

The Acquisition of the Syntax and
Morphology of the English Spoken
in Singapore: Evidence from
preschool speakers of Singapore
Colloquial English

Chris Brebner, BAppSc(SpPath)

Speech Pathology & Audiology
School of Medicine
Faculty of Health Sciences
Flinders University

Thesis submitted in total fulfilment of the requirements for the
degree

Doctor of Philosophy

30th April 2010

Table of Contents

| | |
|--|------------|
| ABSTRACT | IX |
| DECLARATION | XI |
| ACKNOWLEDGEMENTS | XII |
| DEDICATION | XII |
| CHAPTER 1 INTRODUCTION..... | 1 |
| CHAPTER 2 LITERATURE REVIEW..... | 3 |
| INTERACTION OF CULTURE AND SKILLS | 4 |
| ASSESSMENT OF LANGUAGE SKILLS..... | 7 |
| SPEECH AND LANGUAGE THERAPY IN SINGAPORE | 10 |
| CULTURAL BIAS IN ASSESSMENTS | 11 |
| ATTEMPTS TO OVERCOME TEST BIAS | 15 |
| <i>Culture fair tests</i> | 16 |
| <i>Translation of tests</i> | 17 |
| <i>Statistical issues</i> | 19 |
| MODIFICATION OF ASSESSMENT TOOLS | 21 |
| ENGLISH IN SINGAPORE..... | 22 |
| CHARACTERISTICS OF SCE..... | 26 |
| LINGUISTIC TOLERANCE IN SINGAPORE | 31 |
| LINGUISTIC BIAS IN LANGUAGE ASSESSMENT IN SINGAPORE | 33 |
| PROJECTS TO OVERCOME TEST BIAS IN SINGAPORE | 39 |
| MODIFICATION OF EXISTING ASSESSMENTS | 41 |
| <i>Researcher / examiner bias</i> | 42 |
| <i>Process of modification</i> | 44 |
| SUMMARY..... | 50 |
| CHAPTER 3 RENFREW ACTION PICTURE TEST MODIFICATION..... | 53 |
| METHOD | 53 |
| ETHICAL CLEARANCE | 53 |
| TEST MODIFICATION | 54 |
| <i>Pictorial</i> | 54 |
| <i>Semantic</i> | 55 |
| <i>Linguistic</i> | 55 |
| CONTROL OF RESEARCHER BIAS | 56 |
| MODIFICATION OF THE SCORING SYSTEM | 67 |
| <i>Selection of pictures</i> | 67 |

| | |
|--|-----------|
| <i>Participant sample</i> | 67 |
| <i>Procedure</i> | 67 |
| CHAPTER 4 METHODOLOGY FOR HYPOTHESIS TESTING | 73 |
| METHODOLOGY: COMPARING THE RENFREW ACTION PICTURE TEST WITH THE SINGAPORE ENGLISH ACTION PICTURE TEST..... | 73 |
| <i>Procedure</i> | 75 |
| <i>Inter-rater reliability</i> | 76 |
| <i>Data analysis</i> | 76 |
| <i>Mean length of utterance (MLU)</i> | 77 |
| <i>Number of word roots used</i> | 77 |
| <i>Total number of words used</i> | 77 |
| <i>Total number of words omitted</i> | 78 |
| <i>Total number of inflectional morphemes omitted and used</i> | 78 |
| <i>Total number of prepositional phrases used</i> | 79 |
| <i>Total number of conjunctions used</i> | 79 |
| SUMMARY..... | 79 |
| CHAPTER 5 RESULTS PART A | 80 |
| RESULTS OF STATISTICAL ANALYSIS..... | 80 |
| <i>MLU</i> | 85 |
| <i>Word roots</i> | 86 |
| <i>Number of words used</i> | 87 |
| <i>Number of words omitted</i> | 87 |
| <i>Inflectional morphemes</i> | 88 |
| <i>Prepositional phrases used</i> | 90 |
| <i>Conjunctions used</i> | 90 |
| SUMMARY..... | 91 |
| CHAPTER 6 DISCUSSION OF RESULTS PART A | 92 |
| MODIFICATIONS TO THE RAPT..... | 92 |
| INFORMATION..... | 93 |
| GRAMMAR..... | 93 |
| MLU..... | 94 |
| NUMBER OF WORDS AND INFLECTIONAL MORPHEMES OMITTED..... | 95 |
| CONJUNCTIONS AND PREPOSITIONAL PHRASES..... | 95 |
| SUMMARY..... | 96 |
| CHAPTER 7 DEVELOPMENT OF ENGLISH IN PRESCHOOL CHINESE SINGAPOREAN ENGLISH-MANDARIN BILINGUAL CHILDREN: RATIONALE AND METHOD | 99 |
| RATIONALE..... | 99 |

| | |
|--|------------|
| METHOD | 100 |
| <i>Participant sample</i> | 101 |
| <i>Procedure</i> | 104 |
| <i>Reliability</i> | 105 |
| <i>Data analysis</i> | 106 |
| METHODOLOGICAL ISSUES | 110 |
| <i>Utterance Level</i> | 110 |
| <i>Total number of words used</i> | 113 |
| <i>Clause Level</i> | 117 |
| <i>Verb group</i> | 117 |
| <i>Phrase level</i> | 124 |
| SUMMARY | 132 |
| CHAPTER 8 RESULTS PART B..... | 139 |
| UTTERANCE LEVEL | 139 |
| <i>Mean length of utterance (MLU)</i> | 140 |
| <i>Summary</i> | 160 |
| CLAUSE LEVEL..... | 162 |
| <i>Subject omission</i> | 162 |
| <i>Object omission</i> | 165 |
| <i>Summary</i> | 166 |
| VERB GROUP – INFLECTIONAL MORPHOLOGY | 167 |
| <i>Third person singular “-s” marker</i> | 169 |
| <i>Present progressive “-ing” tense marker</i> | 171 |
| <i>Regular past tense “-ed” marker</i> | 172 |
| <i>Irregular past tense</i> | 175 |
| <i>Irregular past participle forms</i> | 177 |
| <i>“Already”</i> | 178 |
| <i>Infinitive verbs</i> | 179 |
| <i>Summary</i> | 179 |
| VERB GROUP – ASPECT, MODAL AND AUXILIARY VERBS | 180 |
| <i>Perfective aspect</i> | 183 |
| <i>Future aspect</i> | 183 |
| <i>Auxiliary “to be”</i> | 186 |
| <i>Copula “to be”</i> | 191 |
| <i>Summary</i> | 193 |
| PHRASE LEVEL - ARTICLES | 194 |
| <i>Definite article “the”</i> | 196 |

| | |
|---|------------|
| <i>Indefinite article “a”</i> | 197 |
| <i>Summary</i> | 198 |
| PHRASE LEVEL - PLURAL MARKING | 199 |
| <i>Summary</i> | 204 |
| PHRASE LEVEL - POSSESSION | 205 |
| <i>Summary</i> | 208 |
| PHRASE LEVEL - PRONOUNS | 209 |
| <i>Personal pronouns</i> | 209 |
| <i>Possessive pronouns</i> | 213 |
| <i>Object pronouns</i> | 217 |
| <i>Summary</i> | 219 |
| PHRASE LEVEL - CONJUNCTIONS | 220 |
| <i>Coordinating conjunctions</i> | 222 |
| <i>Subordinating conjunctions</i> | 226 |
| <i>Summary</i> | 229 |
| PHRASE LEVEL - PREPOSITIONS | 230 |
| <i>Use of prepositions</i> | 232 |
| <i>Omission of prepositions</i> | 235 |
| <i>Errors in the use of prepositions</i> | 236 |
| <i>Summary</i> | 237 |
| CHAPTER 9 DISCUSSION OF RESULTS PART B AND OVERALL..... | 239 |
| DISCUSSION OF OVERALL RESULTS | 239 |
| DISCUSSION OF RESULTS FOR EL1 PARTICIPANTS..... | 244 |
| <i>Utterance level</i> | 245 |
| <i>Clause level</i> | 247 |
| <i>Verb group</i> | 248 |
| <i>Phrase level</i> | 253 |
| <i>Summary of discussion - EL1 participants</i> | 261 |
| DISCUSSION OF RESULTS FOR ML1 PARTICIPANTS..... | 261 |
| <i>Utterance level</i> | 262 |
| <i>Clause level</i> | 265 |
| <i>Verb group</i> | 265 |
| <i>Phrase level</i> | 267 |
| <i>Summary of discussion - ML1 participants</i> | 271 |
| SUMMARY..... | 273 |
| CHAPTER 10 FINAL DISCUSSION: IMPLICATIONS OF THE STUDY | 276 |
| OVERVIEW OF IMPLICATIONS FOR CLINICAL PRACTICE | 277 |

| | |
|---|------------|
| CLINICAL IMPLICATIONS OF THE STUDY..... | 282 |
| <i>Utterance level</i> | 283 |
| <i>Clause level</i> | 283 |
| <i>Verb group</i> | 284 |
| <i>Phrase level</i> | 286 |
| <i>Summary of clinical implications</i> | 289 |
| IMPLICATIONS FOR EDUCATION AND EDUCATIONAL PRACTICE..... | 289 |
| LIMITATIONS OF THIS STUDY AND DIRECTIONS FOR FUTURE RESEARCH..... | 290 |
| REFERENCES..... | 295 |
| APPENDIX 1 LANGUAGE SAMPLES FROM ML1 AND EL1 CHILDREN..... | 318 |
| APPENDIX 2 ADDITIONAL STATISTICAL INFORMATION..... | 331 |
| APPENDIX 3 DIRECTIONS FOR FUTURE RESEARCH..... | 384 |

List of Figures

| | |
|--|-----|
| Figure 5.1: Information scores by main language group for each test..... | 81 |
| Figure 5.2: Grammar scores by main language group for each test..... | 84 |
| Figure 5.3: Mean MLU in morphemes..... | 85 |
| Figure 5.4: Mean MLU in words..... | 86 |
| Figure 5.5: Number of word roots used..... | 86 |
| Figure 5.6: Total number of words used..... | 87 |
| Figure 5.7: Total number of words omitted..... | 88 |
| Figure 5.8: Total number of inflectional morphemes used..... | 89 |
| Figure 5.9: Total number of inflectional morphemes omitted..... | 89 |
| Figure 5.10: Mean number of prepositional phrases used..... | 90 |
| Figure 5.11: Mean number of conjunctions used..... | 91 |
| Figure 7.1: SEAPT test item 7, “What has the Jie Jie/big girl done?”..... | 107 |
| Figure 8.1: MLU in words..... | 143 |
| Figure 8.2: MLU in morphemes..... | 144 |
| Figure 8.3: MLU in morphemes for EL1, ML1 and Miller and Chapman (1981)..... | 146 |
| Figure 8.4: Total number of word roots used..... | 147 |
| Figure 8.5: Total words used..... | 149 |
| Figure 8.6: Total omitted words..... | 150 |
| Figure 8.7: Total words used vs omitted words..... | 151 |
| Figure 8.8: Inflectional morphemes used..... | 153 |
| Figure 8.9: Total omitted inflectional morphemes..... | 154 |
| Figure 8.10: Mean MLU morphemes vs total omitted inflectional morphemes..... | 155 |
| Figure 8.11: Total number of utterances used..... | 156 |

| | | |
|--------------|--|-----|
| Figure 8.12: | Percentage of single word utterances | 158 |
| Figure 8.13: | Mean number of code switches | 159 |
| Figure 8.14: | Appropriate subject omission | 163 |
| Figure 8.15: | Mean number of inappropriately omitted subjects | 164 |
| Figure 8.16: | Use of third person singular “-s” marker | 169 |
| Figure 8.17: | Omission of third person singular “-s” marker | 170 |
| Figure 8.18: | Use of present progressive “-ing” tense marker | 172 |
| Figure 8.19: | Use of regular past tense “-ed” marker | 173 |
| Figure 8.20: | Omission of regular past tense “-ed” marker | 174 |
| Figure 8.21: | Use of irregular past tense verb forms | 175 |
| Figure 8.22: | Errors in irregular past tense forms | 176 |
| Figure 8.23: | Use of irregular past participle forms | 177 |
| Figure 8.24: | Use of “already” for perfective aspect | 178 |
| Figure 8.25: | Use of infinitive verbs without modal auxiliary “will” | 185 |
| Figure 8.26: | Future aspect using “want” | 186 |
| Figure 8.27: | Use of auxiliary verb “is” | 187 |
| Figure 8.28: | Omission of auxiliary verb “is” | 188 |
| Figure 8.29: | Omission of auxiliary verb “is” | 189 |
| Figure 8.30: | Use of auxiliary verb “are” | 189 |
| Figure 8.31: | Omission of auxiliary verb “are” | 190 |
| Figure 8.32: | Errors in use of auxiliary verb “are” | 190 |
| Figure 8.33: | Use of copula verb “is” | 191 |
| Figure 8.34: | Omission of copula verb “is” | 192 |
| Figure 8.35: | Errors in use of copula “is” | 192 |
| Figure 8.36: | Use of definite article “the” | 196 |
| Figure 8.37: | Omission of definite article “the” | 197 |
| Figure 8.38: | Use of indefinite article “a” | 198 |
| Figure 8.39: | Use of plural “-s” marker | 201 |
| Figure 8.40: | Omission of plural “-s” | 202 |
| Figure 8.41: | Use of quantifier to indicate plurality | 203 |
| Figure 8.42: | SEAPT picture 5 with target of “two stars” | 204 |
| Figure 8.43: | Mean number of uses of possessive “-s” marker | 207 |
| Figure 8.44: | Mean number of omissions of possessive “-s” marker | 208 |
| Figure 8.45: | Use of pronoun “he” | 211 |
| Figure 8.46: | Use of pronoun “she” | 212 |
| Figure 8.47: | Errors in use of pronoun “she” | 212 |
| Figure 8.48: | Use of possessive pronoun “his” | 214 |

| | | |
|--------------|---|-----|
| Figure 8.49: | Use of possessive pronoun “her”..... | 215 |
| Figure 8.50: | Errors in use of possessive pronoun “her” | 216 |
| Figure 8.51: | Use of object pronouns..... | 217 |
| Figure 8.52: | Errors in use of object pronouns..... | 219 |
| Figure 8.53: | Omission of conjunctions | 222 |
| Figure 8.54: | Use of coordinating conjunctions..... | 223 |
| Figure 8.55: | Use of coordinating conjunction “then” | 224 |
| Figure 8.56: | Use of coordinating conjunction “and” | 225 |
| Figure 8.57: | Use of subordinating conjunctions | 226 |
| Figure 8.58: | Use of “because” | 227 |
| Figure 8.59: | Use of prepositions..... | 232 |
| Figure 8.60: | Use of preposition “down” | 233 |
| Figure 8.61: | Use of preposition “on”..... | 234 |
| Figure 8.62: | Use of preposition “up”..... | 235 |
| Figure 8.63: | Omission of prepositions..... | 236 |
| Figure 8.64: | Errors in use of prepositions..... | 236 |

List of Tables

| | | |
|-------------|--|----|
| Table 2.1: | Grammatical targets in Renfrew Action Picture Test..... | 35 |
| Table 2.2: | Gupta’s developmental sequence for English in Singapore | 37 |
| Table 2.3: | Comparison between original RAPT norms and Singaporean norms (from Chong et al. 1998) | 40 |
| Table 3.1: | Original RAPT picture 1 and alternative pictures..... | 57 |
| Table 3.2: | Original RAPT picture 2 and alternative pictures..... | 58 |
| Table 3.3: | Original RAPT picture 3 and alternative pictures..... | 59 |
| Table 3.4: | Original RAPT picture 4 and alternative pictures..... | 60 |
| Table 3.5: | Original RAPT picture 5 and alternative pictures..... | 61 |
| Table 3.6: | Original RAPT picture 6 and alternative pictures..... | 62 |
| Table 3.7: | Original RAPT picture 7 and alternative pictures..... | 63 |
| Table 3.8: | Original RAPT picture 8 and alternative pictures..... | 64 |
| Table 3.9: | Original RAPT picture 9 and alternative pictures..... | 65 |
| Table 3.10: | Original RAPT picture 10 and alternative pictures..... | 66 |
| Table 3.11: | Friedman analysis results and picture selection..... | 68 |
| Table 4.1: | Age groups..... | 74 |
| Table 4.2: | Type of residence..... | 75 |
| Table 5.1: | Mean scores, standard deviation and range for both language groups on the SEAPT, RAPT and LRAPT, and original RAPT standardisation sample..... | 82 |

| | | |
|-------------|---|-----|
| Table 7.1: | Age groups..... | 102 |
| Table 7.2: | Type of residence..... | 103 |
| Table 7.3: | Educational level of father compared by age 25 – 44 years | 104 |
| Table 7.4: | Test procedure and questions..... | 106 |
| Table 8.1: | Key findings from utterance level results | 141 |
| Table 8.2: | Paired sample t test results for MLU morphemes versus MLU words for EL1 participants | 142 |
| Table 8.3: | Paired sample t test results for MLU morphemes versus MLU words for ML1 participants | 142 |
| Table 8.4: | Means and standard deviations for MLU words for EL1 and ML1 participants | 143 |
| Table 8.5: | Means and standard deviations for MLU morphemes for EL1 and ML1 participants | 144 |
| Table 8.6: | EL1 and ML1 MLU in morphemes and age equivalent for StdE..... | 146 |
| Table 8.7: | Key findings for subject and object omission results | 162 |
| Table 8.8: | Key findings from results for verb group inflectional morphology..... | 168 |
| Table 8.9: | Key findings from results for verb group aspect, modal and auxiliary verbs | 181 |
| Table 8.10: | Mean uses of structures for indicating future aspect | 184 |
| Table 8.11: | Key findings from results for articles | 195 |
| Table 8.12: | Key findings from results for plural marking | 200 |
| Table 8.13: | Percentage of types of plural marking | 204 |
| Table 8.14: | Key findings from results for marking possession | 205 |
| Table 8.15: | Mean number of uses of possessive “-s” marker by language and age | 206 |
| Table 8.16: | Key findings from results for pronouns..... | 210 |
| Table 8.17: | Mean occurrence of errors in the use of possessive pronoun “his” | 215 |
| Table 8.18: | Mean occurrence of errors in the use of object pronouns | 218 |
| Table 8.19: | Key findings from results for conjunctions | 221 |
| Table 8.20: | Errors in use of co-ordinating conjunctions..... | 225 |
| Table 8.21: | Errors in use of subordinating conjunctions | 229 |
| Table 8.22: | Key findings from results for prepositions | 231 |
| Table 9.1: | Summary of results between main language groups..... | 240 |
| Table 9.2: | Morphological marking of verbs for EL1 and StdE | 250 |
| Table 9.3: | Summary of results for both main language groups | 274 |
| Table 10.1: | Possible clinical indicators of language impairment for Chinese Singaporean preschool children aged 3;9-6;8 years | 280 |
| Table 10.2: | Language characteristics of EL1 and ML1 children by age | 281 |

Abstract

The language environment in Singapore is complex. Consequently, assessment of children's language skills is challenging. Singapore has four official languages (English, Mandarin, Malay, Tamil) and many unofficial languages (e.g. Chinese/Indian dialects). There are two distinct forms of English: Singapore Standard English (SStdE) and Singapore Colloquial English (SCE). SStdE is the medium of education, but SCE is most likely to be spoken with young children. Despite this complexity, in Singapore there is little information on acquisition of the local languages and few locally standardised assessments. This study seeks to address this lack of information because such information is needed to enable differential diagnosis between language impairment (LI) and language difference in multilingual children.

The initial component of this study investigated whether modifying the Renfrew Action Picture Test (RAPT) to make it more culturally and linguistically appropriate for assessing the language of Chinese Singaporean preschoolers would allow them to produce better samples of their English expressive language abilities.

One hundred and six English-Mandarin bilingual children aged 4-5 years were tested using the modified assessment (Singapore English Action Picture Test, SEAPT), the original RAPT and, as there was a change from colour pictures to line drawings, a line-drawn version of the RAPT (LRAPT). The results showed that the SEAPT elicited more representative samples of expressive vocabulary and grammar in English than the original RAPT and LRAPT.

Interesting differences were observed between the English spoken by children who spoke mainly English in the home (EL1) and mainly Mandarin in the home (ML1). The second component of this study investigated the emergence of morphosyntax characteristic of SCE and SStdE in the expressive language samples of English-Mandarin bilingual Chinese Singaporean preschoolers. The study considered specific characteristics of language that are clinically useful for Speech Pathologists in the assessment and diagnosis of LI, rather than a comprehensive linguistic description of the English spoken in Singapore by these children.

Expressive language samples in English were collected from 481 children aged between 3;9 years and 6;8 years (236 EL1, 245 ML1) using the SEAPT. The data were analysed to determine differences between main language groups across ages in patterns of use and errors in use of morphosyntax.

The results showed differences in order and acquisition of many aspects of syntax and morphology between the two language groups. The EL1 group acquire both SCE and SStdE, but with differences in rate of acquisition of morphosyntax in comparison with Standard English (StdE) spoken around the world. The ML1 participants' development of English differs significantly to the patterns of development shown by the EL1 children, as well as to monolingual StdE speaking children, with these children acquiring only SCE in their preschool years.

The results from each language group are discussed with reference to the diagnosis of LI in bilingual/multilingual children, including implications for education.

Declaration

I certify that this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any university; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text

Signed C M Brebner

Date 30/04/2010

Acknowledgements

I wish to acknowledge my supervisors, Dr. Paul McCormack at Flinders University, South Australia and Dr. Susan Rickard Liow at National University of Singapore.

I would also like to thank the children and staff of the many kindergartens in Singapore who generously allowed me to visit their centres to obtain language samples.

My grateful thanks also go to the Speech Pathologists in Singapore who assisted me with the modification of the Renfrew Action Picture Test, data collection and inter-rater reliability: Helen Chandler-Yeo, Tng Siok Keng, Valerie Pereira, Mary Fisher and Jo Bristow; and to the artist (now Speech Pathologist!) who drew the pictures that made up the Singapore English Action Picture Test, Ashleigh Lee.

Last but definitely not least, I would also like to thank the kind people who offered their valuable comments and support: Dr. Sue McAllister and Dr. John Brebner.

Dedication

To my boys Phil, Alec and Cullen.