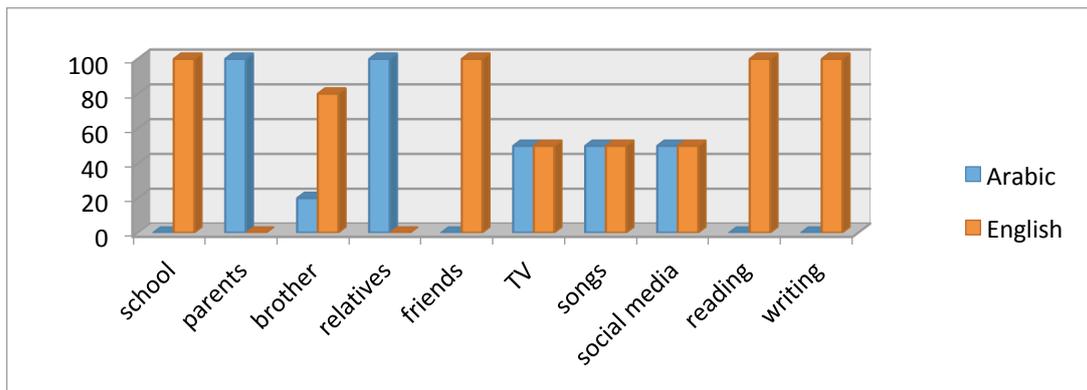


Figure 5.20. Fay's language usage

Fay also mentioned that she liked both languages, she liked living in the UK and that she wanted to pursue her dream of becoming a photographer (Appendix B). The family also reported that they were settled down and happy with their life and she felt that their children would have a better future in the UK. They have friends speaking different Arabic dialects like Palestinian and Jordanian Arabic in addition to English-speaking ones but they have kept their social life with Arabic speaking friends. Both parents were happy for their children to be raised as bilinguals, even if English was their dominant language, because they believe this will give their children a better life in the future. Her mother mentioned that Fay liked reading English stories and listening to English songs but the only bad effect the English language had on her was that she used to write *xawāṭir* خواطر in Arabic but now she finds it quit difficult to do so and she does not read Arabic stories as she used to do.

Fay's parents assessed her literacy levels in both languages and they considered both English and Arabic to be equally her dominant languages. Based on data obtained from two questionnaires (Appendices C and D) they rated her at 5 out of 5 for English and 5 out of 5 for Arabic. They also mentioned that she understood Arabic conversation and used it well. She read and wrote in Arabic and the same applied to English.

Fay was 15.2 years old and was living in the UK for two years and five months when I did the recordings to elicit data about the BP. Fay had 53 (12%) incorrect (not target form) words out of the total number 437, which means she produced 384 (88%) correct forms. She used different repair strategies in her production of the BP words which are illustrated below.

1. Her favourite strategy was overgeneralising the SFP marker *-āt* which scored the highest frequency with 32 in total (9 of these words were unacceptable and 23 words are acceptable) e.g. *+ša 'rāyāt* 'few hair' for *ša 'ar* 'hair', *\*rīšāt* for *rīš* 'feathers' while monolingual children starting from age 11.6 never used this marker in their repair strategies (see Table 4. 5). She also used it in the production of one singular word (increasing the total number of usage to 33) when she produced a new word, which has a completely different meaning from the singular target word given to her, which means she did not know the difference in the meaning between the words she produced and the words given to her although the meaning of the singular words were explained to her upon her request and accompanied by pictures of the plural target.

2. She irregularised BP templates when she used 7 templates with 10 words with preference for some like [*'aCCiCa*] e.g. *\*'asyifa* for *syūf* 'swords' which are used in everyday situation and were used by both bilingual and monolingual children. Fay also used a MSA BP template *\*/CuCaCaa'/* with 2 words e.g. *\*tujarā* for *tujjār* 'merchants'.

3. She used was the SMP *-īn* with 8 words. By attaching these suffixes to the singular words she produced some unacceptable words e.g. *\*čibīrīn* for *kbār* ‘older’.
4. She used the MSA dual marker *-ān* with one IA word *\*serān* for *syūr* ‘two watch bands’.
5. She repeated the same word *\*hāris* for *hurārs* ‘guards’.

#### B. Furaat (8.2)

Furaat was born in Baghdad and lived there until the age of 5.7 when he moved with his family to the UK. He attended nursery in Baghdad and was using IA as fluently as expected of a child at his age. Furaat’s mother Fatin said “*Furaat was so excited about everything he saw in the UK that he wanted to change his name to Sam or Bradley and he even wanted to dye his hair blonde to look like other boys*”. He used to listen carefully to what others were saying and he was so eager to learn English and was imitating others. His sister Fay used to explain what the children were saying to him and it did not take him long to learn and use English. He spent most of his time being exposed to English environment, except when his parents and adult relatives interacted with him. When the family moved to Manchester, Furaat started school immediately. The policy used at home as mentioned earlier was using the two languages but he preferred English. His parents also mentioned that he liked playing PlayStation games and playing football in the park with his friends.

Based on the information obtained from questionnaires and observations, Furaat’s predominant input was English (Figure 5. 21), with 100% from school, friends, songs, games, reading, writing, TV and 80% from his sister while Arabic was 100% from his parents and relatives and 20% from his sister. As for his usage (Figure 5. 22), English was his predominant language at school (100%), with his friends, watching TV, listening to songs, playing

games/online games and writing while his Arabic was 100% with his relatives, 80% with his parents and 20% with his sister.

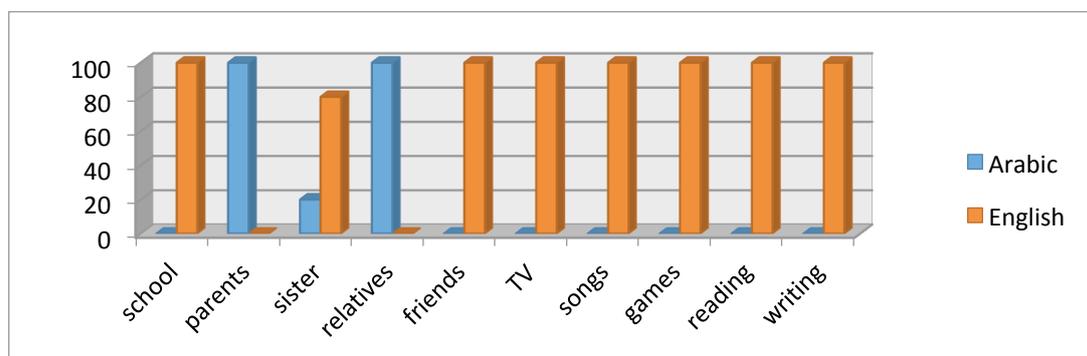


Figure 5. 21. Furat's language input

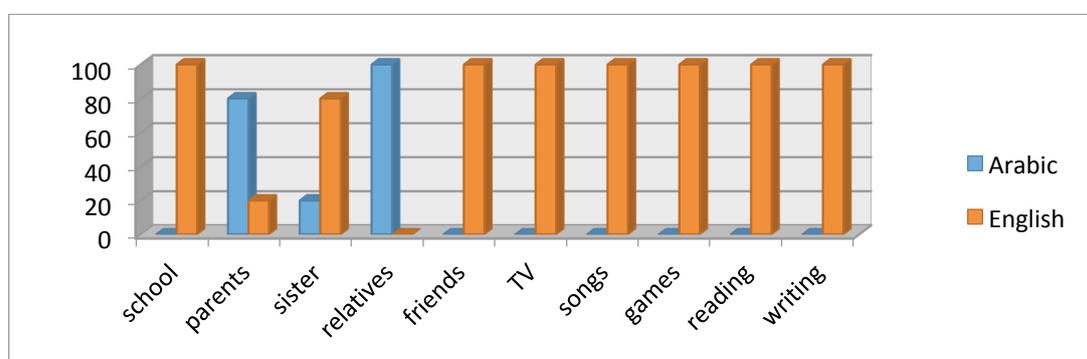


Figure 5. 22. Furat's language usage

Furaat's mother mentioned that he liked and preferred English and that he would even use it with her all the time if her English was as good as his sister or his father and if they did not remind him each time that he needs to use Arabic.

Both parents assessed their son's literacy levels in both languages and they considered English to be his dominant language. Based on data obtained from two questionnaires (Appendices C and D) they rated him at 4 out of 5 in English and 3 out of 5 in Arabic. They said that he understood basic daily Arabic conversation and use it but it would be difficult for him to understand or use new words/expressions never used on a daily base so they would need to explain it to him in English.

Furaat was 8.2 years old and had been living in the UK for two years and five months when I did the recordings to elicit data about the BP. His lack of IA input had a major effect on the quantity and quality of his repair strategies. He had 316 (72%) incorrect (not target form) words out of the total number 437, which means he produced 121 (28%) correct forms. He used different repair strategies in his production of the BP words which are illustrated below.

1. His most favoured strategy was overgeneralising the SFP marker *-āt* which scored the highest frequency with 217 in total (108 of these words were unacceptable and 109 words are acceptable) e.g. *+jabalāt* ‘mountains’, *\*nuḡrāt* ‘holes’. He also used this marker in the production of 5 singular words (increasing the total number of usage to 222) e.g. *\*‘īdīyāt* ‘Eid treats’ for *‘a‘yād* ‘Eids’ when he produced new words, which have a completely different meaning from the singular target words given to him. This means that he did not know the difference in the meaning between the words he produced and the words given to him although the meaning of the singular words were explained to him upon request and accompanied by pictures of the plural target.
2. Furaat irregularised BP templates when he used 13 templates with 55 words with preference for some templates like [*‘aCCāC*], [*‘aCCiCa*] e.g. *\*‘ablima* for *blām* ‘boats’, *\*‘akrās* for *karāši* ‘chairs’ which are used in everyday situations and were used by his sister and by other bilingual and monolingual children.
3. He used the SMP markers *-īn* and *-ūn* (14,2). By attaching these suffixes to the singular words he produced some nonsense words and he violated the syntactic restrictions of the SMP e.g. *\*qafūlīn* for *qfāl* ‘padlocks’, *\*‘aqrabūn* for *‘aqārub* ‘scorpion’.
4. He used ‘random patterns’ with 14 words resulting in nonsense and unacceptable words e.g. *\*dūnar* for *danānīr* ‘Iraqi currency’, *\*‘ačlib* for *člāb* ‘dogs’.

5. He used MSA dual markers -*ān* with 4 words e.g. *\*daqīqtān* ‘two minutes for *daqāyiq*; -*ayn* with one word *\*hādīṭayn* ‘two accidents’ for *hawādīṭ* and the IA dual marker -*ēn* with 2 words e.g. *\*saṭḥēn* ‘two roofs’ for *ṣṭūh*.

6. He repeated 3 singular words given to him e.g. *\*maḡsala* for *maḡāsil* ‘basins’, *\*kāšiya* for *kāši* ‘tiles’.

As we can notice, the repair strategies of both children were somehow the same in that Fay’s most favoured ones were overgeneralising the SFP and irregularising the BP and the same was true for Furaat due to the frequent usage of these two forms in their input.

The qualitative and quantitative properties of Fay and Furaat’s IA and English input and use led to higher proficiency in English in addition to other numerous factors affecting their language environment and these factors correlate with each other. Their parents played a major role as their positive attitude towards acquiring English affected their language domains. Another factor is Fay’s position being the oldest child. Like in the other families, her preference towards using English had a major effect on her brother’s choices and language use. Due to her restricted use of IA she finds it hard to remember and retrieve words she used to know, she used to be incredibly imaginative and an avid reader in Arabic or as her mother described her *dūda māl qrāya w ktāba* ‘bookworm’. I saw Fay’s old notebooks and writings and when I asked her why she is not practicing it anymore, she replied that “*it is not the same, it is hard and something has changed*”. Fay has lost the passion and enthusiasm to use IA and shifted her passion to learning English and enriching her vocabulary by reading English novels/plays and practising her writing skills. Her ability to use the more advanced words and expressions that any normal monolingual child of her age would do had deteriorated. It is true that she still has the knowledge of the basic structure of IA but because it was used less and in a very restricted context, her acquisition was not completed and tends to lag behind in comparison to

monolinguals around her age. As for Furaat, he was 5.7 years old and he was still in the process of acquiring IA when his acquisition was interrupted. Because of his young age, his attitude towards English, in addition to his sister's influence and the home policies used by his parents, his uncompleted and interrupted acquisition of IA tended to lag behind. Fay and Furaat's linguistic and grammatical abilities did not reach age appropriate levels and this had a major effect on their formation of the broken plural in particular and on their acquisition of the IA in general.

When the parents noticed the changes in Fay's language preference and after hearing her formation of the BP words, which were used so often in their daily speech, they realized that they need to take drastic measures to motivate her to use IA and to help her feel a sense of belonging. They enrolled her brother at an Arabic school to have proper Arabic schooling and she was responsible for helping him with his homework in addition to borrowing Arabic books and novels to persuade her to start reading and writing in Arabic.

## **5.2 Social factors**

Studies claim that “differences in rates of acquisition, both within and amongst bilingual children, and when comparing bilinguals with monolinguals, can be related to differences in language input” and “that both the quantitative and qualitative properties of this input may affect bilingual children's rate of language development” (Unsworth 2015: 58). Another important aspect of bilingual children's language experience, which has also been related to their rate of acquisition, is their language use, that is, the extent to which children actively speak the language in question. In this section, we will look at the sources of language input for bilingual children and their use in addition to important factors like attitudes, the age of the children when they migrated to the UK (AoO), length of exposure (LoE) or years living in the UK and their age at the time of testing (Hoff et al 2012, Driessen et al 2002, Sorace 2005, Hammer et al

2012).

### **5.2.1 Bilinguals language input**

Unsworth (2013) emphasized the importance of more exposure in the bilingual inputs from different sources, which in turn can affect the type and amount of language exposure and might lead to variability in the bilingual's languages experience. The input quantity includes the children's amount of exposure at home and/or at school (Gathercole & Thomas, 2009) and since all bilinguals' input of Iraqi Arabic is at home, our focus will be on the bilinguals' language inputs at home. As for the quality of the input, this encompasses the richness of children's language input sources, e.g. parents, siblings, relatives, TV, reading, friends, and literacy activities, and whether input-providers speak the language in question exclusively with the child or whether they mix the two languages.

#### **5.2.1.1 Home language policies**

Various factors affect the quantity and quality of the input to which bilinguals are exposed and which are also relevant to monolinguals. In terms of child-directed input, the amount of parents' direct speech in IA varied considerably across families and was represented with different degrees; that is, there were families where both parents addressed their children either mainly in IA or they mixed the two languages together.

In this study, it was observed that when parents used IA when speaking directly to the children, they used simplified, uncomplicated expressions and sentences, which might contribute to their children's limited lexical knowledge. Parents who used a 'one language policy', in favour of IA, in their direct speech to their older children, were Danyal and Dana's parents, Ebaa' and Esraa''s parents and Fay and Furaat's parents. It was observed in these families that their older children - first child - Danyal, Ebaa' and Fay - always replied to their parents in IA while their younger children mixed the two languages. As for parents who mixed

IA and English, their children always replied in English, as can be demonstrated through the patterns in Families A, B and C.

The development and the availability of the mass media in general, and the audio-visual media in particular (TV), played a significant role in keeping the community in touch with its language and culture mainly. Most of the families in this study have access to Iraqi Arabic satellite channels except for Family A, and they are all very enthusiastic about it as a source of entertainment and most importantly as a source to help maintain IA. The parents maintained that they watch IA channels to persuade their children and help them at least to listen and hear spoken IA all the time they are at home. Jamaï (2008) stressed the significant role that audio-visual media had on the Moroccan community in Britain when he stated:

First, this suits the oral cultural tradition of the minority community's heritage. Second, the rate of literacy within the minority community might be low. These technologies have allowed the Moroccan community in Britain to get closer to its roots and stay informed of different developments in their country of origin and with similar Moroccan communities in the diaspora and have also allowed the community to update different aspects of its linguistic repertoire, thus preventing them from becoming trapped in a time warp.

Jamaï (2008: 121)

The quantity and quality of the input were found to be also important factors. In the case of Family E (Ebaa' and Esraa') where the parents provided enough input to trigger the reverse of language shift (see section 5. 1. 5 Family E). Family D (Danyal and Dana) was the only family who used the same policy since they arrived to the UK. Their mother spoke IA exclusively with occasional mixing of IA and English by the father. The children of these families made considerably fewer errors than other children who home language was either English or a mixture. Furthermore, with families who used IA most of the time, the number and nature of the errors committed by their children were comparable to those made by the younger monolingual children (see section 4. 3).

A number of studies investigated how differences in the quantity and quality of language input relate to a bilingual child's vocabulary/lexical knowledge and developments resulting in different acquisition rates among bilinguals. Hurtado et al, (2014) conducted research on

simultaneous Spanish/English bilingual children aged 2.6 and 3 years old. They found an important and significant connection between the amount of exposure on the one hand and the vocabulary size and processing speed on the other hand. In our study, we also found this significant correlation. For instance, in the case of the siblings Danyal and Dana, who were the only bilinguals with almost entirely IA input, in the vast majority of cases they knew the meaning of the words, and they required less time to give a response than all other children. On the other hand, the two siblings with almost entirely English input (Ahmed and Amily) asked about the meanings of most of the words and it took them a longer time to give responses. Our study also supports other studies (Pearson et al 1993) and (Hoff et al 2012) in that the vocabulary/meaning knowledge of the bilinguals develops slowly and it is smaller than that of the monolinguals' of the same age.

Differences in the quantity and quality of the input affect not only the vocabulary but also the acquisition rates of morph-syntactic knowledge and the acquisition of some complex linguistic properties especially with limited input. For example, in Thomas et al.'s (2014) study on the acquisition of the plural in Welsh, they noted that exposure from birth is insufficient to have complete acquisition as reduced input had a long-lasting effect on acquisition. Eleven year old children from English only homes were still struggling to produce adult-like forms, while children from the same age from Welsh-only homes were performing much better and producing adult-like forms and even the adults who from birth had grown up with mixed Welsh and English were not as accurate in their production as the Welsh adults who grow up with Welsh only and then learned English later. Another study by Song et al., (1997) examined morpho-syntactic developments by bilingual Korean-English children between the ages 3-8 living in Hawaii and aged-matched monolingual Korean children. They found that in spite of the fact that bilingual children regularly attended Korean school to maintain their language, their performance was below that of monolingual children and that older bilinguals performed worse

than younger ones, which indicates that there were other factors affecting their performance. According to Song et al. (1997), reduced input is one factor, which was confirmed in their second study examining the knowledge of reflexive pronouns by sixteen Korean-English bilingual children between the ages of 6 and 14. They found that bilinguals needed to have input from different sources but even with all these input sources, bilinguals lagged behind their age-matched monolinguals.

Incomplete acquisition of a particular aspect of grammar is likely to happen when there is a dramatically reduced access to the heritage language. A number of studies emphasised the correlation between the frequency of the adults' input and their children's usage, for example a study by Zaretsky et al. (2013) emphasised the correlation between the frequency of the plural allomorphs used by adults in their spoken language to their children. They maintain that "the most frequent plural suffix in the input will be overgeneralized first, and will probably be the first one to be used productively" (p.558). Their findings are in line with some of the findings in the current study. For instance, all bilinguals, in spite of their age differences, preferred the SFP marker as a repair strategy, which was also the favourite repair strategy used by female adults living in the UK (group II).

Flores & Barbosa's (2014) study also examined how reduced inputs in Portuguese heritage language delayed language acquisition when they examined the competence of 7 to 15 year-old Portuguese children living in Germany in comparison to monolingual speakers of the same age with regard to their oral production. The results show that heritage speakers went through the same acquisition stages but it took them longer to reach the target form. The same can be said about the current study in that bilinguals used all of the repair strategies used by younger monolinguals - in addition to using other repair strategies which were only used by bilinguals - to produce the target form. However, Houwer (2014) found no empirical support for the assumption that the amount of input is necessarily reduced for bilinguals as compared to

monolingual children in her study of the amount of actual Dutch input received from the mothers by monolingual and bilingual (Dutch-French) Belgian children between the age of 13 and 20 months old, when she compared different input frequencies like the frequency of syllables, morphemes, words and utterances. On the contrary she found that bilingual children heard more Dutch from their mothers than monolingual children did.

Unsworth (2016) claimed that bilingual acquisition is like monolingual acquisition - it is affected by factors like the frequency of the token and the type (Blom et al, 2012; Paradis, 2010) and since bilingual children's knowledge and development is split between two languages, the impact of these factors is greater. In her previous work (2013) she argued that it is better in such cases to compare bilinguals to monolinguals based on their cumulative length of exposure. She states:

If one wants to address the question of whether reduced input or bilingualism is the relevant predictor of bilingual children's lower accuracy on a given phenomenon, simultaneous bilingual children who are for example eight years old at time of testing and who have for example heard the target language for on average 75% of their exposure time since birth can better be compared with six years old monolinguals than with eight years old monolinguals.

Unsworth (2013: 16)

When input in the heritage language is reduced, this will subsequently affect the child's competence, which will lag behind and soon it will structurally and functionally be the weaker language and this will eventually affect the child's language development and will never reach native proficiency like monolingual adults. Studies investigating the importance and the impact of input on bilingual language experiences and development rates of acquisition have shown that more input will generally lead to higher rates of acquisition. The variety of input sources, whether the number of people or the regularity and the degree of the additional activities and support they get at home in addition to their older siblings, will enrich their vocabulary knowledge and increase their chances of using and maintaining their heritage language in addition to the amount of languages used by the children.

### 5.2.1.2 Parents' proficiency in English

Across all family groups, another crucial factor that significantly affected the maintenance of IA was the parents' proficiency in English - especially the mother's (though in Caram's case it was his father's).

The low level of some of the parents' basic English proficiency skills forced them and their children to use IA all the time. In addition to my observation that when children noticed that their mothers did not know English and/or she felt much more comfortable using IA, they used it as the norm as we have seen with Family D (Danyal and Dana's family) with their mother Deema (see section 5. 1. 4 Family D). Deema's limited English skills were an advantage for her children as they used to interpret and translate everything for her which had a positive effect on their linguistic and cognitive development. As for the other families, with low levels in English, (see section 5. 1. Family B, C & F), the children communicated with their mothers –in family C it was the father- by using mainly IA but as soon as they were enrolled in English courses the children started to incorporate English words when they spoke to them and so did the parents- they saw it as their opportunity to practice what they had learned. Family F appears to be an exception in that even after the mother learned English, she kept on using IA exclusively with her children, which had a major influence on her children's language maintenance and use compared to other bilingual children.

As for the parents who had Moderate and High proficiency skills in English, their proficiency played a significant role in their children's usage as we have seen with Family Family A (Ahmed and Amily) and Family E (Ebaa' and Esraa'). The parents in these two families gave their children the excuse to use English at home and to code switched between IA and English, as the children knew their parents would understand them. This eventually led the children to shift completely to English as was the situation with Family A.

### 5.2.1.3 Attitudes

According to the parents, Arabic is not only a means of communication but it is the only way parents can transmit, maintain and reflect their culture and tradition and most importantly it is the language of their religion. The concept of raising a bilingual child is well understood by all the parents in our study but it is the society they live in and the consequence of their children learning another dominant language that worried some parents, especially the myths about being a bilingual with regard to: delaying their first language acquisition; their children mixing the two languages, and also the concern that that it will negatively affect their development and personality as they will be stuck between two different cultures and traditions; they will be unbalanced in that they will prefer to use the dominant language, which will in turn attract them to the majority culture and by doing this, their children will lose their identity and might lose their traditions and their religion.

Ridha's (2015) study on bilingual Iraqi Arabic-Swedish bilingual children living in Sweden between the ages of 5 to 7 said that Iraqi families in Sweden "used their Arabic mother tongue as a safety valve or as a procedure to preserve their Iraqi Arab identity by avoiding an unbalanced bilingualism which can lead to an unbalanced integration (assimilation) into Swedish society" (p. 35). The same is true for the families in the current study. Across the six families, the attitudes some parents had towards their new society had a very significant influence on maintaining IA. Two different opinions and attitudes were formed by the parents; some parents, e.g. Family D (Danyal and Dana) and Family E (Ebaa' and Esraa'), reported that it was hard for them to adjust to the new environment and culture and felt that they did not have full control over their children as soon as they started school and as a consequence, they preferred not to extend their relationships with other non-Iraqi children. They kept their contacts within the Iraqi community and even within this community, they kept their relationships on formal levels with occasional visits either to celebrate religious festivals or if they were invited

for lunch or dinner. The parents in these two families reported in their parents' questionnaires that the more they lived in the UK and mixed with English society in addition to their children's preference for using English (especially the youngest ones) the more they would lose their IA. The other four families, however, had a very different attitude and were excited for their children to be engaged in and be part of the new environment. They were keen to be integrated socially and they had friends and relationships with other non-Arabic speakers.

Besides, the attitudes of the families towards their heritage language, religion and identity as core values positively correlate with high proficiency in IA and had a very significant influence on maintaining it. Some of the parents believed that religion has a strong positive effect on the maintenance of a language, and they made a direct connection between 'Arabic' and 'Islam'. Some parents would teach their children Quranic verses on daily basis. Indeed, the children of these families showed higher rate of maintenance of IA at home.

Some of the families made both an implicit and explicit commitment to maintain IA, for example Families D (Danyal and Dana) and E (Ebaa' and Esraa'). The parents of these two families mentioned that they read Arabic books with their children or at least read them to them and they practiced writing. Optiz (2011) emphasized the importance of literacy in the heritage language. She states:

...L1 literacy skills ...prevent language shift, language attrition, and language death, partially because of the impact that learning a written code has for the perceived status of the language and partially because of its role in further "fixing" the corresponding language in the brain. This provides a further dispute as to why L1 attrition in very young children (up until the age of 8 or 9) should be far greater than in older children or adults.

Optiz (2011: 241)

Some parents believed that it is their responsibility to maintain their children's IA and it is their responsibility to ensure they kept on using it and that their children needed motivation in order to achieve this. Some of the children received oral input and interaction while others had to practice writing too.

The parents in this study shared similar positive attitudes towards raising their children as bilinguals, but some felt that their efforts are useless in certain ways since the children “will inevitably lose Arabic”. They also believed that the continuous encouragement of their children to use IA is a very important factor in prompting them to use it at home since by encouraging them they are likely to form a positive attitude towards their heritage language.

As for the children’s attitudes, there is a strong correlation between their attitudes and their low proficiency in IA as in the case of Family A (Ahmed and Amily) and Family B (Bader and Bedour). Ahmed and Bader’s negative attitudes towards using IA in their daily speech had a major impact on their use of IA and on their sisters’ preferences too, as well as on the families’ language choices at home. While positive attitudes towards IA resulted in more frequent use of the language at home and consequently in more correct responses; Family D is a case in point; their children (Danyal and Dana).

#### **5.2.1.4 Siblings and peers**

Parents are not the only source of children’s language input at home. The effect of siblings and birth order are also important as it has been observed that with heritage languages older children are usually more proficient than their siblings and they usually lead the shift in language use and input inside their homes. They are the source of increased societal language use within the home domain (Bridges & Hoff 2014). The turning point for the families in our study was when their older children were exposed to an English-speaking environment and they started school and therefore spent more time with English-speaking peers.

The influence of some of the older siblings in this study was a major factor in shifting to the majority language. They learned the majority language and they brought it home, they led the change in the home language policy and they shifted it. In addition, the children who had older siblings, had advanced vocabulary and other linguistic skills, which is in line with the

findings in other studies, e.g. Zukow-Goldring (2002) and Bridges & Hoff (2014). In Bridges & Hoff's (2014) study, the younger children without school-aged siblings were more advanced in Spanish than they were in English, while the younger children with school-aged siblings were more advanced in English than they were in Spanish. In the current study, for instance in Family E, the use of English mostly by the older siblings prompted the younger son also to use English predominantly.

Input from other children was also available from peers in the form of friends and classmates. Peers may be a useful and important source of input in both the home and societal language (Jia & Fuse, 2007) and in our study peers and classmate interactions were important sources of the English language; even if their friends knew Arabic, they never used it and preferred to communicate using English.

## **5.2.2 Bilinguals' language use**

An important factor in bilinguals' language experience/knowledge and amount of exposure is their language use - the active use of the language. Bilingual children vary in their language use and knowledge due to their language experiences, which in turn vary in terms of both the quality and quantity of their input. Bohman et al (2010) emphasize the importance of this factor when they suggest that "using a language forces the learner to process the language in a way that only hearing it does not" (p. 339). The active use of a language is an important factor in shaping the bilingual language experience. There are several studies that emphasise the strong correlation between the active use of language and children's development in that language, e.g. Hammer et al. 2012; Driessen et al. 2002; Unsworth 2013; Gathercole & Thomas 2009 and Montrul 2008. Due to the importance of the actual use of a language, in addition to language input, questionnaires and observations were used in this study in order to obtain the relevant information.

The current study found that the children who used IA more consistently in the home domain made less errors in BP formation than the children who used it less often. As illustrated in Table 4. 4, Family D (Danyal and Dana) who use IA in all home domains scored (28/236). By comparison, Family A (Ahmed and Amily) who rarely use IA scored (417/424).

With regards to the outcome of the children's expressive vocabulary, it differed from one child to another depending on their parents' language use. De Houwer's (2007) study of 6 to 11 year-old bilingual children found that children who had two parents who spoke a minority language were more likely to be bilingual in that language and Dutch than children who heard the minority language from only one of their parents. The same was reported by Place & Hoff, (2011); they found that children with two native Spanish-speaking parents heard more Spanish at home and their Spanish skills were much more advanced than children with one native English-speaking parent and one native Spanish-speaking parent. Hoff et al. (2012) also found that bilingual English/Spanish children between the age of 22 and 48 months growing up in families with 'one parent, one language', English usage at home was a positive predictor of English expressive vocabulary skills while it was a weak and non-significant predictor of Spanish vocabulary, but in families with two Spanish-speaking parents, English use at home was a weak and non-significant predictor for English vocabulary and a strong predictor for Spanish vocabulary. Our study is in line with the above studies in finding that children's vocabulary with parents who mainly use IA in their direct speech to their children as in the case of Family D (Danyal and Dana) is much more advanced than with children whose parents mixed the two languages as in the case of Family A (Ahmed and Amily) or when one parent used the majority language as in the case of Family C (Caram).

In this study, bilingual children's incorrect responses were due to their incomplete acquisition of IA and to the shift of some of them to English, which was in turn due to not using IA in the home domain. Silva-Corvalan (2003) claimed that the incorrect responses in her study

are signs of language attrition and loss after studying the acquisition of the Spanish tense-modality-aspect system with seven bilingual children. She mentioned that in two cases there were signs of language attrition and loss and no sign of incomplete acquisition and she based her claim on the fact that two of the seven children in her longitudinal study at the age of 5.1 to 5.6 failed to produce some Spanish tense forms which they had used earlier, at ages 3.0 to 3.3. For these two children, one of them was raised bilingually up to age 3; after that, the home language was English and until the age of 5, and his exposure to Spanish was limited to only 3-4 hours per week and the other child's exposure to Spanish was less than two hours per week. She also claimed that by the age of 5.1 to 5.6, they have acquired a simplified system compared to monolingual children and other bilingual children who received more Spanish input, so in addition to the incomplete acquisition, they both underwent attrition during the two years and their competence was waning because of the shift in their input to the majority language.

### **5.2.3 Children's age at arrival/testing and the duration of living in the UK**

The age of the bilingual children is very important as young bilinguals are expected to shift as soon as they start nursery/schools. In this study all the bilingual children, except Fay, were young when they immigrated to the UK. They were all still in the process of acquiring their first language when it was interrupted by the acquisition of the second language, so we have cases of incomplete first language acquisition (Schmid, 2013). Fay was the only child who arrived at the age of 12.7 while the others arrived between the ages 2.4 and 8; Caram was the youngest bilingual child as he arrived at the age of 2.4. He was the only child in this study who insisted on using the English plural suffix in his production of the BP forms; Amily and Dana arrived at the ages of 3.1 and 3.9 consecutively and they were in the processes of acquiring the basic knowledge of Iraqi Arabic; Ahmed, Bedour and Furaat arrived at the ages of 4.6, 4.4 and 5.7 consecutively and they were using their basic knowledge of IA as fluently as expected of a monolingual child. Esraa', Bader, Danyal and Ebaa' arrived at the ages of 6, 7.9, 7.9 and 8

consecutively and they were all in the process of mastering at least basic IA before they started to acquire their second language. Studies on children's language attrition (Kopke & Schmid, 2004, Schmitt, 2010) agreed that younger children have a lower chance of maintaining their heritage language if it was still in the process and not fully acquired yet, in comparison with older children who have a basic mastery of at least their spoken language before being introduced to their new language. Seliger (1996) defined language attrition as:

The temporary or permanent loss of language ability as reflected in a speaker's performance or in his or her inability to make grammaticality judgments that would be consistent with native speaker monolinguals of the same age and stage of language development.

Seliger (1996: 616)

This means that a certain structure in a language reaches full mastery before deteriorating or consequently being lost after years of not being used or because of reduced input. In Iraqi Arabic, the broken plural is used in everyday situations; children hear it from everyone around them and use it without proper education or even without being taught that this is the plural form. As we have seen in chapter 4 (section 4. 3, Table 4. 3) monolingual children's incorrect responses decrease as they grow older and expand their vocabulary and lexical knowledge and it is around the age of eleven when most of their errors fall under 'regularization of the BP' which is due to the presence of these words in their input though they are still have not mastered it yet. As for the bilingual children, the situation was completely different: their correct responses did not increase as they got older which means age did not play a significant role as did with monolinguals, in addition to the fact that some older bilingual performance - with regard to the correct versus incorrect in addition to the repair strategies they used - were higher than some younger bilinguals as we have seen in chapter 4 (section 4. 3, Table 4. 4) and these results are in line with the study by Song et al. (1997).

So, age for monolinguals played a significant role and there is a strong correlation between age and the adult-like responses they produced but this correlation is lost with bilingual children. Each child presented his own unique way of producing the BP forms. There is also a

correlation between the monolinguals' ages and the repair strategies they used, as the errors of young monolinguals were mostly overgeneralising the SFP marker, dual markers, repetition/singular forms, using SMP markers and irregularising the BP and as they grow older - around the age of eleven most of their errors were irregularising the BP, but again there is no correlation between bilingual children's age and the repair strategies they used: they all used different sorts of repair strategies even the older ones.

With regard to the gender of the bilingual children, we did not see any considerable influence on their repair strategies. We had seven boys and five girls between the ages of 7 and 15 years old. They all produced different repair strategies with different frequencies and there is no correlation between their gender and the strategies used.

Another important factor is the length of living in the UK. For some families there is a strong correlation between the years they lived in the UK, their children's age at the time of testing and their overall language preference. The younger the age of onset and the more they lived in the UK the more they shifted to the English language (see Table 2. 2), for example Family A (Ahmad and Amily) were living in the UK for four years and three months, and their children's age upon arrival was 4.6 for Ahmad and 3.1 for Amily. At the time of recording, Ahmed's age was 8.9 and his sister's age was 7.4 and they both preferred to use English. Both of them show the highest incorrect responses (see Table 4. 4): Ahmad's total incorrect were 417 out of 437, and as for his sister, her total incorrect was 424. They both shifted their family language policy towards English and they both had a major effect on their younger brother's language preferences too - they were all receptive passive bilinguals. The same is true for Family B (Bader and Bedour). They had been living in the UK for 6 years and 3 months. Bedour was 4.4 and her brother was 7.9 when they arrived. At the time of recordings, Bader's was 14.2 and his sister was 10.7 and they both preferred to use English. Bedour's total incorrect was 319 while her brother's was 186. And like Family A, they both shifted their family language policy

towards English and they were all receptive passive bilinguals. The same situation applies to Family C (Caram): they had lived in the UK for five years and Caram's age when they arrived was 2.4. At the time of recordings, he was 7.4 years old, never used IA, preferred English and was a passive receptive bilingual. He was the only child in this study who insisted on using English plural suffixation by attaching it to the singular IA words. As for Family F, in spite of them living in the UK for two years and five months, both of their children showed a high frequency of incorrect answers because of their ages when they arrived: Furaat was 5.7 and Fay was 12.7 when they arrived. Their ages at the time of recordings were 8.2 and 15.2. Furaat's total incorrect was 316 out of the total 437 and Fay's total incorrect was 53 out of 437.

As for the other two families, D and E, the situation is completely different. Family D restricted their use to IA, and this restriction had a major impact upon their children's overall accuracy compared to other bilinguals. Danyal's family lived in the UK for three years and five months. His age when they arrived was 7.9 and his sister's age was 3.9. At the time of recording his was 11.4 and his sister was 7.4 and his total incorrect was 28 out of 437 and for his sister it was 236. As for Family E, they had lived in the UK for 3 years and 3 months. Ebaa' was 8 when he arrived and his sister Esraa' was 6 years old and at the time of recording his age was 11.3 and his sister was 9.3. Ebaa''s total incorrect was 160 out of 437 and for his sister it was 313. During the first year of their arrival, Ebaa' and his sister underwent a shift towards English at home. This shift had a major impact as we have seen on their production of the BP forms and the use of their repair strategies.

### **5.3 Discussion**

Research into bilingualism and language attrition studies have suggested that due to unbalanced inputs/use and changes in language domains/preferences, one language (usually the heritage/first) language might undergo attrition (Kopke et al., 2007). All the children of these six

families were increasingly exposed to the English language through schooling and peer interaction, and in some families in their home domain, which increased the risks of shifting towards English and where IA became latent.

All the parents faced a major struggle to maintain and transmit IA and although these families differ from each other, they all share the same attitude about their heritage language being part of their identity, tradition and culture. Based on the questionnaire data, parents know they need to preserve IA and pass it on to their children. They know the practical advantages of two languages such as better employment opportunities, positive self-identity, and being a bilingual may promote their acceptance of both the majority culture and their heritage culture. Parents know the importance of the direct language used with their children as the family is “the primary socialization unit” (De Houwer 2009: 7).

All the parents in our study were keen for their children to be bilingual and to maintain their IA but only two families (D and E) made practical and active choices to make sure they can maintain it and encouraged their children to use IA as their dominant language at home. When the parents know that the only way for their children to learn and maintain their IA is through them, they create the proper language environment to do so as their children will learn English naturally and when they start school. They exposed their children to Iraqi culture and language, they kept using IA exclusively with them and enriching their vocabulary by mainly watching Iraqi channels. By watching these channels parents could ensure not only the maintenance of their language but also the enrichment of their vocabulary and lexical knowledge. They also used other strategies like refusing to answer their children if they did not use IA; they repeated the words or sentences in IA so their children can repeat it too which will increase their children’s chances of becoming active bilinguals and not only receptive ones which in turn will increase their proficiency in using IA (Montrul 2008). They also maintained frequent contact with relatives, as by increasing the number of the speakers who use the heritage language they

would increase their skills too (Place & Hoff 2011). In addition to regular and extended visits to Baghdad, most importantly they taught their children Arabic by using Iraqi curriculum books they brought with them, which might explain the production of some MSA words, because the use of books explains the presence of these words. Other bilinguals for example, Ahmed and his sister Amily, never produced MSA words because they never had any MSA input. Another technique used by two families (D and E) is to decrease socialisation outside their household in favour of time spent at home, i.e. allocate more time to the domain in which the children were more likely to interact in and be exposed to IA.

However, this was not the case for the other four families, for example Family C, (Caram's family) did not realize that their policies contributed so much to his knowledge of the English language. His ability increased over time but at the same time his knowledge of the basic structure of IA decreased. It was not until they returned to Baghdad that they noticed it, and he could not join any public school as he failed all the assessment tests and none of the public schools accepted him in Year 3 –where he should have been, so the only option for his family was to register him in a private school where he was placed in Year 1 to start learning the basic Arabic alphabet. As for the other three families, it is true that they did not teach IA but they used different policies to ensure the continuity of it, in that their children could at least still hear it at home, for example when parents used it with family members and relatives or with their children (even when they answered back in English) and watching Arabic or Iraqi channels; all these are primary ways in which each family tried to maintain the language.

The results of this study agree with other studies that show how common it is for young children in minority/heritage communities to shift/lose their family language. This often has a negative impact on family relations as we have seen with Family B when their son Bader spent most of his time with his English friends or in his bedroom chatting/gaming with his friends and rarely spent time with his family. The other negative impact was when other bilingual children -

Ahmed, Amily and Caram - were unable to communicate with extended family members who could not understand them unless their parents translated everything. Some bilinguals - Furaat, Bader and his sister Bedour - needed their parents to explain some words or expressions.

This study also shows that when parents communicated with their children mostly in IA, as with Family D, their children Danyal and Dana, used fewer rudimentary semantic strategies in their production of the BP words, they made fewer hybrid types of errors in forming the BP (random patterns, singular) while Ebaa' and Esraa' 'Family E' applied numerous word formation processes in addition to these hybrid types of errors due to shifting to English. But children who used mostly English in their home domain relied heavily and incorrectly on a limited number of repair strategies for example like overgeneralising the SFP marker.

Rothman (2007) also mentioned that in addition to the reduced input in IA, the bilingual children might have also received different variants of IA from their parents as they might also have been under the pressure of language attrition which might have led to changes in the language children heard from their parents. This was obvious in the erroneous patterns some bilingual females used in their production of the BP words, which were also used by their children like with Family B (Bader and Bedour) when their mother Batool used erroneous patterns like 'singular' and irregularised BP templates which were also used by her children; Family E (Ebaa' and Esraa') when their mother Enaas used 'singular' and overgeneralised SFP; Family F (Fay and Furaat) when their mother Fatin also used 'singular' and overgeneralised SFP and as with other bilingual female adults when they used erroneous patterns which were also being favoured by bilingual children.

The findings indicate that it is important for parents to provide different communication opportunities for their children to practise and use IA on a daily basis, as the more they hear and know new words from different input sources the more they adjust their own usage to imitate

others' speech around them and the more they learn/use it and expand their lexical knowledge. The frequency of the forms used in direct speech to the children and in their daily use appears to be one factor in shaping the path each child follows during their acquisition. It is crucial for families to keep on speaking and using IA, to be persistent and consistent and they need to ensure that they can retain their abilities to use IA, as when bilingual children know that they need their first language to maintain and keep interacting with other family members and relatives this will encourage them. A lack of bilingual competence in the heritage language will create a gap between the children and their extended families, which will lead to misunderstanding and failure to communicate at all (Montrul 2008).

I also noted that older siblings scored much better in their correct responses than their younger brothers and sisters, probably due to the fact that their parents used IA more with them and they had more input in IA than their younger siblings, while generally speaking most of the children used mixed IA and English with their parents. Nonetheless, they all used English exclusively with their younger siblings, which deprived them of an important input source.

Another important finding from the children's cases is that some of them have the linguistic competence and the lexical knowledge, and they know the basic structure of their language, which means they were able to produce correct IA BP forms as in the cases of Danyal, his sister Dana, and Fay, while others showed some deterioration to different degrees in their lexical knowledge (knowing the meaning of the words) as in the cases of Bader and his sister Bedour, Furaat, Ebaa' and his sister Esraa', and Ahmed and his sister Amily. In addition to the above, five of these children are receptive bilinguals - to a different degree - as in the case of Caram, Amily and her brother Ahmed and Bedour and her brother Bader. They used to use IA but as soon as they started school and grew older they felt less confident in using their IA and gradually they began to use English at home even without the parents realising, and it became their home language.

Home language policies and the parents' attitudes, in addition to the richness of the input, played a crucial role in maintaining IA. This language environment will definitely prevent attrition to a certain degree and as Weltens & Grendel (1993) emphasised that the language is:

.... constantly activated to some degree, and perhaps just enough to become fully reactivated as soon as some real conscious use of the language is made. In such a case, the whole system may become rapidly available and little or no traces of attrition will be found.

Weltens & Grendel (1993: 148)

The vital stage for these families seems to be when their children started school/nursery, spent more time with their peers, got more exposure to English and got used to it as their main language of communication outside their home. This is the time when it is important for parents to stay alert and be persistent, consistent and continue speaking and using the language they have used with their children since they were young and this is the point when children need a lot of support from their parents to ensure that they will retain their ability to communicate in the family language.

Research addressing the innovative linguistic patterns represented by heritage speakers suggest it might be a result of incomplete/interrupted heritage language acquisition due to the insufficient input and use when they moved to the second environment, which means they immigrated before they reached the age appropriate level to acquire it or they were still in the process of acquiring it, as we have seen with all the bilingual children. They underwent delays in their first language acquisition, since they were at a younger age when their L1 acquisition was interrupted. If we look at Families A, B and C, their children lost their productive abilities and their lexical knowledge when their language input, use and preferences were predominantly in English (at the time when the test was done) and the deterioration of these abilities might lead to language loss. But with the female adults living in the UK (group II) we might have the first signs of attrition as they have reached age appropriate levels/proficiencies and then it decreased. Other reason for these innovative linguistic patterns might be because these children never had

proper schooling, as when they do not receive it their heritage language development will lag behind, as (Montrul, 2012) describes:

Consequently, typical outcomes of the heritage language acquisition process by the time these children reach early adulthood are non-native like competence and use of the language, better ability with receptive than productive language, non-uniform levels of proficiency and linguistic gaps.

(Montrul 2012: 6)

Or simply bilingual children used these innovative repair strategies because it is in their parental input and this in turn forced them to reconstruct and reanalyze the form and produce it in the way they did.

We must bear in mind the question of whether the ‘broken plural’ was or was not part of bilinguals’ “grammar at a specific point in development time” as has been illustrated by Carroll & Meisel (2015: 9) when they pointed out that there are two conditions to be met when claims about insufficient exposure might be caused by incomplete acquisitions. The first one is whether the BP was part of the providers’ language - from different inputs, for example parents, relatives, media - and whether it was part of the child’s language at certain times. From the observations, we know that this type of word formation was provided and was available in their input, but it was not processed at all or it was not processed in a native-like way. Since we know that with experience and increased IA input, children learn the BP, as we have seen in monolingual development, but for bilinguals it seems that each bilingual adopted this process and adapted it according to his/her own language experience. All bilingual children used what they already know about IA and used it to construct the broken plural forms.

## Chapter 6

## Conclusion

In this study, I explored bilingual Iraqi Arabic-English children's acquisition of the BP plural and the social factors behind their linguistic behaviours. Regarding the monolingual children, their developmental path is in line with other studies like Omar (1973), Ravid & Farah (1999, 2009), Ravid & Hayek (2003), Danna (2009) and Aljenaie et al. (2010) in that the default plural SFP is overgeneralised; children apply SMP when they know that they cannot use SFP; BP templates are irregularised and most of their errors do fall into one of the pre-existing broken plural templates, rather than being entirely erroneous (random patterns). Young children's input comes primarily from their parents and the more they hear certain constructions, the more they use them and build up other words. As they grow up they start to learn the irregular plural spontaneously as they expand their vocabulary. For bilingual children, this general pattern is disrupted by individual performances, as each one of them used what he/she has stored in his/her memory in the way he/she thought was correct. As BP was being reanalysed by these bilinguals, there is a great possibility that the whole plural formation system will experience changes too for the existing generation and next generations.

The findings from this study can be summarised as follows:

- Regarding monolingual and bilingual children's correct versus incorrect, recall Tables 4.3 and 4.4 'groups method', age plays a significant role for the monolingual children. There is a developmental path starting from age 7 with 90% correct responses and ending at age 12 where overall correctness across all ages increased as they got older, which shows that this might be the age where full acquisition of the BP is achieved by monolingual Iraqi children. As for bilingual children the picture is completely different, as each child is unique in his/her production, each child seems to follow his/her idiosyncratic own strategy

and there is no correlation between their ages and correct responses. In addition, some older bilingual children's overall correctness is less than other younger bilinguals so there must be other cumulative factors behind the bilinguals' behaviour. In other words, 'age' seems to play a role in the monolingual group, but in the case of the bilingual group other factors affect their acquisition process.

- As for the 'within-subject' method, the qualitative analyses of the incorrect data showed that bilingual children diverged from their age-matched peers in the quantity and quality of their repair strategies and their distribution across strategies. In essence, there are qualitatively common repair strategies that are shared by the two groups but the quantity 'frequency' was higher for the bilinguals. Also, bilinguals used innovative strategies in their formation, making hybrid types of errors when they applied numerous processes in forming the BP. Monolinguals hardly violated the plural formation rules but for bilinguals, with very few exceptions, they did, as in the case of associating the feminine marker with masculine nouns, which shows that they do not have a good command of the gender category. In addition to this we can see that the pragmatic competence of some bilinguals was affected too when they produced incorrect lexical words different in meaning from the ones being asked, which in most cases produced nonsense words. Bilinguals produced more nonsense words when they applied their repair strategies in comparison to monolingual younger children, and older ones never produced nonsense words.
- The general implication is that bilinguals fall into two groups: less proficient and more proficient. The less proficient ones have fewer language inputs and they tend to use a small set of repair strategies. They rely heavily and erroneously on these sets for two reasons: they do not know other variants of the plural morphemes and nor do they know how the plural formation works in IA. Meanwhile, the other group relied on a wider variety of repair strategies, maybe because they know more about plural formation but

they have lost the associations between the singular form and their corresponding plural forms due to the limited use of IA. Monolinguals employed morphological markings, while bilinguals used non-morphological ones when they employed ‘rudimentary semantic strategies’ as their repair strategies. Their ‘random patterns’ are merely innovations and they accommodate and utilize whatever inputs are stored in their memory to form the BP. As a result they produced nonsense words and some even violated the grammatical plural formation category.

- With regard to the adult speakers (group II), the variability in the number of errors in the data were further clarified by referring to the questionnaire data, particularly the data pertaining to the speakers’ English language proficiency and domain of usage of L1 (Arabic) and L2 (English) as these speakers used the two languages differently in their daily lives. There is a correlation between the number of errors on the one hand and the patterns and the domain of usage of L1/L2 and the proficiency in L2 on the other. For instance, as demonstrated in Table 4. 2 (p. 62) we notice that Deema who used L1 in all domains exclusively, and who rated her English proficiency as low, makes no errors at all; while the highest number of errors were committed by those speakers who used L2 more often, and rated their English proficiency as ‘high’. In addition, some correlation between the length of stay in the UK and the number of errors committed was noticed, such that the speakers who have lived in the UK longest (Sama and Mayy) are the ones with the highest number of errors. Most of their strategies were overgeneralising the SFP and a non-morphological strategy-the repetition of the target word/singular. The occurrence of the non-morphological strategy could be an indication that they avoided all plural formation forms because they know they cannot use them and they cannot remember the correct forms so this is their safest option together with irregularising  $BP \rightarrow BP$  templates. The line of analysis regarding SFP lends support to Daana’s (2009) finding where adults in her

study used this pattern in their plural formation with nonsense-words (in 59% of the cases); she maintains that this was their favourite repair strategy. Additionally, the findings regarding this marker support propositions made by Holes (1995) and Mashaqba & Huneety (2017) that the sound feminine plural (SFP) is the default plural pattern in spoken Arabic varieties. In addition to using the above strategies, these speakers show signs of language attrition. The linguistic behaviour of the adults indicates that they still have the plural formation knowledge but the disuse of IA in most domains resulted in some words having lower accessibility and their linguistic behaviour might have been influenced by the fact that once information is acquired it will exist in the memory but when it is not being used, it will be hard to access. These adults have shown the first stages of attrition when it took them longer to remember and retrieve the required form. For some of them, this form might be inaccessible ‘temporarily’ so they produce the forms they can remember, while for others, they could retrieve the correct form. Most of them were able to recognize some words but were unable to produce the correct forms, which supports the suggestion by Cohen (1989); Russell (1999) and Bardovi-Harling & Stinger (2013) that the speed of the retrieval/recalling process is much more affected than the correctness of the word. I therefore argue that when adults show signs of attrition, it might not be because the words are lost in their memories but because they are blocked by other interfering elements which prevent them from producing the desired forms, or maybe because they did not have enough time to recall all the forms, as was mentioned in Welten’s (1988) ‘retrieval failure’ theory. I expected these adults to perform better and more like monolingual female adults on the basis that they have acquired this form and they have mastered it way before they migrated to the UK. However, this was not the case.

- There is a strong correlation between the repair strategies used by the children and the social factors. The development of vocabulary and the BP formation were affected by

internal and external factors. The intensive use of English in most domains for most of the families had major consequences on the bilingual shift towards English and in lowering their chances of maintaining IA as they were almost entirely immersed in English. Studies in bilingual language acquisition stress the importance of linking the quantitative and qualitative variables together with the children's language experience and development and the findings in this study confirm that such correlation does exist between the bilingual children's linguistic behaviour and their social factors. This study took into consideration the quantity and quality of children's exposure to each language, the richness of their inputs from different sources and the active use of the language by each child, as this factor correlates significantly in shaping up bilinguals language experience as has been proved by studies like Hammer et al (2012); Driessen et al (2002); Unsworth (2013); Gathercole & Thomas (2009); for instance, in the case of Family E (Ebaa' and Esraa') the parents provided enough input to trigger the reverse of language shift. In the case of Family D (Danyal and Dana), the mother used IA at home exclusively.

Furthermore, in families who used IA most of the time, the number and nature of the errors committed by the children were comparable to those made by the younger monolingual children. Each bilingual child was an individual case, and the rate of acquisition of IA between and amongst them was different, depending on differences in their input, which affected their usage. In addition, each child's language path was shaped by his/her adult's directed speech and the frequency of the forms their parents produced on a daily base. The more they hear, the more they learn how to imitate adults' speech and adjust their own speech to sound like adults. In terms of child-directed input, the amount of parents' direct speech in IA varied considerably across families; that is, there were families where both parents addressed their children either mainly in IA, as in Family D, or they mixed the two languages together as in the other families. In addition, when

parents used IA when speaking directly to their children, they used simplified, uncomplicated expressions and sentences, which might contribute to their children's limited lexical knowledge.

- Bilinguals whose overall production was like their monolingual counterparts came from families who maintained IA by using it in almost all domains, like in the case of Family D, without long interruption and who implemented strategies to preserve their IA-strictly using it in the home domain, home-schooling the children, using Arabic literacy materials and most importantly they established and maintained permanent contacts with relatives and extended family members, which created a strong bond with the language and culture. Bilinguals with less/restricted input to no input in IA tended to rely on fewer repair strategies, and they were less proficient and less competent in IA. The children who used IA more consistently in the home domain made less errors in BP formation than the children who used it less often. For instance, Danyal and Dana who used IA in all home domains used fewer rudimentary semantic strategies in their production of the BP words, made fewer hybrid types of errors in forming the BP (random patterns, singular); in comparison to Ahmed and Amily-rarely used IA- who relied heavily and incorrectly on a limited number of repair strategies, e.g. overgeneralising the SFP marker. Furthermore, there is an obvious correlation between the frequency of the adults' input of particular features and their children's usage; all bilinguals, in spite of their age differences, preferred the SFP marker as a repair strategy, which was also the favourite repair strategy by the adults. The erroneous patterns some adults used in their production of the BP words were also used by their children (cf. Rothman 2007).
- Across all families, another crucial factor that significantly affected the maintenance of IA was the parents' proficiency in English - especially the mother's (though in Caram's case it was his father). The limited proficiency in English - in some families - was an important

factor in making them use Arabic, which confirms findings in previous research e.g. Kleifgen et al's (1986) and Chondrogianni & Marinis (2011). Additionally, when children noticed that their parents did not know English they used it as the norm as we have seen with Family D, for instance. As for the parents who had moderate and high proficiency skills in English, their proficiency played a significant role in their children's usage as we have seen with Family A, which eventually led the children to shift completely to English.

- There is a strong correlation between the children's attitudes and their low proficiency in IA as in the case of Family A and Family B. Ahmed and Bader's negative attitudes towards using IA in their daily speech had a major impact on their use of IA and on their sisters' preferences too, as well as on the families' language choices at home. While positive attitudes towards IA resulted in more frequent use of the language at home and consequently in more correct responses-Family D is a case in point. Throughout my observation, some bilinguals' attitudes towards IA changed, as at the beginning of the observation period, they were keen to communicate with their relatives but due to the fact that English had become their favourite and dominant language, they became unwilling to communicate, and they could not produce a complete sentence in IA without asking their parents for help, which might also explain their preference towards using English so that they could conceal their weaknesses in Arabic (cf. Fishman 1972). In addition, parents' consistent encouragement of their children to use Arabic at home is very important to help them form a positive opinion about it. Fishman's 1989 resolution or scenario 3 - the interaction of two separate languages- can best describe the situation in Family D as the parents' policies, parent's attitudes as well as their children's attitudes all contributed towards maintaining IA. They were the only family who used the same policy in maintaining IA in the home domain, they valued IA as an identity and cultural core value and as a result they conserved their ethnic language. As for the other families, Fishman's

scenario 1 (see §3. 1) best describe the linguistic behaviour in these families. In addition, Fase et al. 1992 proposed scenarios for language loss (§3. 1), the first scenario can best describe Family D, as the parents restricted their communication with others and kept their relation on formal levels to avoid any interaction that may affect their children's linguistic behaviour and language preference. As for the other families, scenario 4 best describe the language environment in these families, where English was used consciously and unconsciously by all family members in their interactions.

- An important factor in language shift is older siblings. Findings regarding the effect of this factor are contradictory, as it might be a significant one in language maintenance and shift or an insignificant one. In this study, this factor is an important one as one of the main sources of shift in the families was older siblings - except for Caram- as they acquired English naturally through school, daily exposure and they brought it home. By doing so they exposed not only their younger siblings but also their parents and they were the main source of the shift in the family domain. This finding is in line with other studies that heritage language use in the home domain is less likely to be maintained when children enter school and bring their English experience home. I also noted that older siblings scored much better in their correct responses than their younger brothers and sisters, probably due to the fact that their parents used IA more frequently with them and therefore they had more input in IA than their younger siblings, while generally speaking most of the children used mixed IA and English with their parents. Nonetheless, they all used English exclusively with their younger siblings, which deprived them of an important input source.
- The age of the bilingual children when they immigrated to the UK is very important. The findings of this study agree with other studies on children's language attrition (Kopke & Schmid, 2004; Schmitt, 2010) that younger children have a lower chance of maintaining

their heritage language if it was still in the process of being acquired but not fully acquired yet, in comparison with older children who have a basic mastery of at least their spoken language before being introduced to their new language. The bilingual children in this study were all still in the process of acquiring IA when their acquisition was interrupted by the acquisition of English, so we have cases of incomplete first language acquisition. This often has a negative impact on family relations as we have seen with Family B when their son Bader spent most of his time with his English friends or in his bedroom chatting/gaming with his friends and rarely spent time with his family. The other negative impact was when other bilingual children - Ahmed, Amily and Caram - were unable to communicate with extended family members who could not understand them unless their parents translated everything, some bilinguals - Furaat, Bader and his sister Bedour - needed their parents to explain some words or expressions and this created a gap, which might lead to misunderstanding and failure to communicate at all. In addition to their young age, another important factor is the length of living in the UK. For some families there is a strong correlation between the years they lived in the UK, their children's age at the time of testing and their overall language preference. The younger the age of onset and the longer they lived in the UK the more they shifted to English as in the case of Family A.

- Reduced input in IA delayed language acquisition in the bilingual children in comparison to monolinguals of the same age which is in line with Flores & Barbosa's (2014) study that bilinguals went through the same acquisition stages as monolinguals but it took them longer to reach the target form when they used all of the repair strategies used by younger monolinguals - in addition to using other repair strategies which were only used by bilinguals - to produce the target form. But our results contradict Houwer's (2014) finding that there is not any empirical support that the amount of input is necessarily reduced for

bilinguals as compared to monolingual children. This study also supports the claim by Unsworth (2016) that bilingual acquisition is like monolingual acquisition - it is affected by factors like the frequency of the token and the type- and since bilingual children's knowledge and development is split between two languages, the impact of these factors is greater as when input in the heritage language is reduced, this will subsequently affect the child's competence.

- So a bilingual's behaviour is a result of incomplete acquisition, in the sense that their acquisition of IA was interrupted - except for Caram's case - and some of them deteriorated due to the lack of IA input and use. This study is in line with other studies like Bolonyai's (2007) and Zaretsky et al (2013) on bilingual children's acquisition, which shows delays in the acquisition of the grammatical inflections, which in turn leads to incomplete acquisition of the heritage language. Research addressing the innovative linguistic patterns represented by heritage speakers suggest it might be a result of incomplete/interrupted heritage language acquisition due to the insufficient input and use when they moved to the second environment, which means they immigrated before they reached the age appropriate level to acquire it or they were still in the process of acquiring it and they underwent delays in their first language acquisition. If we look at Families A, B and C, their children lost their productive abilities and their lexical knowledge when their language input, use and preferences were predominantly in English (at the time when the test was done). Another reasons for these innovative linguistic patterns might be because these children never had proper schooling or simply bilingual children used these innovative repair strategies because it is in their parental input – as we have discussed earlier- and this in turn forced them to reconstruct and reanalyse the form and produce it in the way they did.
- The differences in the quantity and quality of the input affected not only the vocabulary

but also the acquisition rates of morphosyntactic knowledge and the acquisition of some complex linguistic properties especially with limited input, as showed in studies like Song et al, (1997) and Thomas et al's (2014). When analysing the findings from each child's case, we noticed that some of them have the linguistic competence and the lexical knowledge, and they know the basic structure of their language, which means they were able to produce correct IA BP forms, as in the cases of Danyal, his sister Dana, and Fay, while others showed some deterioration to different degrees in their lexical knowledge (knowing the meaning of the words) as in the cases of Bader and his sister Bedour, Furaat, Ebaa' and his sister Esraa', and Ahmed and his sister Amily. The dramatically reduced access to IA in some of these families had a major effect on the acquisition of BP as in family A.

- Additionally, five of the bilingual children are receptive bilinguals - to different degrees - as in the case of Caram, Amily and her brother Ahmed and Bedour and her brother Bader. They used to use IA but as soon as they started school and grew older they felt less confident in using their IA and gradually they began to use English at home even without the parents realising; English eventually became their home language. In addition, some bilinguals' command of grammatical gender is deficient. Bilinguals across all ages, as well as some younger monolinguals, applied the SFP marker with masculine nouns and adjectives, and others used the SMP marker with feminine nouns and adjectives.

Three important points can be highlighted about these results. Firstly, the plural system is still present in bilingual children – to different degrees - but its formation underwent a crucial reanalysis. Secondly, parents' frequency of usage of the heritage language is crucial, as it clearly influences the children's acquisition. Parents need at least to keep their children's receptive competence as high as possible even if their children's skills in IA are not good enough. And thirdly, not only was there a strong correlation between linguistic behaviour and social factors

but also the social factors correlated significantly with each other, which in turn contributed to the bilingual's IA maintenance for some and to language shift for others. Bilinguals' attitudes towards English positively correlated with their low proficiency in IA; the parents' attitudes towards IA, religion and identity as core values were also important; The parents' command of English was also found to play a crucial role in nurturing or impeding the use of IA, which in turn affected the acquisition of the BP. There was also an important correlation between the length of uninterrupted exposure to IA and the overall production. The current situation for the resident families included in this study is that parents are the first generation to learn English, but their children are already passive bilinguals, which means that the third generation (the children of these bilinguals) will very likely end up being English monolinguals. Each bilingual child took a distinct route depending on his/her inputs and usages, resulting in different levels of maintaining their IA or shifting towards English. The research findings indicate that bilingual children's knowledge of the basic structure of IA is affected due to the reduction in their inputs and usages, as longer times of disuse considerably affected the overall accuracy of the bilingual children, as well as of the adult's.

## Further Research

The present study investigated, from both linguistic and sociolinguistic perspectives, the acquisition of the most intriguing system of nominal plurality in Arabic, the Broken Plural (BP) and its use by Iraqi bilingual children. The analysis uncovered areas that require further exploration and in-detail investigation:

- Thorough studies investigating the acquisition of the dual form are required since this form is never used in daily life, unless emphasizing duality but it was used (erroneously) as a plural form by both the bilingual children and young monolinguals (see § 4.3)
- Further studies are needed to investigate the acquisition of the regular plural markers by bilingual children and to compare it with other studies where the default SFP was found to emerge first and was overgeneralised.
- A thorough study on bilingual Iraqi children who attend Arabic schools in the UK is also necessary to investigate the effect of schooling in Standard Arabic and to verify whether this factor has an effect on the maintenance of Iraqi Arabic.
- A study of variation in plural formation generally in Baghdad Arabic. This recommendation is borne out of observations made by the monolingual adults who pointed out a number of words that they believed are pluralised differently by different strata of the Baghdad community.

A properly designed study of language attrition among the Iraqi community in the UK would be feasible. This community was first formed during the 1950s, and has since witnessed considerable increase in numbers at various intervals –due mainly to the political upheaval in Iraq over the past 20-30 years.

## References

- Aboud, F. E. (1976). Social developmental aspects of language. *Papers in Linguistics*, 9, 15- 37.
- Abu-Haider, F. (1988). Speech variation in the Muslim dialect of Baghdad urban vs. rural. *Zeitschrift für Arabische Linguistik*. Harrassowitz Verlag, 19. 74- 80 .
- Abu-Haider, F. (1992). Shifting boundaries: The Effect of Modern Standard Arabic on Dialect Convergence in Baghdadi. In E. Broselow, M. Eid and J. McCarthy (eds.) *Perspectives on Arabic Linguistics IV*. Amsterdam: John Benjamins, 91- 106.
- Abu-Haider, F. (2002). Negation in Iraqi Arabic. In A. Bobzin, *Sprich doch mit deinen Knechten aramaisch, wir verstehen es! Festschrift für Otto Jastrow zum 60*. Wiesbaden: Otto Harrassowitz. 1- 13.
- Al-Aghbari, K. H. (2001). *The Broken Plurals in the Muscat Dialect of Omani Arabic*. Master thesis. Canada: University of Victoria.
- AL-Gussain, R. A. (2002). Code switching in children's and adult's speech. *ACTAS/Proceedings 2 Simposio International Bilinguismo*. 1377- 1391.
- Aljenaie, K., Abdalla, F. & Farghal M. (2010). Developmental changes in using nominal number inflections in Kuwaiti Arabic. *First Language*. 222- 239.
- Alkuhlani, S., & Habash, N. (2012). Identifying Broken Plurals, Irregular Gender and Rationality in Arabic text. *13th Conference of the European Chapter of the Association for Computational Linguistics*. Avignon France. 675- 685.
- Al-Samak, M. A. (1985). *Iraq: A Regional Study*. AL-Mosul: University of Al-Mosul.
- Alsiraih, W. (2013). *Voice Quality Features in the Production of Pharyngeal Consonants by Iraqi Arabic Speakers*. PhD thesis. Newcastle.
- Altoma, S. (1969). *The problem of diglossia in Arabic: A comparative study of classical and Iraqi Arabic*. Cambridge, Mass: Harvard University Press.

- Anderson, R. (1999). Impact of First Language Loss on Grammar in a Bilingual Child. *Communication Disorders Quarterly*, 21, (1), 4-16.
- Anderson, R. (2012). First Language Loss in Spanish-Speaking Children: Patterns of loss and implications for clinical practice. In B. A. Goldstein, *Bilingual Language Development and Disorders in Spanish-English Speakers* (2nd edition). Baltimore/MD: Brookes Publishing.
- Badawi, E. S. M. (1985). Educated Spoken Arabic: A problem in teaching Arabic as a foreign language. In K. R. Jankowsky, *Scientific and Humanistic Dimensions of Language*. Washington, DC: Georgetown University Press.
- Bader, Y., & Denise, M. (2000). Morphological and syntactic code-switching in the speech of an Arabic-English bilingual child. *Multilingual*, 19, (4), 383- 403.
- Barber, C. (1952). *Trilingualism in Pascua: the social function of language in an Arizona Yaqui village*. MA Thesis. University of Arizona.
- Baker, C. (1992). *Attitudes and Language*. Clevedon: Multilingual Matters.
- Baker, C. (2001). *Foundation of bilingual education and bilingualism*. Clevedon: Multilingual Matters.
- Baker, C. & Jones, P. (1998). *Encyclopedia of Bilingualism and Bilingual Education*. Clevedon: Multilingual Matters.
- Bardovi- Harling, K. & Stringer, D. (2013). The lexicon in second language attrition: what happens when the cat's got your tongue? In J. Altarriba & L. Insurin. *Memory, Language, and Bilingualism*. Theoretical & Applied Approaches. Cambridge University Press. 291- 318.
- Bentahila, A., & Davies, E. E. (1992). Convergence and Divergence, Two Cases of Language Shift in Morocco. In W. Fase, K. Jaspaert, & S. Kroon, *Maintenance and Loss of Minority Languages*. Philadelphia: John Benjamins Publishing Company. 197- 210.
- Blanc, H. (1964). *Communal Dialects in Baghdad*. Cambridge/Mass.: Harvard University Press.

- Blom, E., Paradis, J. & Duncan, S. (2012). Effects of input properties, vocabulary size, and L1 on the development of third person singular –s in child L2 English. *Language Learning*, 62, 965- 994.
- Bohman, T. M., Pena, L. M., Mendez-Perez, A., & Gillam, R. B. (2010). What you hear and what you say: Language performance in Spanish-English bilinguals. *International Journal of Bilingual Education and Bilingualism*, 13, 325- 344.
- Bolonyai, A. (2007). (In)vulnerable agreement in incomplete bilingual L1 learners. *The International Journal of Bilingualism* 11, 3- 21.
- Bridge, K., & Hoff, E. (2014). Older sibling influences on the language environment and language development of toddlers in bilingual homes. *Applied Psycholinguistics*, 35, 225- 241.
- Bylund, E. (2009). Effects of age of L2 acquisition on L1 event conceptualization patterns. *Bilingualism: Language and Cognition*, 12 (3), 305- 322.
- Caldas, S., & Caron-Caldas, S. (2002). A Sociolinguistic Analysis of the Language Preferences of Adolescent Bilinguals: Shifting Allegiances and Developing Identities. *Applied Linguistics*, 23 (4), 490- 514.
- Carroll, J. (1966). Language Development. In C. W. Harris, *Encyclopaedia of Educational Research*. New York: Macmillan.
- Carroll, S. E., & Meisel, J. M. (2015). Input, Learner Populations and the Human Language-Making Capacity. In C. Hamann, & E. Ruigendijk, *Language Acquisition and Development, Proceedings of GALA*. Newcastle Upon Tyne: Cambridge Scholars Publishing. 1- 34.
- Chondrogianni, V. & Marinis, T. (2011). Differential effects of internal and external factors on the development of vocabulary, tense morphology and morpho-syntax in successive bilingual children. *Linguistic Approaches to Bilingualism*, 1 (3), 318- 345.

- Chung, Y., & Zhang, C. B. (2005). Exploratory Model on advising bilingual parenting among Chinese immigrants. In G. Anderson, *Proceedings of the CATESOL State Conference*. Orinda, CA: CATESOL.
- Clark, E. V., & Nikitina, T. (2009). One vs. more than one: Antecedents to plurality in early language acquisition. *Linguistics*, 1, 103- 139.
- Clyne, M., & Kipp, S. (1999). *Pluricentric languages in an immigrant context*. Berlin: Mouton de Gruyter.
- Cohen, A. D. (1989). Attrition in the productive lexicon of two Portuguese third language speakers. *Studies in Second Language Acquisition*, 11, 135- 149.
- Communities and Local Government. (April 2009). *The Iraqi Muslim Community Understanding Muslim Ethnic Communities*. Retrieved June 2010 from <http://webarchive.nationalarchives.gov.uk/20120919132719/www.communities.gov.uk/documents/communities/pdf/1210510.pdf>
- Crisis Group Middle East report No.81. (13 November 2008). *Turkey and Iraqi Kurds: Conflict or Cooperation?* Retrieved October 23, 2010 from International Crisis Group: Working to prevent Conflict Worldwide: [http://www.genocidewatch.org/images/Iraq\\_08\\_11\\_13\\_Turkey\\_and\\_Iraqi\\_Kurds\\_Conflict\\_or\\_Cooperation.pdf](http://www.genocidewatch.org/images/Iraq_08_11_13_Turkey_and_Iraqi_Kurds_Conflict_or_Cooperation.pdf)
- Döpke, S. (1992). *One parent, one language: An interactional approach*. Amsterdam: John Benjamins.
- Daana, H. S. (2009). *The Development of Consonant Clusters, Stress and Plural Nouns in Jordanian Arabic Child Language*. PhD Thesis: University of Essex, UK.
- Dabene, L., & Moore, D. (1995). Bilingual speech of migrant people. In L. M. Muysken, *one speaker, two languages: Cross-disciplinary perspectives on code-switching*. Cambridge: Cambridge University Press. 25- 38.

- De Houwer, A. (2007). Parental language input patterns and children's bilingual use. *Applied Psycholinguistics*, 28, 411- 424.
- De Houwer, A. (2009). *Bilingual First Language Acquisition*. Bristol: Multilingual Matters.
- De Houwer, A. (2014). The absolute frequency of maternal input to bilingual and monolingual children: A first comparison. In Gruter T. & Paradis J., *Input and experience in bilingual development*. Amsterdam: John Benjamins. 37- 58.
- Division Library of Congress-Federal Research. (August 2006). *Country Profile: Iraq*. Retrieved September 19, 2014 from <https://www.loc.gov/rr/frd/cs/profiles/Iraq.pdf>
- Doucet, J. (1991). First generation of Serbo-Croatian speakers in Queensland: Language maintenance and shift. In S. Romaine, *Language in Australia*. NY: Cambridge University Press. 270- 284.
- Driessen, G. et al (2002). Home language and language proficiency: A large-scale longitudinal study in Dutch primary schools. *Journal of Multilingual and Multicultural Development*, 3, 175- 194.
- Duursma, E., Romer-Contreras, S., Szuber, A., Proctor, P., Snow, C. and August, D. (2007). The role of home literacy and language environment on bilinguals' English and Spanish vocabulary development. *Applied Psycholinguistics*, 28 (1), 171- 190.
- Ecke, P. (2004). Language attrition and theories of forgetting: A cross-disciplinary review. *International Journal of Bilingualism*, 8 (3), 321- 352.
- Ecke, P. (2009). The tip-of-the-tongue phenomenon as a window on (bilingual) lexical retrieval. In A. Pavlenko (ed.), *The bilingual mental lexicon: Interdisciplinary approaches*. Bristol, UK: Multilingual Matters. 185- 208.
- Edwards, J. (1994). *Multilingualism*. London: Routledge.

- El-Aissati, A. (1997). *Language loss among native speakers of Moroccan Arabic in the Netherlands*. Studies in Multilingualism 6. Tilburg University Press.
- Erwin, W. (2004). *A short reference grammar of Iraqi Arabic*. Washington D.C.: Georgetown University Press.
- Fantini, A. E. (1987). The development of bilingual behaviour: language choices and social context. *Paper presented at the Annual Meeting of the National Association for Bilingual Education*. Denver, CO: ERIC. 21- 38.
- Fase, W., Jaspaert, K. and Kroon, S. (1992). *Maintenance and Loss of Minority Languages*. Amsterdam/Philadelphia: John Benjamins Publishing Company.
- Fillmore, L. W. (1991). When learning a second language means losing the first. *Early Childhood Research Quarterly*. 323- 346.
- Fillmore, L. W. (2000). Loss of family languages: Should educators be concerned? *Theory into Practice*, 39 (4). 203-210.
- Fishman, J. A. (1989). *Language and Ethnicity in Minority Sociolinguistic perspective*. Clevedon, UK: Multilingual Matters.
- Fishman, J. A. (1972). Domains and the relationship between micro- and macrosociolinguistics. In J. Gumperz and D. Hymes, eds. *Directions in sociolinguistics. The ethnography of speaking*. New York: Holt, Rinehart and Winston. 407- 434.
- Fishman, J. A. (1972). *Language in Sociocultural Change*. Stanford/California: Stanford University Press.
- Fishman, L. (1977). The social science perspective: keynote. In J. Fishman, *Bilingual Education: Current Perspectives*. Washington, DC: Georgetown University. 1- 49.
- Fishman, J. (1991). *Reversing Language Shift*. Clevedon: Multilingual Matters.

- Fishman, J., Cooper, R. L. & Ma, R. (eds) (1971). *Bilingualism in the Barrio*. Bloomington: Indiana University Press.
- Flores, C. and Barbosa, P. (2014). When reduced input leads to delayed acquisition: A study on the acquisition of clitic placement by Portuguese heritage speakers. *International Journal of Bilingualism*, 18 (3). 304- 325.
- Garrett, P. B. and Baquedano-Lopez, P. (2002). Language socialisation: Reproduction and continuity, transformation and change. *Annual Review of Anthropology*, 31 (1). 339- 361.
- Gathercole, V. C. M & Thomas, E. M. (2009). Bilingual first-language development: Dominant language takeover, threatened minority language take-up. *Bilingualism: Language and Cognition*, 12, 213- 237.
- Gogonas, N. (2010). *Bilingualism and Multiculturalism in Greek Education: Investigating Ethnic Language Maintenance among Pupils of Albanian and Egyptian Origin in Athens*. Cambridge Scholars Publishing.
- Gomaa, Y. A. (2011). Language Maintenance and Transmission: The Case of Egyptian Arabic in Durham, UK. *International Journal of English Linguistics*, 1 (1). 46- 53.
- Grosjean, F. (1982). *Life with Two Languages: An Introduction to Bilingualism*. Cambridge, Massachusetts: Harvard University Press.
- Gulberg, H. and Indefrey, P. (2003). *Language History Questionnaire*. Retrieved 2010 from Development in the Dynamics of Multilingual Processing. Max Planck Institute for Psycholinguistics, Nijmegen: <http://www.mpi.nl/departments/other-research/research-projects/the-dynamics-of-multilingual-processing/tools/Lang-Hist-Quest-Engl.pdf>
- Haberland, H. (2005). Domains and Domain loss. In B. Preisler, A. Fabricius, H. Haberland, S. Kjarbeck, & K. Risager, *The Consequences of Mobility*. Roskilde: Roskilde University. 227- 237.

- Hamers, J. F. & Blanc, M. H. (2000). *Bilinguality and Bilingualism* (2nd edition). Cambridge: Cambridge University Press.
- Hammer, C.S., Komaroff, E., Lodriguez, B. A., Lopez, M., Scarpino, S. E. & Goldstein, B. (2012). Predicting Spanish-English Bilingual Children's Language Abilities. *Journal of Speech and Language Hearing Research*. 55 (5), 1251- 1264.
- Hansen, L. (2001). Language attrition: The fate of the start. *Annual Review of Applied Linguistics*. 21, 60- 73.
- Harding, E. and Riley, P. (1988). *The Bilingual Family: A Handbook for Parents*. Cambridge: Cambridge University Press.
- Harres, R. (1989). The search for minority teachers. *Los Angeles Times*. September 27. A1, A18.
- Hart, B. and Risley, T. (1995). *Meaningful differences in the everyday experience of young American children*. Baltimore, MD: H. Paul Brookes.
- Hasson, D. J. (2005). Language Maintenance in Hispanic University Students: Analyzing Written Competence. *Proceedings of the 4th International Symposium on Bilingualism*, ed. James Cohen, Kara T. McAlister, Kellie Rolstad, & Jeff MacSwan. Somerville, MA: Cascadilla Press. 978- 1000.
- Hayden, R. (1966). Some Community Dynamics of Language Maintenance. In V. N. J. Fishman, *Language Loyalty And the United States*. The Hague: Mouton. 190- 205.
- Herdina, P., & Jessner, U. (2002). *A Dynamic Model of Multilingualism: Perspectives of Change in Psycholinguistics*. Clevedon: Multilingual Matters.
- Hernandez-Chavez, E. (1995). Native language loss and its implications for revitalization of Spanish in Chicano communities. In A. Lopez, *Latino language and education: Communication and the dream deferred*. New York: Garland Publishing. 24- 40.

- Hinton, L. (1999). *Involuntary Language Loss among Immigrants: Asian-American Linguistic Autobiographies*. From ERIC Clearinghouse on Languages and Linguistics Washington DC, pp1-8: <http://files.eric.ed.gov/fulltext/ED436982.pdf>
- Hoff, E., Core, C., Place, S., Rumiche, R., Senior, M., & Parra, M. (2012). Dual language exposure and early bilingual development. *Journal of Child Language*, 39, 1- 27.
- Holes, C. (1990). *Gulf Arabic*. London/New York: Routledge.
- Holes, C. (1995/2004). *Modern Arabic: Structures, Functions, and Varieties*. London: Longman.
- Holmes, J. (2013). *An Introduction to Sociolinguistics* (4th edition). London/New York: Routledge Taylor and Francis.
- Hulsen, M. E. H. (2000). *Language Loss and Language Processing. Three Generations of Dutch Migrants in New Zealand*. PhD Thesis, University of Nijmegen.
- Hurtado, N., Gruter, T., Marchman, V. & Fernald, A. (2014). Relative language exposure, processing efficiency and vocabulary in Spanish–English bilingual toddlers. *Bilingualism: Language and Cognition*, 17, 189- 202.
- Husain, N. (2011). Language Maintenance of Immigrant Community in Britain. *International Conference on Language, Literature and Linguistics*. 26. Singapore: IACSIT Press. 432-436.
- Hyltenstam, K. and Viberg Å. (1993). *Progression and Regression in Language. Sociocultural, Neuropsychological, and Linguistic Perspectives*. Cambridge: Cambridge University Press.
- Jamai, A. (2008). *Language Use and Maintenance among the Moroccan Minority in Britain*. PhD Thesis. Salford/UK: European Studies Research Institute (ESRI), The School of Languages, University of Salford.

- Jaspaert, K., and Kroon, S. (1989). Social Determinants of Language Loss. *Review of Applied Linguistics*, 75- 98.
- Jastrow, O. (2006). Iraq. In K. Versteegh, M. Eid, A. Elgibali, M. Woidich & A. Zaborski (eds). *Encyclopedia of Arabic Language and Linguistics*. Leiden: Brill. 414- 427.
- Jia, G., and Aronson, D. (2003). A Longitudinal Study of Chinese Children and Adolescents Learning English in the United States. *Applied Psycholinguistics*, 24 (1), 131- 161.
- Jia, G., and Fuse, A. (2007). Acquisition of English grammatical morphology by native Mandarin-speaking children and adolescents: Age-related differences. *Journal of Speech, Language and Hearing Research*, 50, 1280- 1299.
- Johnson, D. M. (1992). *Approaches to Research in Second Language Learning*. New York: Longman.
- Kanakri, M., and Ionescu, V. (2010). Prototype of Code-switching in the Speech of Romanian/Arabic Bilinguals in Jordan. *Jordan Journal of Modern Languages and Literature* , 2 (2), 179- 194.
- Khattab, G. (2002). *Sociolinguistic Competence And The Bilingual's Adoption Of Phonetic Variants: Auditory And Instrumental Data From English-Arabic Bilinguals*. PhD Thesis. University of Leeds.
- King, K., and Fogle, L. (2006). Bilingual Parenting as Good Parenting: Parents' Perspectives on Family Language Policy for Additive Bilingualism. *International Journal of Bilingual Education and Bilingualism*, 9 (6), 695- 712.
- Kleifgen, J., Ham, S., El Noory, A., Fritz, M, & Saville-Troike, M. (1986). *Shifting patterns of language dominance in bilingual children*. San Francisco/CA: Paper presented to the Annual Convention of the American Educational Research Association.
- Knops, U. & Kroon, S. (1988). The relationship between language attitudes and language choice. In U. K. Hout, *Language attitudes in the Dutch language area: An introduction*. Dordrecht, Netherlands: Foris Publications.

- Kopeliovich, S. (2010). Family language policy: A case study of a Russian-Hebrew bilingual family: Toward a theoretical framework. *Diaspora, Indigenous, and Minority Education*, 4 (3), 162- 178.
- Köpke, B., & Schmid, M. S. (2004). First language attrition: the next phase. In M. S. Schmid, *First Language Attrition: Interdisciplinary perspectives on methodological issues*. Amsterdam/Philadelphia: John Benjamins.1- 43.
- Köpke, B., Schmid, M., Keijzer, M., & Dostert, S. (2007). *Language Attrition: Theoretical Perspectives*. Amsterdam: John Benjamins Publishing.
- Kuncha, R. M. & Bathula, H. (2004). The role of attitudes in language shift and language maintenance in new immigrant community: A case study.
- Kuo, E. (1974). The family and bilingual socialization: A sociolinguistic study of a sample of Chinese children in the United States. *The Journal of Social Psychology*, 92, 181- 191.
- Kyratzis, A. (2004). Talk and interaction among children and the co-construction of peer groups and peer culture. *Annual Review of Anthropology*, 33 (1), 625- 649.
- Labov, W. (1965). *Stages in the acquisition of standard English*. In *Social dialects and language learning*. Champaign: National Council of Teachers of English.
- Labov, W. (1972). *Sociolinguistic Patterns*. Philadelphia: University of Pennsylvania Press.
- Landweer, L. M. (2008). *Endangered languages: Indicators of Ethnolinguistic Vitality*. SIL International.
- Lao, C. (2004). Parents' Attitudes Towards Chinese-English Bilingual Education and Chinese-Language Use. *Bilingual Research Journal*, 28 (1), 99- 121.
- Lee, J. S., & Shin, S. J. (2008). Korean heritage language education in the United States: The current state, opportunities, and possibilities. *Heritage Language Journal*, 2 (2), 1- 20.

- Leeuw, E. d. (2009). *When your native language sounds foreign: A phonetic investigation into first language attrition*. PhD Thesis. Edinburgh: Queen Margaret University.
- Lin, L. (1998). A comparison of how balanced bilingual and pseudo-bilingual students, who are second generation Chinese Americans, develop and maintain the Native Language while learning English. *Annual Meeting of the American Educational Research Association*. San Diego: AERA.1- 32.
- Liu, R. (2008). Maintaining Chinese as a heritage language in the United States: what really matters? *Arizona Working Papers in SLA and Teaching*, 15, 37- 64.
- Loftus, G. R. & Loftus, E. F. (1976). *Human memory: the processing of information*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Luo, S. H., & Wiseman, R. L. (2000). Ethnic language maintenance among Chinese immigrant children in the United States. *International Journal of Intercultural Relations*, 24, 307- 324.
- Lutz, A. (2006). Spanish maintenance among English-speaking Latino youth: the role of individual and social characteristics. *Social Forces*, 86 (3), 1417- 1434.
- Lyovin, A. (1997). *An introduction to the languages of the World*. Oxford: Oxford University Press.
- Mashaqba, B. & Huneety, A. 2017. Morpho-phonological structure of sound feminine plural suffix *-aat*: Revisited. *International Journal of Applied Linguistics & English Literature* 6 (6). 115-122. <http://www.journals.aiac.org.au/index.php/IJALEL/article/view/3518/3004>
- Meisel, J. (2001). The simultaneous acquisition of two first languages: early differentiation and subsequent development of grammars. In J. C. Genesee, *Trends in Bilingual Acquisition*. Amsterdam: John Benjamins.11- 42.

- Mercer, G. V. (1975). *The development of children's ability to discriminate between languages and varieties of the same language*. MA Thesis. Montreal: McGill University.
- Merriam, S. (1998). *Case study research in education*. San Francisco: Jossey-Bass Publishers.
- Miles, M. B. & Huberman, A. M. (1994). *Qualitative data analysis* (2nd edition). Thousand Oaks/CA: Sage Publications.
- Milroy, L. (1987). *Observing and Analysing Natural Language*. Cambridge, MA: Basic Blackwell.
- Montrul, S. (2004). *Acquisition of Spanish Morphosyntactic development in Monolingual and Bilingual L1 acquisition and adult L2 acquisition*. Amsterdam: John Benjamins Publishing Company.
- Montrul, S. (2006). On the bilingual competence of Spanish heritage speakers: Syntax, lexical-semantic and processing. *International Journal of Bilingualism*, 10, 37- 69.
- Montrul, S. (2008). *Incomplete Acquisition in Bilingualism. Re-examining the age factor*. Amsterdam/Philadelphia: John Benjamins.
- Montrul, S. (2012). Is the heritage language like a second language? In L. Roberts, C. Lindqvist, C. Bardel, and N. Abrahamsson, *EUROSLA Yearbook, Annual Conference of the European Second Language Association* (Volume 12). John Benjamins Publishing Company. 1- 29.
- Nelson, T. (1978). Detecting small amount of information in memory: Savings for nonrecognised items. *Journal of Experimental Psychology: Human Learning and Memory*, 4, 453- 468.
- Okita, T. (2002). *Invisible work: Bilingualism, language choice and childrearing in inter-married families*. Amsterdam: John Benjamins.

- Omar, M.K. (1973). *The Acquisition of Egyptian Arabic as a Native Language*. The Hague: Mouton.
- Opitz, C. (2011). *First Language Attrition and Second Language Acquisition in a Second Language Environment*. PhD Thesis. University of Dublin, Trinity College Centre for Language and Communication Studies.
- Othman, M. F. (2006). *Language Choice among Arabic-English Bilinguals in Manchester, Britain*. MA Thesis. Manchester: School of Languages, Linguistics and Cultures.
- Pan, B. A. (1995). Code negotiation in bilingual families: 'My body starts speaking English'. *Journal of Multilingual and Multicultural Development*, 16 (4), 315- 327.
- Paradis, J. (2010). Bilingual children's acquisition of English verb morphology: Effects of language exposure, structure complexity, and task type. *Language Learning*, 60, 651- 680.
- Paradis, J. (2011). Individual differences in child English second language acquisition: Comparing child-internal and child-external factors. *Linguistic Approaches to Bilingualism*, 1 (3), 213- 237.
- Paradis, J. & Genesee, F. (1996). Syntactic acquisition in bilingual children: Autonomous or interdependent? *Studies in Second Language Acquisition*, 18, 1- 25.
- Paradis, M. (2001). An Integrated Neurolinguistic Theory of Bilingualism (1976-2000). In R. M. Brend, A. K. Melby and A. R. Lommel (eds). *LACUS Forum XXVII: Speaking and Comprehending*. Fullerton: LACUS. 5- 15.
- Paradis, M. (2007). L1 attrition features predicted by a neurolinguistic theory of bilingualism. In B. Köpcke, M. S. Schmid, M. Keijzer and S. Dostert (eds). *Language attrition: theoretical perspectives*. Amsterdam: John Benjamins. 121- 133.
- Paulston, C. B. (1986). Social Factors in Language Maintenance and Language Shift. In A. Fishman, A. Taburet-Keller, M. Clyne, B. Krishnamurti, & M. Abdulaziz, *The Fergusonian Impact* (Volume 2). Berlin/ New York/ Amsterdam: Mouton. 493- 513.

- Pearson, B. Z. & McGee, A. (1993). Language choice in Hispanic-background junior high school students in Miami. In A. R. Lipski, *Studies in anthropological linguistics*. New York: Mouton de Gruyter. 91- 101.
- Pearson, B. Z. , Fernandez, S. & Oller, D. (1993). Lexical development in Bilingual infants and toddlers: Comparison to monolingual norms. *Language Learning*, 43, 93- 120.
- Pelc, L. (2001). *L1 lexical morphological and morphosyntactic attrition in Greek-English bilinguals*. PhD Thesis. City University of New York.
- Place, S. & Hoff, E. (2011). Properties of dual language exposure that influence two- year-olds' bilingual proficiency. *Child Development*, 82, 1834- 1849.
- Plunkett, K. & Nakisa, R. (1997). A connectionist model of the Arabic plural system. *Language and Cognitive Processes*, 12, 807- 836.
- Polinsky, M. & Kagan, O. (2007). Heritage languages: In the 'wild' and in the classroom. *Language and Linguistics Compass*, 1 (5). 368- 395.
- Qafisheh, H. A. (1977). *A short reference grammar of Gulf Arabic*. Tucson: University of Arizona Press.
- Ravid, D. & Farah, R. (1999). Learning about Noun Plurals in Early Palestinian Arabic. *First Language*, 19. 187- 206.
- Ravid, D. & Farah, R. (2009). Noun Plural in early Palestinian Arabic: A longitudinal case study. In U. S. Voeikova, *Development of Nominal Inflection in First Language Acquisition: A Cross-Linguistic Perspective*. Berlin: Walter de Gruyter. 411- 432.
- Ravid, D. & Hayek, L. (2003). Learning about Different Ways of Expressing Number in the Development of Palestinian Arabic. *First Language*, 23 (1), 41- 63.
- Redouane, R. (2005). Linguistic Constraints on Codeswitching and Codemixing of Bilingual Moroccan Arabic-French Speakers in Canada. In James Cohen, Kara T. McAlister, Kellie

- Rolstad, and Jeff MacSwan (eds). *Proceedings of the 4th International Symposium on Bilingualism*. Somerville, MA: Cascadilla Press. 1921- 1933.
- Restrepo, M. A. (1998). Identifiers of Predominantly Spanish-Speaking Children With Language Impairment. *Journal of Speech, Language and Hearing Research*, 41, 1398- 1411.
- Ridha, M. (2015). *Crosslinguistic Influence in the Arabic of Iraqi-Swedish Bilingual Children*. MA Thesis. Uppsala: Uppsala University.
- Rohani, S., Choi, C., Amjad, R. N., Burnett, C., & Colahan, C. (2005). *Language Maintenance and the Role of the Family amongst Immigrant Groups in the United States; Persian-speaking Bahaa'is, Cantonese, Urdu, Spanish and Japanese: An Exploratory Study*. Retrieved May 10, 2016 from <https://tccml.files.wordpress.com/2014/04/langmaintfamily.pdf>
- Rothman, J. (2007). Heritage speaker competence differences, language change, and input type: inflected infinitives in heritage Brazilian Portuguese. *The International Journal of Bilingualism*, 11 (4), 359- 389.
- Rouchdy, A. (1971). Competence and Performance: Is a Child's Native Language Affected by the Acquisition of a Second Language? *Word*, 27 (1-3), 411- 420.
- Roux, G. (1992). *Ancient Iraq*. (3<sup>rd</sup> edition). England: Penguin Books.
- Russell, R. A. (1999). Lexical Maintenance and attrition as a second language. In L. Hansen (ed.), *Second language attrition in Japanese contexts*. Oxford University Press. 114- 141.
- Ryan, E. B. & Giles, H. (1982). *Attitudes towards Language Variation: Social and Applied Contexts*. London: Edward Arnold.
- Ryding, K. (2005). *A Reference Grammar of Modern Standard Arabic*. Cambridge: Cambridge University Press.
- Sa'eed, A. H. (2010). The Productivity of Pluralization Rules in Mosuli Arabic: An Evidence from Loanwords. *Education and Science*, 17 (1), 49- 60.

- Salloum, S. (2013). *Minorities in Iraq: Memory, Identity and Challenges* (1<sup>ST</sup> edition). Baghdad/Beirut: (MCMD) Masarat for Cultural and Media development.
- Sanchez, O., & Gil, A. (2008). Two Perspectives on Language Maintenance: The Salvadorian Community in Queensland and the Spanish Community in South Australia. *The International Journal of Language, Society and Culture*, 26 (1). 80- 92.
- Sankoff, D., & Poplack, S. (1981). A formal grammar for code-switching. *Linguistics: International Journal of Human Communication*, 14 (1). 3- 45.
- Schechter, S. R., Sharken-Taboada, D. & Bayley R. (1996). Bilingual by choice: Latino parents' rationales and strategies for raising children with two languages. *The Bilingual Research Journal*, 20 (2). 261- 281.
- Schmid, M. S. (2007). The role of L1 use for L1 attrition. In B. Köpke, M. S. Schmid, , M. Keijzer, & S. Dostert (eds), *Studies in Bilingualism* (Volume 33). Amsterdam: John Benjamins Publishing Company. 135- 153.
- Schmid, M. S. (2013). First Language Attrition. *Linguistic Approaches to Bilingualism*, 3 (1). 94- 115.
- Schmid, M. S. & Köpke, B. (2008). L1 attrition and the mental lexicon. In A. Pavlenko (ed.), *The bilingual mental lexicon: Interdisciplinary approaches*. Bristol, UK: Multilingual Matters. 209- 238.
- Schmid, M. S., Köpke, B., & Bot, K. (2012). Language attrition as a complex, non-linear development. *International Journal of Bilingualism*, 17 (6), 675- 682.
- Schmitt, E. (2010). When boundaries are crossed: Evaluating language attrition data from two perspectives. *Bilingualism: Language and Cognition*, 13 (1), 63- 72.
- Schwartz, M. (2008). Exploring the relationship between family language policy and heritage language knowledge among second generation Russian-Jewish immigrants in Israel. *Journal of Multilingual and Multicultural Development*, 29 (5), 400- 418.

- Schwartz, M. (2010). Family Language Policy: Core issues of an emerging field. *Applied Linguistics Review*, 1, 171- 192.
- Schwartz, M. (2012). Second Generation Immigrants: A Socio-Linguistic Approach of Linguistic Development Within the Framework of Family Language Policy. In M. Leikin, M. Schwartz, and Y. Tobin, *Current Issues in Bilingualism: Cognitive and Sociolinguistic Perspectives* (Volume 5). London/New York: Springer Netherlands. 119- 135.
- Seliger, H. L. (1996). Primary language attrition in the context of bilinguals. In W. C. Ritchie, *Handbook of Second Language Acquisition*. San Diego, CA: Academic Press. 605- 626.
- Silva-Corvalan, C. (2003). Linguistic consequences of reduced input in bilingual first language acquisition. In S. a. Montrul, *Linguistic theory and language development in Hispanic languages: papers from the 5th Hispanic Linguistics Symposium and the 4th Conference on the Acquisition of Spanish and Portuguese*. Somerville, MA: Cascadilla Press. 375- 397.
- Smolicz, J. J. (1981). Core values and cultural identity. *Ethnic and Racial Studies*, 4 (1), 75- 90.
- Smolicz, J. J., & Secombe, M. J. (1985). Community languages, core values and cultural maintenance: The Australian experience with special references to Greek, Latvian and Polish groups. In M. Clyne, *Australia-Meetings Place of Languages*. Canberra: Pacific Linguistics, Australian National University. 11- 38.
- Song, M., O'Grady, W., Cho, C., & Lee, M. (1997). The learning and teaching of Korean in community schools. *Korean Language in America*, 2, 111- 127.
- Sorace, A. (2005). Selective optionality in language development. In L. Cornips & K. Corrigan (eds.). *Syntax and Variation. Reconciling the biological and the social*. Amsterdam: John Benjamins. 55- 80.
- Spolsky, B. (2004). *Language policy*. Cambridge: Cambridge University Press.

- Spolsky, B. (2007). Family language management: Some preliminaries. In A. S. Kupferberg, *Studies in language and language education: Essays in honour of Elite Olshtain*. Jerusalem: The Magnes press, Hebrew University. 429- 449.
- Stake, R. (2006). *Multiple case study analysis*. New York: The Guilford Press.
- Sutcliffe, E. D. (1924). *A Grammar of the Maltese Language*. Valletta: Progress Press.
- Takeuchi, M. (2010). Japanese-English bilingual children's perspective. *JALT 2009 Conference Proceedings*. 778- 785.
- Taneja, P. (2011). *Iraq's Minorities: Participation in Public Life*. Retrieved September 24, 2014 from Minority Rights Group International UK: <http://minorityrights.org/publications/iraqs-minorities-participation-in-public-life-november-2011/>
- Thomas, E. M., Williams, N., Jones, L. A., Davies, S., & Binks, H. (2014). Acquiring complex structures under minority language conditions: Bilingual acquisition of plural morphology in Welsh. *Bilingualism: Language and Cognition*, 17, 478- 494.
- Thomason, S. (2001). *Language in Contact: An Introduction*. Edinburgh: Edinburgh University Press.
- Tse, L. (2001). Heritage language literacy: A study of US Biliterates. *Language, Culture and Curriculum*, 14 (3), 256- 268.
- Tsimpli, L., Sorace, A., Heycock, C., & Filiaci, F. (2004). First language attrition and syntactic subjects: A study of Greek and Italian near-native speakers of English. *International Journal of Bilingualism*, 8 (3), 257- 277.
- Unsworth, S. (2013). Assessing the role of current and cumulative exposure in simultaneous bilingual acquisition: The case of Dutch gender. *Bilingualism: Language and Cognition*, 16, 86- 110.
- Unsworth, S. (2015). Amount of exposure as a proxy for dominance in bilingual language acquisition. In C. Silva-Corvalan, and J. Treffers-Daller, (eds), *Language dominance in bilinguals: Issues of measurement and operationalization*. Cambridge: Cambridge

- University Press. 156- 174.
- Unsworth, S. (2016). Quantity and quality of language input in bilingual language development. In E. Nicoladis and S. Montanari (eds), *Lifespan perspectives on Bilingualism*. New York: Mouton de Gruyter/APA. 136- 196.
- Veltman, C. (1983). *Language Shift in the United States*. New York: NY Mouton Publishers.
- Versteegh, K. (2001). *The Arabic Language*. Edinburgh: Edinburgh University Press.
- Walter, M. A. (2006). Grammatical Gender via Lexical Statistics: The Case of Arabic-to-Spanish Loanwords. In F.F. Hsieh & M. Kenstowicz (eds.). *Studies in Loanword Phonology, MIT Working Papers in Linguistics*. 52, Cambridge, MA: MITWPL.
- Wang, Z. L. (2008). *Growing up with three languages: Birth to eleven*. Clevedon: Multilingual Matters.
- Wardhaugh, R. (1992/2006). *An Introduction to Sociolinguistics*. Malden, Oxford: Blackwell.
- Weltens, B. (1988). *The attrition of French as a foreign language*. Dordrecht/Providence: Foris Publications.
- Weltens, B., & Grendel, M. (1993). Attrition of vocabulary knowledge. *Studies in Bilingualism*. In R. Schreuder, & B. Weltens, *The Bilingual Lexicon*. Amsterdam: John Benjamin. 135-156.
- Write, S. (1992). *Bilingualism and Educational Achievement: A Study of Young Bilinguals in Birmingham Schools and Colleges*. PhD Thesis. Birmingham: University of Aston.
- Wu, C. H. (2005). Attitude and Behavior toward Bilingualism for Chinese Parents and Children. In J. Cohen, K. T. McAlister, K. Rolstad, and J. MacSwan (eds), *Proceedings of the 4th International Symposium on Bilingualism*. Somerville/MA: Cascadilla Press. 2385- 2394.
- Yin, R. K. (1994). *Case study research: Design and methods* (2nd edition). Newbury Park/CA: Sage Publications.

- Young, A., & Helot, C. (2003). Language Awareness and/or Language Learning in French Primary Schools Today. *Language Awareness*, 12 (3-4), 234- 246.
- Zaretsky, E., Lange, B. P., Euler, H., & Neumann, K. (2013). Acquisition of German pluralization rules in monolingual and multilingual children. *SSLT, Studies in Second Language Learning and Teaching*, 3 (4), 551- 580.
- Zhu, H. (2008). Duelling languages, duelling values: Code switching in bilingual intergenerational conflict talk in diasporic families. *Journal of Pragmatics*, 40, 1799- 1816.
- Zhu, H., & Annabelle, D. (2008). Cross-sectional and longitudinal design; single case and group studies. In L. W. Moyer, *The Blackwell Guide to Research Methods in Bilingualism and Multilingualism*. Oxford: Blackwell.
- Zhu, H., & W. Li. (2005). Bi- and multi-lingual acquisition. In M. Ball, *Clinical Sociolinguistics*. Oxford: Blackwell. 165- 179.
- Zukow-Goldring, P. (2002). Sibling caregiving. In M. Bornstein, *Handbook of Parenting* (2nd edition), Volume 3. Mahwah, NJ: Erlbaum. 253- 286.

## Appendices

### Appendix [A]: Parents' Questionnaire [sources Khattab 2002 and Gulberg & Indefrey, 2003]

#### General information:

1. How long have you lived in this country?
2. What is your occupation?
3. What were your reasons for coming to, and then living in the UK?
4. What languages do you speak?
5. What is your level of education?
6. Language use: what language(s) do you use with:
  - your spouse
  - your neighbours
  - your co-workers
  - your friends
  - your children

#### Social relationships:

1. Do you have British and/or Arab friends in the UK? Who do you socialise with the most?
2. Are there other Iraqi families in Colchester that you are in contact with?
3. What nationality are your neighbours/co-workers? How would you describe your relationships with them?
4. Are you satisfied with your life in the UK and do you feel that you and your family are well-integrated into society?
5. How often do you go back to Iraq/travel to Iraq?
6. When you talk with an Arab friend in the presence of a non-Arab, do you use Arabic or English?
7. When you speak with an Arab colleague about work or study, do you speak Arabic or English?
8. Do you intend to reside in the UK permanently or do you have plans to go back to Iraq in the future?
9. How many children have you got? How old are they?

#### Information about each child

1. Where was your child born? Where has he/she been living since?
2. How often does your child go to Iraq and for how long?
3. At what age was your child first heard speaking English?
4. What decisions did you make about which language(s) to use with your child? What were the reasons (e.g. cultural, religious...) behind your decisions?
5. At what age did your child start going to nursery/school?
6. Can you describe your child's linguistic development since he/she started attending nursery/school?

7. Does your child attend any other school apart from the mainstream English school? If yes, at what age did he/she start attending it and how do you feel this has affected their language development, choice, or dominance?
8. What language(s) does your child use with:
  - you (mother/father)
  - the neighbours
  - relatives
  - friends
  - brothers or sisters
9. What language(s) is your child exposed to when:
  - watching TV/videos
  - listening to music
  - reading
  - playing games
10. Which language do you consider is your child's favourite?
11. Do you try to influence your child's language choice/use? How do you do that and why?
12. What is your opinion about your child growing up bilingual?
13. The amount (richness) of languages inputs/usages from all interlocutors in the home

## Domains:

| Interlocutors   | 5=all the time | 4=most of the time | 3= half the time | 2=sometimes | almost never |
|-----------------|----------------|--------------------|------------------|-------------|--------------|
| Parents         |                |                    |                  |             |              |
| Siblings        |                |                    |                  |             |              |
| Relatives       |                |                    |                  |             |              |
| Friends         |                |                    |                  |             |              |
| WatchingTV      |                |                    |                  |             |              |
| Songs           |                |                    |                  |             |              |
| Games           |                |                    |                  |             |              |
| Reading/Writing |                |                    |                  |             |              |

**Appendix [B]: Children's Questionnaire performed by Children's mothers****[source Khattab 2002]**

1. Which language do you think you know better?
2. Which language do you prefer? Why?
3. Do you like living in the UK or Iraq? What do you like and/or dislike about your life in Britain/Iraq?

## **Appendix [C]: The Literacy Level of each Bilingual Child in each Language to be filled by parents [source Khattab 2002]**

1. English: What is the literacy level of your child in each language?

- 1- Cannot speak the indicated language, has a few words or phrases, cannot produce sentences (Expressive Language), only understands a few words (Receptive Language).
  - 2- Cannot speak the indicated language, has a few words or phrases (Expressive Language), understands the general idea of what is being said (Receptive Language).
  - 3- Limited proficiency with grammatical errors, limited vocabulary (Expressive Language), understands the general idea of what is being said (Receptive Language).
  - 4- Good proficiency with some grammatical errors, some social and academic vocabulary (Expressive Language), understands most of what is said (Receptive Language).
  - 5- Native-like proficiency with few grammatical errors, good vocabulary (Expressive Language), understands most of what is said (Receptive Language).
- DK- Don't Know.

2. Arabic: What is the literacy level of your child in each language?

- 1- Cannot speak the indicated language, has a few words or phrases, cannot produce sentences (Expressive Language), only understands a few words (Receptive Language).
  - 2- Cannot speak the indicated language, has a few words or phrases (Expressive Language), understands the general idea of what is being said (Receptive Language).
  - 3- Limited proficiency with grammatical errors, limited vocabulary (Expressive Language), understands the general idea of what is being said (Receptive Language).
  - 4- Good proficiency with some grammatical errors, some social and academic vocabulary (Expressive Language), understands most of what is said (Receptive Language).
  - 5- Native-like proficiency with few grammatical errors, good vocabulary (Expressive Language), understands most of what is said (Receptive Language).
- DK- Don't Know.

## Appendix [D]: The Literacy Level of each Bilingual Child in each Language

(source Fishman 1991: 53)

|    | Questions  | Yes | Little | No |
|----|--|-----|--------|----|
| 1  | Can understand Arabic conversation?                              |     |        |    |
| 2  | Can speak Arabic (conversation)?                                 |     |        |    |
| 3  | Can read books/storybooks in Arabic?                             |     |        |    |
| 4  | Can write letters in Arabic?                                     |     |        |    |
| 5  | Can produce few words or phrases in Arabic?                      |     |        |    |
| 6  | Can produce sentences in Arabic?                                 |     |        |    |
| 7  | Can understand most of what is being said to him/her in Arabic?  |     |        |    |
| 8  | Can understand only a few words in Arabic?                       |     |        |    |
| 9  | Can understand English conversation?                             |     |        |    |
| 10 | Can speak English (conversation)?                                |     |        |    |
| 11 | Can read books/storybooks in English?                            |     |        |    |
| 12 | Can write letters in English?                                    |     |        |    |
| 13 | Can produce few words or phrases in English?                     |     |        |    |
| 14 | Can produce sentences in English?                                |     |        |    |
| 15 | Can understand most of what is being said to him/her in English? |     |        |    |
| 16 | Can understand only a few words in English?                      |     |        |    |

## Appendix [E]: Bilingual Children's Parent Proficiency Skills in English and Arabic

Parents' proficiency levels in English:

| Families |        | Ability  |           |          |          |
|----------|--------|----------|-----------|----------|----------|
|          |        | Speaking | Listening | Reading  | Writing  |
| 1        | Ali    | High     | High      | High     | High     |
|          | Alyaa  | High     | High      | High     | High     |
| 2        | Basil  | High     | High      | High     | High     |
|          | Batool | Basic    | Basic     | No       | No       |
| 3        | Carem  | Basic    | Basic     | No       | No       |
|          | Cenana | High     | High      | High     | High     |
| 4        | Dorayd | Moderate | Moderate  | Moderate | Moderate |
|          | Dema   | No       | No        | No       | No       |
| 5        | Ehaab  | High     | High      | High     | High     |
|          | Enaas  | Moderate | Moderate  | Moderate | Moderate |
| 6        | Faysal | Moderate | Moderate  | Moderate | Moderate |
|          | Fatin  | Basic    | Basic     | No       | No       |

Parents' proficiency levels in Arabic:

| Families |        | Ability  |           |         |         |
|----------|--------|----------|-----------|---------|---------|
|          |        | Speaking | Listening | Reading | Writing |
| 1        | Ali    | High     | High      | High    | High    |
|          | Alyaa  | High     | High      | High    | High    |
| 2        | Basil  | High     | High      | High    | High    |
|          | Batool | High     | High      | High    | High    |
| 3        | Carem  | High     | High      | High    | High    |
|          | Cenana | High     | High      | High    | High    |
| 4        | Dorayd | High     | High      | High    | High    |
|          | Dema   | High     | High      | High    | High    |
| 5        | Ehaab  | High     | High      | High    | High    |
|          | Enaas  | High     | High      | High    | High    |
| 6        | Faysal | High     | High      | High    | High    |
|          | Fatin  | High     | High      | High    | High    |

High: You can communicate effectively in most social and work situations.

Moderate: You can communicate comfortably in familiar social and work situations.

Basic: You can communicate in predictable contexts and on familiar topics, but with some difficulty.

No: You do not meet the above criteria for basic proficiency

## Appendix [F]: Consent Form



### Department of Language and Linguistics

#### Participant information sheet and consent form

**Title of project / investigation:** A sociolinguistic study of the ‘Broken Plural’ in the speech of Iraqi Arabic-English bilingual children.

#### **Brief outline of project, including an outline of the procedures to be used:**

The study is a case study of Iraqi children developing bilingualism to assess the linguistic process of Language 2 (English) acquisition and its effects on Language 1 (Iraqi Arabic), it will investigate language development (L1) among bilinguals and also consider the impacts of social and cultural factors. The study will examine the children’s formation with respect to sociolinguistic variables that are salient in their community. The data will be collected using a variety of ethnographic methods including direct observation, interviews, visits to the subjects homes, and observations of the type of linguistic interactions that take place between parents and children, and the children between themselves, all these will be audio taped.

**Participation is voluntary and participants can withdraw their consents at any point in the course of the research without giving any reason and without penalty.**

#### **The researcher promises that:**

- All parts of the interviews and observations will be treated with utmost confidentiality. No persons other than the researcher, myself, will have access to the content of the interview or the identity of the participants and pseudonyms will be used to refer to the participants in writing the project.
- The recorded interview will be saved on the hard disc of my personal computer, protected by password and will be used for the purpose of this research only.
- Nothing that the participants say in the recording will affect them in any way in the future.
- The participant is handed a copy of a statement containing full information about the study in the form of ‘participant information sheet’ and contact details of the researcher and the supervisor.
- The participant will have the opportunity to ask any questions about the research.

**Contact details of the researcher and the supervisor for any queries:**

**Supervisor:** Professor Enam Al-Wer

Dept of Language & Linguistics

University of Essex

Tel: +44(0)1206872240

Email: [enama@essex.ac.uk](mailto:enama@essex.ac.uk)

Signature:

**Researcher:** Alyaa Al-Timimi

Dept of Language & Linguistics

University of Essex

Tel : +44 (0)7860373860

Email: [aaltim@essex.ac.uk](mailto:aaltim@essex.ac.uk)

Signature :

**Participant declaration:**

I \_\_\_\_\_ have read all the above information and I agree to take a part in the current study. I am aware that I have the right to withdraw from the current study at anytime without giving any explanations.

Participant's signature and date:

**Minor guardians declaration:**

I \_\_\_\_\_ the guardian of \_\_\_\_\_ declare that I have read all the above information and I agree to my son/daughter to take part in the current study, I am aware that my son/ daughter is able to withdrawal form the current study at any time without giving any explanations..

Signature:

## Appendix [G]: Picture elicitation

Below is a list of some of the pictures used in the present study to elicit broken plural words from bilingual children.



jaraṣ



'ajrāṣ/jrāṣ



qalam



'aqlām/ qlām



jamal



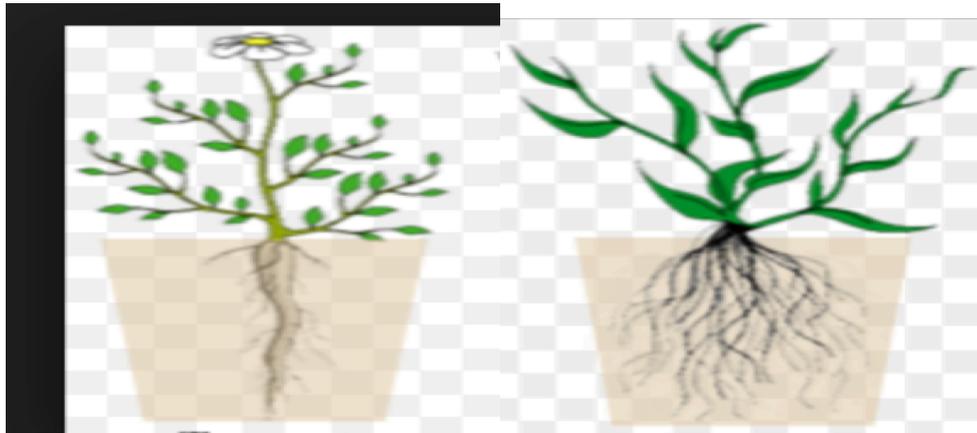
jmāl/jimāl



fīl



fiyyāla



jaḍir

jiḍūr/ jdūr



sin



snūn



šubbāk

šubābīk



zūliyya

zuwāli



dugma

dugam