

The University of Sydney

Copyright in relation to this thesis*

Under the Copyright Act 1968 (several provision of which are referred to below), this thesis must be used only under the normal conditions of scholarly fair dealing for the purposes of research, criticism or review. In particular no results or conclusions should be extracted from it, nor should it be copied or closely paraphrased in whole or in part without the written consent of the author. Proper written acknowledgement should be made for any assistance obtained from this thesis.

Under Section 35(2) of the Copyright Act 1968 'the author of a literary, dramatic, musical or artistic work is the owner of any copyright subsisting in the work'. By virtue of Section 32(1) copyright 'subsists in an original literary, dramatic, musical or artistic work that is unpublished' and of which the author was an Australian citizen, an Australian protected person or a person resident in Australia.

The Act, by Section 36(1) provides: 'Subject to this Act, the copyright in a literary, dramatic, musical or artistic work is infringed by a person who, not being the owner of the copyright and without the licence of the owner of the copyright, does in Australia, or authorises the doing in Australia of, any act comprised in the copyright'.

Section 31(1)(a)(i) provides that copyright includes the exclusive right to 'reproduce the work in a material form'. Thus, copyright is infringed by a person who, not being the owner of the copyright, reproduces or authorises the reproduction of a work, or of more than a reasonable part of the work, in a material form, unless the reproduction is a 'fair dealing' with the work 'for the purpose of research or study' as further defined in Sections 40 and 41 of the Act.

Section 51(2) provides that "Where a manuscript, or a copy, of a thesis or other similar literary work that has not been published is kept in a library of a university or other similar institution or in an archives, the copyright in the thesis or other work is not infringed by the making of a copy of the thesis or other work by or on behalf of the officer in charge of the library or archives if the copy is supplied to a person who satisfies an authorized officer of the library or archives that he requires the copy for the purpose of research or study'.

*'Thesis' includes 'treatise', dissertation' and other similar productions.

**DEVELOPMENT AND MAINTENANCE
OF
MINORITY LANGUAGE LITERACY
IN
JAPANESE-ENGLISH BILINGUAL CHILDREN
IN
AUSTRALIA**

KAYA ORIYAMA

**A thesis submitted in fulfillment
of the requirements for the degree of
Doctor of Philosophy**

Department of Linguistics

University of Sydney

August 2000

ACKNOWLEDGEMENTS

I am enormously indebted to those who have helped and encouraged me to make my study reach this stage. First, I would like to acknowledge my deepest appreciation to my supervisors, Dr. Rod Gardner, Dr. Scott F. Keisling, Dr. John Gibbons, and Dr. Ingrid Piller, in the order of supervision period, and my associate supervisor, Professor Hugh D. B. Clarke. Dr. Gardner and Dr. Keisling helped me form my ideas as to the design of my study, while Dr. Gibbons provided me with much intellectual support during the final stages of my study. Dr. Piller offered me valuable suggestions and encouragement in the crucial phase towards the completion of the thesis. Professor Clarke gave me precious advice and editorial assistance with his incomparable knowledge of Japanese. Also, I would like to express my sincere gratitude to my dissertation examiners, Professor James Cummins, Professor Heather Lotherington, and Professor Masayo Yamamoto. Their expertise and inspiring comments have greatly contributed to the improvement of this study. I am also very grateful to Dr. David A. Grayson who kindly volunteered to assist me with the statistical analyses. For the data collection, I owe a great debt of gratitude to the kind cooperation of students, teachers, and representatives of the Japanese Sunday School in Sydney, the Sydney Saturday School of Japanese, the Sydney Japanese School, and the Kanae elementary school, Nagano. In addition, I would like to thank the parents who participated in the questionnaire survey. I would also like to express my sincere appreciation to Brett Baker, Adam B. Paliwala, and Sarah Ryan for proofreading the earlier draft of the thesis. Special thanks go to Sheila Pham, Margherita Cantafio, and Ann Knowles who proofread the final draft.

Finally, I would like to dedicate this dissertation to my parents, Kunihiko and Kiyoko Oriyama, who have always given me opportunities and support for my education, and to my partner, Olivier F. Rivoalan, whose tremendous support made the accomplishment of this work possible.

ABSTRACT

Japanese–English bilingual children who grow up in Australia have two first languages: Japanese as a minority first language, and English as a majority first language. Reflecting the policy of reinforcement of economic ties between Japan and Australia, and the rise in the number of permanent and temporary residents, the number of such children of Japanese heritage is constantly increasing. Like many linguistic minority parents, the majority of Japanese parents have a serious concern regarding the development and maintenance of Japanese in their children who are being raised in Australia. However, few studies have addressed language maintenance issues relevant to this population, and no comprehensive study has been conducted on the long-term development or attrition of literacy in Japanese as a minority first language in contact settings. Moreover, there is an increasing recognition regarding the importance of developing minority language literacy and related registers for bilingual, cognitive, and academic development.

For this reason, this study takes an interdisciplinary approach to investigate the development and maintenance of minority language literacy in Japanese–English bilingual children in Australia, focusing on the longitudinal development and maintenance of Japanese writing skills among school-age Japanese–English bilinguals (age 6-12) who reside outside the Japanese community and attend a weekend Japanese school in Sydney. More specifically, the longitudinal data were compared with cross-sectional data from 1) Japanese–English bilinguals who also learn Japanese at a weekend school in Sydney, but live in the Japanese community, 2) Japanese monolinguals who are schooled in Japanese in Sydney, and 3) Japanese monolinguals in Japan. The purpose of the study is to examine 1) the nature and development of literacy in Japanese as a minority first language in contact settings, 2) the influences of the socio-cultural and the individual contexts on minority language literacy, and 3) the interrelationship between the socio-cultural context and the individual context, in order to find a way to promote and achieve higher levels of literacy in a minority language. To this aim, both descriptive and statistical analyses were employed.

With regard to the first issue, the findings of the cross-sectional analyses suggest that the bilinguals' Japanese is characterized by two features: development and transference. The longitudinal data of written Japanese was collected from

bilinguals residing outside the Japanese community, to examine the effect of contact on the development of minority language literacy. The results of the analyses show that while there are some changes in the occurrence of non-standard features at group level, and in the amount of writing in some individuals, overall literacy development is minor. Also revealed is the fact that it is not parentage (endogamous or exogamous families), but the degree of writing practice that is important for literacy development in this sample.

The examination of the second issue including the whole bilingual population shows that both the socio-cultural and the individual contexts are important for the development of minority language literacy. In particular, the following factors of the individual context are identified as significant for the development and maintenance of literacy and general ability in Japanese in a minority context: continuous and extensive use of the Japanese language and its script in both public and private domains, a high degree of community contact, positive identification with both language groups, and encouraging parental attitudes towards their children's Japanese maintenance. As for the influence of the socio-cultural context, the presence of a Japanese community is found to promote literacy in Japanese. However, the predominance of English at the macro-level overrides such positive effects at the micro-level. Specifically, the absence of wider socio-cultural support and experience, alongside monolingual English education hampers the acquisition of literacy and related registers in Japanese. In fact, the gap between Japanese-English bilinguals and Japanese monolinguals in literacy widens with each grade after grade 2, when the learning of higher levels of literacy and more formal academic registers takes place.

Furthermore, the results regarding the third issue confirm the interrelationship between the socio-cultural context and the individual context of language use and attitudes. The existence of a Japanese community significantly encourages bilinguals' private language use, but does not affect their cultural and group identification. It is revealed however that it is the broader socio-cultural context that has a greater effect on attitudes, and the tendency to favor identification with Australian culture [group] and reject identification with Japanese culture [group] increases with age and the length of residence.

In short, the results of the study suggest the insufficiency of individual and community efforts to compensate for the lack of extensive socio-cultural and educational support for the development and maintenance of Japanese literacy.

Therefore, in view of the widely demonstrated benefits and effectiveness of bilingual education, this study argues that there is an urgent need for effective bilingual education for background speakers if Australia aims to maximize the potential of its human resources.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	i
ABSTRACT	ii
LIST OF TABLES	x
LIST OF FIGURES	xii
LIST OF SYMBOLS	xiv
CHAPTER 1 BACKGROUND TO THE STUDY	1
1.1 Australia's multiculturalism and language policy.....	1
1.2 The Japanese community in Australia.....	4
1.3 Aims of the study.....	8
CHAPTER 2 ASPECTS OF BILINGUALISM	12
2.1 Introduction	12
2.2 Definitions of bilingualism and limitations	12
2.3 The variable network of bilingualism	18
2.3.1 Political economy and its ideological bases.....	21
2.3.2 Socio-demographic factors and agents of ideology.....	22
2.3.3 Individual origin of bilingualism	25
2.3.4 Identification and motivation in the development of attitude.....	26
2.3.5 Micro-level socio-cultural context: language, users, and settings...	28
2.3.6 Function and degree of language use.....	34
2.3.7 Bilingual ability as both an outcome and a cause.....	36
2.4 Types of bilingual acquisition.....	41
2.4.1 Childhood bilingual acquisition.....	41
2.4.2 Second language acquisition.....	45
2.5 Theories of bilingual acquisition: process, degree and effect.....	49
2.5.1 Degree of language development: monolingual and bilingual comparison.....	57
2.5.2 Code-mixing and transference.....	59
2.5.3 Intellectual and emotional consequences.....	61
2.6 Languages in contact: shift, attrition, and maintenance.....	66
2.6.1 Japanese-English bilingual children in contact settings.....	73
2.6.2 Relevance of studies to Japanese-English bilingual children in Australia.....	79
CHAPTER 3 DESIGN OF THE STUDY	82
3.1 Introduction.....	82
3.2 Conceptual framework.....	82
3.2.1 Translanguage (TRL): a developing minority language in a bilingual system.....	82
3.2.2 Explanation of translanguage: development and transference.....	87
3.3 The Sample.....	89
3.3.1 Individual bilinguals.....	89

3.3.2	Community bilinguals.....	91
3.3.3	Non-contact monolinguals.....	92
3.3.4	Contact Monolinguals.....	92
3.4	Data Collection.....	94
3.4.1	Summary.....	94
3.4.2	Language ability.....	95
3.4.2.1	The Translanguage Analysis.....	95
3.4.2.2	The Interview Test.....	98
3.4.2.3	Translanguage and Interlanguage comparison.....	102
3.4.3	Attitudes towards culture and group.....	103
3.4.3.1	Cultural Association Test (CAT).....	103
3.4.4	Origin and Language use.....	104
3.4.4.1	Questionnaire.....	104
3.4.4.2	Interviews.....	106
3.5	Data Analysis: transformation and scoring methods.....	107
3.5.1	Language ability.....	107
3.5.1.1	The Translanguage Analysis.....	107
3.5.1.2	The Interview Test.....	110
3.5.2	Attitudes towards culture and group.....	111
3.5.2.1	Cultural Association Test (CAT).....	111
3.5.3	Origin and Language use.....	112
3.5.3.1	Questionnaire.....	112

CHAPTER 4 JAPANESE AS A TRANSLANGUAGE..... 115

4.1	Introduction.....	115
4.2	Structure of Japanese.....	115
4.2.1	Orthography.....	115
4.2.2	Phonology.....	120
4.2.3	Grammar.....	122
4.3	Bilinguals' Japanese as a Translanguage (TRL).....	124
4.3.1	Description of translanguage.....	124
4.3.1.1	Grammatical Analysis.....	127
	Phonological.....	127
	Phonological + Orthographic.....	127
	Orthographic.....	128
	Grammatical + Morphological.....	129
	Morphological + Orthographic + Phonological.....	141
4.3.1.2	Language Acquisition Analysis.....	145
	Language transfer (Phonological+Orthographical+Morphological+Syntactic).....	145
4.3.2	Developmental and transference aspects of TRL.....	148
4.3.3	Comparison between TRL, L1, and IL.....	152
4.3.4	The relationship between oracy and literacy.....	158
4.4	Conclusion.....	167

CHAPTER 5 LONGITUDINAL DEVELOPMENT AND MAINTENANCE OF TRL LITERACY..... 169

5.1	Introduction.....	169
5.2	TRL literacy development in Individual bilinguals.....	169

5.2.1	The longitudinal group trend and the within-group variance.....	172
5.2.1.1	Phonology (PHONO).....	172
5.2.1.2	Phonology and Orthography (PHONORTH).....	173
5.2.1.3	Kana Orthography (ORTHRKT).....	174
5.2.1.4	Kanji Orthography (ORTKANJ).....	176
5.2.1.5	Grammatical and Morphological Development (GRMMRPDV).....	177
5.2.1.6	Homophone (HOMPHON).....	181
5.2.1.7	Grammatical and Morphological Acquisition (GRMMRPAC).....	183
5.2.1.8	English Transference (ENGTRF).....	187
5.2.1.9	Total TRL rate Average.....	189
5.2.2	Contributing factors of TRL rate shift and the within-group variance.....	192
5.2.2.1	Inter-grade shifts in the TRL rate and the amount of Writing.....	192
5.2.2.2	Total TRL rate Average.....	194
5.2.2.3	The Interview Test.....	200
5.3	Conclusion.....	214

CHAPTER 6 THE SOCIO-CULTURAL AND INDIVIDUAL CONTEXT OF ABILITY..... 216

6.1	Introduction.....	216
6.2	The influence of the socio-cultural context on ability.....	217
6.2.1	Bilinguals vs. Monolinguals (BILING).....	218
6.2.1.1	Translanguage Analysis.....	218
6.2.1.1.1	Grade 2.....	219
6.2.1.1.2	Grade 3.....	220
6.2.1.1.3	Grade 4.....	222
6.2.1.2	The Interview Test.....	224
6.2.1.2.1	Interview Test Score.....	225
6.2.1.2.2	The occurrence of non-standard features in the TRL categories.....	225
6.2.2	Individual bilinguals vs. Community bilinguals (COMBIL).....	228
6.2.2.1	Translanguage Analysis.....	228
6.2.2.1.1	Grade 2.....	228
6.2.2.1.2	Grade 3.....	229
6.2.2.1.3	Grade 4.....	231
6.2.2.2	The Interview Test.....	233
6.2.2.2.1	Interview Test Score.....	233
6.2.2.2.2	The occurrence of non-standard features in the TRL categories.....	234
6.2.3	Contact monolinguals vs. Non-contact monolinguals (CONTAC).....	237
6.2.3.1	Translanguage Analysis.....	237
6.2.3.1.1	Grade 2.....	237
6.2.3.1.2	Grade 3.....	238
6.2.3.1.3	Grade 4.....	239
6.2.3.2	The Interview Test.....	240
6.2.3.2.1	Interview Test Score.....	240

6.2.3.2.1	The occurrence of non-standard features in the TRL categories.....	240
6.3	The influence of the individual context on ability.....	242
6.3.1	Factors that affect specific aspects of literacy.....	244
6.3.1.2	Translanguage Analysis.....	245
6.3.1.2.1	Phonology.....	245
6.3.1.2.2	Phonology and Orthography.....	245
6.3.1.2.3	Kana Orthography.....	246
6.3.1.2.4	Kanji Orthography.....	246
6.3.1.2.5	Grammatical and Morphological Development.....	247
6.3.1.2.6	Homophone.....	247
6.3.1.2.7	Grammatical and Morphological Acquisition.....	247
6.3.1.2.8	English Transference.....	248
6.3.1.3	The Interview Test.....	248
6.3.1.3.1	Phonology.....	248
6.3.1.3.2	Phonology and Orthography.....	249
6.3.1.3.3	Kana Orthography.....	250
6.3.1.3.4	Grammatical and Morphological Development.....	251
6.3.1.3.5	Homophone.....	252
6.3.1.3.6	Grammatical and Morphological Acquisition.....	252
6.3.1.3.7	English Transference.....	253
6.3.2	Factors that affect literacy in general.....	255
6.3.2.1	Interview Test Score.....	256
6.3.2.2	Total TRL type occurrence.....	257
6.4	The influence of the socio-cultural context on the individual context..	260
6.4.1	Language use.....	261
6.4.1.1	Individual bilinguals vs. Community bilinguals.....	261
6.4.2	Attitudes towards culture and group.....	263
6.4.2.1	Bilinguals vs. Contact monolinguals.....	264
6.4.2.2	Individual bilinguals vs. Community bilinguals.....	267
6.5	Conclusion.....	270

CHAPTER 7 SUMMARY AND CONCLUSION..... 273

7.1	Introduction.....	273
7.2	Summary of findings.....	274
7.2.1	Japanese as a translanguage.....	274
7.2.2	Longitudinal development and maintenance of TRL literacy.....	275
7.2.3	The socio-cultural and individual context of ability.....	276
7.3	Implications and recommendations for future studies.....	279
7.3.1	Significance of translanguage and a continuous literacy practice.....	279
7.3.2	Network interaction of variables in bilingual development.....	280
7.3.3	Achieving additive bilingualism in a minority context.....	282

APPENDIX A 284

THE SCRIPT FOR THE ORAL INTERVIEW AND THE INTERVIEW TEST

PROCEDURE..... 284

EXAMPLES OF THE INTERVIEW TEST RESULTS..... 285

APPENDIX B 291

EXAMPLES OF THE CULTURAL ASSOCIATION TEST.....	291
APPENDIX C	293
LANGUAGE USE QUESTIONNAIRE IN JAPANESE.....	293
ENGLISH TRANSLATION OF LANGUAGE USE QUESTIONNAIRE.....	296
APPENDIX D	299
TRANSLANGUAGE ANALYSIS OF INDIVIDUAL BILINGUALS' DIARY.....	299
EXAMPLE OF DIARY ENTRIES.....	337
APPENDIX E	338
NOTE ON DUMMY VARIABLES AND CONTRASTS USED IN A REGRESSION	
MODEL.....	338
APPENDIX F	340
DESCRIPTIVE STATISTICS OF THE INDIVIDUAL CONTEXT PREDICTOR	
VARIABLES.....	340
APPENDIX G	342
SUMMARY STATISTICS OF THE MULTIPLE REGRESSION ANALYSIS IN	
SECTION 6.3.....	342
BIBLIOGRAPHY.....	354

LIST OF TABLES

Table 3.1	Number of Subjects by Grade and Age in Each Group.....	94
Table 3.2	Translanguage Analysis.....	96
Table 3.3	Interview Test.....	100
Table 3.4	The cultural items used in the Cultural Association Test.....	104
Table 3.5	Individual Origin and Language Use Variables.....	113
Table 4.1	Comparisons of Syllable Types.....	118
Table 4.2	Translanguage Analysis.....	126
Table 4.3	The conventions of translanguage description.....	127
Table 4.4	TRL types not found in Non-contact monolinguals.....	148
Table 4.5	TRL types not found in Contact monolinguals.....	149
Table 4.6	Comparisons of TRL, L1, and IL.....	157
Table 4.7	Potential TRL types with oral & written correspondence elicited in the Interview Test.....	159
Table 4.8	Oral & Written TRL Correspondence Rate Among Individual Bilinguals.....	160
Table 5.1	TRL Sub-categories for TRL Rate Analysis.....	171
Table 5.2	Regression Analysis of Predictors of PHONO32, GRMMRPAC32, and AVNW43.....	192
Table 5.3	TRL types elicited in the Interview Test.....	202
Table 5.4	Regression analysis of predictors of the Interview Test Score.....	210
Table 6.1	The three contrasts of ability among 4 groups.....	217
Table 6.2	Dummy variables for the key comparisons including 4 groups.....	217
Table 6.3	Regression of TRL Categories on Bilinguals vs. Monolinguals (BILING) with/without the Age control for Grade 2.....	219
Table 6.4	Regression of TRL Categories on Bilinguals vs. Monolinguals (BILING) with/without the Age control for Grade 3.....	220
Table 6.5	Regression of TRL Categories on Bilinguals vs. Monolinguals (BILING) with/without the Age control for Grade 4.....	222
Table 6.6	Regression of the Interview Test Score (INTSCORE) on Bilinguals vs. Monolinguals (BILING) with/without the Age control for Grade 4.....	225
Table 6.7	Regression of the Interview Test TRL Categories on Bilinguals vs. Monolinguals (BILING) with/without the Age control for Grade 4...	225
Table 6.8	Regression of TRL Categories on Individual bilinguals vs. Community bilinguals (COMBIL) with/without the Age control for Grade 2.....	228

Table 6.9	Regression of TRL Categories on Individual bilinguals vs. Community bilinguals (COMBIL) with/without the Age control for Grade 3.....	229
Table 6.10	Regression of TRL Categories on Individual bilinguals vs. Community bilinguals (COMBIL) with/without the Age control for Grade 4.....	231
Table 6.11	Regression of the Interview Test Score (INTSCORE) on Individual bilinguals vs. Community bilinguals (COMBIL) with/without the Age control for Grade 4.....	233
Table 6.12	Regression of the Interview Test TRL Categories on Individual bilinguals vs. Community bilinguals (COMBIL) with/without the Age control for Grade 4.....	234
Table 6.13	Regression of the TRL Categories on Contact monolinguals vs. Non-contact monolinguals (CONTAC) for Grade 2.....	237
Table 6.14	Regression of the TRL Categories on Contact monolinguals vs. Non-contact monolinguals (CONTAC) for Grade 3.....	238
Table 6.15	Regression of the TRL Categories on Contact monolinguals vs. Non-contact monolinguals (CONTAC) for Grade 4.....	239
Table 6.16	Regression of the Interview Test Score (INTSCORE) on Contact monolinguals vs. Non-contact monolinguals (CONTAC) for Grade 4.....	240
Table 6.17	Regression of the Interview Test TRL Categories on Contact monolinguals vs. Non-contact monolinguals (CONTAC) for Grade 4.....	240
Table 6.18	The individual context predictor variables.....	244
Table 6.19	Mean of predictor variables in each bilingual group.....	259
Table 6.20	Correlations between School and predictor variables of interest.....	259
Table 6.21	Correlations between School and the language use predictor variables.....	261
Table 6.22	The two contrasts of attitudes.....	263
Table 6.23	Dummy variables for the key comparisons including 3 groups.....	264
Table 6.24	Regression of General Cultural and Group Identification Score and Ethnolinguistic Group Identification Score on Bilinguals vs. Contact monolinguals (BILING3) with Age, Age on Arrival, and Length of Residence control.....	264
Table 6.25	Regression of General Cultural and Group Identification Score and Ethnolinguistic Group Identification Score on Individual bilinguals vs. Community bilinguals (COMBIL3) with the Age, Grade, Age on Arrival, and Length of Residence control.....	268

LIST OF FIGURES

Figure 1.1	Japanese in NSW & NT.....	6
Figure 2.1	The variable network of bilingualism.....	19
Figure 2.2	Register and linguistic dimensions of bilingual ability.....	37
Figure 2.3	The social cognitive relationship of bilingualism.....	40
Figure 2.4	Number of Japanese abroad.....	73
Figure 4.1	An example of Japanese scripts.....	116
Figure 4.2	An example of voiced and unvoiced consonant vowels.....	117
Figure 4.3	An example of possible misunderstanding without the use of <i>kanji</i>	118
Figure 4.4	Oral and written TRL correspondence (group average).....	159
Figure 4.5	Oral and written TRL correspondence by subjects.....	167
Figure 5.1	TRL rate in <i>Phonology</i> at each grade.....	172
Figure 5.2	TRL rate in <i>Phonology and Orthography</i> at each grade.....	173
Figure 5.3	TRL rate in <i>Kana Orthography</i> at each grade.....	174
Figure 5.4	TRL rate in <i>Kanji Orthography</i> at each grade.....	176
Figure 5.5	TRL rate in <i>Grammatical and Morphological Development</i> (Type 1.09 and Type 1.17) at each grade.....	178
Figure 5.6	TRL rate in <i>Grammatical and Morphological Development</i> (Type 1.15 and Type 1.21) at each grade.....	179
Figure 5.7	TRL rate in <i>Grammatical and Morphological Development</i> (Types 1.08, 1.14, and 1.18) at each grade.....	180
Figure 5.8	TRL rate in <i>Homophone</i> at each grade.....	182
Figure 5.9	TRL rate in <i>Grammatical and Morphological Acquisition</i> at each grade.....	184
Figure 5.10	TRL rate in <i>Grammatical and Morphological Acquisition</i> (Type 1.10 and Type 1.16) at each grade.....	185
Figure 5.11	TRL rate in <i>Grammatical and Morphological Acquisition</i> (Types 1.11, 1.12, 1.13, and 1.19) at each grade.....	186
Figure 5.12	TRL rate in <i>English Transference</i> (Type 2.1 and Type 2.2) at each grade.....	188
Figure 5.13	Total TRL rate Average at each grade.....	190
Figure 5.14	Total TRL rate Average for each grade level.....	194
Figure 5.15	Interview Test Score by Subject.....	200
Figure 5.16	The occurrence of TRL types in the Interview Test among Individual bilinguals.....	201
Figure 5.17	Interview Test Score & <i>English Transference</i> in the Interview Test	

	by subject.....	208
Figure 5.18	Average number of words per 10 weeks.....	212
Figure 6.1	Comparisons of the average Australian versus Japanese identification scores (Av. A vs. Av. J) between Contact monolinguals and Community bilinguals at Grade 1/Age 6-7, and at Grade 6/ Age 11-12.....	266

LIST OF SYMBOLS

ESL	English as a Second Language
LOTE	Languages Other Than English
CUP	Common Underlying Proficiency (Cummins, 1981a)
AOA	Age on Arrival
AOE	Age of Exposure
LOR	Length of Residence
SES	Socio-Economic Status
L1	First language
L2	Second language
MJL	Majority language
MNL	Minority language
AR	Academic Registers
ER	Everyday Registers
SDH	Separate Development Hypothesis (De Houwer, 1990)
BICS	Basic Interpersonal Communication Skills (Cummins, 1979)
CALP	Cognitive Academic Language Proficiency (Cummins, 1979)
TRL	Translanguage (a minority first language)
SLA	Second Language Acquisition
IL	Interlanguage
TA	Translanguage Analysis
CAT	Cultural Association Test
TRL rate	the frequency of non-standard TRL form occurrence per 100 words
IntScore	Interview Test Score
TOTINT	Total TRL type occurrence
AVCAT	General Cultural and Group Identification Score
CAT4&10	Ethnolinguistic Group Identification Score
JJORAJ	Parentage (endogamous or exogamous family)
NYS	Number of younger siblings
NOS	Number of older siblings
CLUWJP	Child language use with Japanese parent
CLUWEP	Child language use with English-speaking parent
JPLUWC	Japanese parent language use with child

EPLUWC	English-speaking parent language use with child
CLUWS	Child language use with siblings
JPLUWJP	Japanese parent language use with Japanese parent
JPLUWEP	Japanese parent language use with English-speaking parent
NOVTJ	Number of visits to Japan
FOJBR	Frequency of Japanese book reading
FOPHWJL	Frequency of parental help with Japanese learning
NOSM	Number of study materials
VOJTV	Variety of Japanese TV programs watched
FOJTV	Frequency of watching Japanese TV programs
NOJEI	Number of Japanese entertainment items
FOUJEI	Frequency of using Japanese entertainment items
LANGUSE	Language use (total scores of language use variables)
V	Vowels
C	Consonants
CV	Consonant plus Vowel combinations
N	Mora nasal phoneme
Q	Geminate obstruent phoneme
VN, CVN	Syllables with nasal coda
VQ, CVQ	Syllables with geminate obstruent consonants
CSV	Syllables with palatalized consonants
R	Vowel length phoneme
VR, CVR	Syllables with a long vowel
IndB	Individual bilinguals
ComB	Community bilinguals
PHONO	Phonology
PHONORTH	Phonology and Orthography
ORTHHRKT	<i>Kana</i> Orthography
ORTHKANJ	<i>Kanji</i> Orthography
GRMMRPDV	Grammatical and Morphological Development
HOMPHON	Homophone
GRMMRPAC	Grammatical and Morphological Acquisition
ENGTRF	English Transference
DF	Degree of Freedom
G	Grade

TtTRLAv	Total TRL Average for each grade
AVNW	Average Number of Words per Week
TtTRLAv4	Total TRL rate Average at grade 4
TOTN.NE	Total Number of No Entry
AvNWpW2	Average Number of Words per Week at grade 2
TotNW3Y	Total Number of Words in Three Years
AvNWpW3	Average Number of Words per Week at Grade 3
TNW3	Total Number of Words at Grade 3
ToAvNWpW	Total Average Number of Words per Week
BILING	Bilinguals vs. Monolinguals
COMBIL	Individual bilinguals vs. Community bilinguals
CONTAC	Contact monolinguals vs. Non-contact monolinguals
B	Bilinguals
M	Monolinguals
ConM	Contact monolinguals
NconM	Non-contact monolinguals
BILING3	Bilinguals vs. Contact Monolinguals
Av. A	the Average Australian identification scores
Av. J	the Average Japanese identification scores
COMBIL3	Individual bilinguals vs. Community bilinguals

CHAPTER 1

BACKGROUND TO THE STUDY

1.1 Australia's multiculturalism and language policy

In Australia, cultural diversity has been gradually recognized as an important national resource for social and political development. The majority of the population (78%) responded positively to the adapted policy of multiculturalism, according to the News Poll survey in April 1997 (DIMA, 1999). This may well reflect the following facts which emerged from the 1996 census: Australia has the largest composition of overseas-born population (23.3%) amongst the major migration countries, which includes 14.2% from non-English speaking countries (DIMA, 1999); 42% of Australians are migrants or have one or both parents born overseas, whose origin can be traced to almost every single country in the world (NMAC, 1999). Furthermore, the exogamy rate is relatively high (nearly 75%) among people of migrant background (Price, 1994; Penny & Khoo, 1996). It was estimated that over 4 in 10 Australians would be ethnically mixed by the year 2000 (Price, 1994; Penny & Khoo, 1996). The notion of multiculturalism underlies the support for the understanding and realization of a pluralist society, in which expression and the sharing of cultural differences is encouraged while individuals are treated equally in achieving socio-economic and cultural advancement (The University of Sydney News. 14.10.1999). The concept is shared among those who speak more than one language, or have contact with more than one ethnic community, or have close relationships with people of different cultures and ethnic backgrounds.

Australia's large-scale multiculturalism, however, is a comparatively recent phenomenon. Moreover, it was certainly not a result of stable and trouble-free development (Kalantzis, Cope, Noble & Poynting, 1990). It was not until the late 1970s that the government officially recognized the need to adopt the multiculturalism concept for the increasingly multiethnic and multilingual nation. This led to the passing of the Australian Institute of Multicultural Affairs Act in 1979, the provision of ethnic broadcasting service SBS, and the establishment of the Multicultural Education Program. The movement also created various school-based

ESL (English as a Second Language) and LOTE (Languages Other Than English) teaching programs around the nation. Despite the criticism that they placed too much focus on ‘difference,’ rather than the enhancement of academic achievement in an attempt to elevate linguistic minority students’ self-esteem, they were heading toward making some positive difference in the community (Kalantzis, et al., 1990).

Unfortunately, these positive changes were halted after the Act was repealed in 1986 by the newly elected government. Yet, the persistent lobbying of minorities and TESOL (Teachers of English as a second language) association led to the implementation of the first National Policy on Languages in Australia (Lo Bianco, 1987) and the creation of the Office of Multicultural Affairs. This made possible not only the funding of language programs and research, but also the improvement of public services such as interpreting and translating.

The 1989 National Agenda for Multicultural Australia advocated the policy on three aspects: cultural identity, social justice, and economic efficiency. The right to ‘cultural identity’ was defined as ‘the right of all Australians, within carefully defined limits, to express and share their individual cultural heritage, including their language and religion’ (DIMA, 1999). Despite its acknowledgement of the rights, it is unclear how the policy was to be implemented by any legislative action, and the ‘carefully defined limits’ were not explained in this statement.

The first language policy was revised in 1991, as the Australian Language and Literacy Policy (Dawkins, 1991), which laid more emphasis on the importance of English proficiency, rather than the value of LOTEs. Moreover, LOTEs were stratified according to the economic imperatives, so the inclusive character of the first policy was lost and became more profit-oriented (Gatt-Rutter, 1992; Lo Bianco, 1997). On the other hand, the policy was a positive shift for some Asian languages including Japanese, in that it lifted the status of these languages by its recognition. This was more so, in the next policy statement in 1994, Asian Languages and Australia’s Economic Future. In this report, four of the key Asian languages were chosen: Chinese (Mandarin), Japanese, Indonesian, and Korean, on the basis of economic importance. It also declared its aim of having these languages studied by most students by the year 2006. Likewise, in the most recent report, *Australian Multiculturalism for a New Century: Towards Inclusiveness* by the National Multicultural Advisory Council in April 1999, this trend of market value oriented approach to language policy is still prevalent. Cultural and linguistic diversity are

regarded as business advantages and their humanistic benefits are disregarded. Although it recognizes the crucial role of LOTE in improving Australia's economic relationships with the world, it overlooks the importance of bilingual education in achieving LOTE proficiency.

In fact, Lo Bianco (1997) points out the insufficiency of LOTE study in that the majority of the population with bilingual competence are first generation adult migrants, and that their children are subtractive bilinguals who retain only transitional bilingual competence. This may be a result of lack of continuity and focus on a single language in LOTE study (Gibbons, 1994) and the neglect of potential bilingual resources in minority children (Smolicz, 1994). Especially of note is the practice of 'penalizing' background speakers (speakers of a minority heritage language) by marking them down in the exams, as they are considered 'advantaged' against those without such a background. Clyne, Fernandez, Chen & Summo-O'Connell (1997) warn that such treatment might discourage background speakers from developing their LOTEs and even using them in private.

On the other hand, numerous studies worldwide have reported substantial evidence for the effectiveness of additive forms of bilingual education in achieving bilingual ability for both majority and minority children (see Section 2.5.3). In Australia, for example, Berthold (1995) reports a decade of success in Queensland immersion programs, noting the possible cognitive benefits and its applicability to various languages. Also, Gibbons et al. (1994) confirms the educational benefits of a bilingual program for a group of minority children, as the illiteracy rate dropped from 40-50 per cent to 10-15 per cent. These results show that bilingual education is beneficial and effective for both majority and minority children, and that it is operative in an Australian context. However, less than 1 per cent of Australian children receive bilingual education, although around 15 per cent come from a home where a minority language is spoken (Gibbons, 1997), and despite the linguistic, cognitive, and economic advantages for all. Moreover, there is a regional difference in the educational demand of language support. In New South Wales, for example, linguistic minority children in need of ESL or home language support comprise around 32 per cent of the government school population, and 58 per cent of the Catholic school population (Kipp, Clyne & Pauwels, 1995). Of these, those of second generation are ineligible to receive any specialist support (ibid.).

As it is a difficult task to reconcile both majority and minority interests, multiculturalism and language policy may face the dilemma of dualism: LOTE learning is promoted for its economic benefits, while discouraging background speakers to learn their home languages by marking them down on tests; language assimilation for linguistic minorities and background speakers is encouraged by providing only English as the language medium of education in general, despite the educational need of linguistic minorities to develop academic registers and literacy in their first language before or concurrently with the second (Cummins, 2000), and the potential of background speakers to attain high proficiency in LOTE if bilingual education is provided. In addition, sole emphasis on 'economic relevance' to convince the need of LOTE learning to the majority disregards 'economically irrelevant' minor languages.

Such language policy and related practices inevitably contradict the principles of Australia's multicultural policy: 'the right of all Australians to equality of treatment and opportunity, and the removal of barriers of race, ethnicity, culture, religion, language, gender or place of birth'; 'the need to maintain, develop, and use effectively the skills and talents of all Australians, regardless of background' (DIMA, 1999). The gap between the rhetoric and the reality is thus evident. This may be mainly due to the lack of governmental initiatives and funding (Gibbons, 1997), but partly due to the possibility of the broad and indefinite interpretation of the term 'multicultural'. For instance, Kalantzis (1985) points out that the pitfall of multiculturalism is as follows: since multiculturalism has a neutral and optimistic tone, the complex diversity and relationship of race, ethnicity, language in the society and the history that created it, tend to be interpreted as 'cultural phenomena' only, thus ignoring the pedagogical imperative for the children of linguistic minorities. In order to truly achieve multiculturalism, it is therefore necessary to inform both majority and minority groups of the need and the benefits of bilingual education for all Australians, which would then promote multicultural principles of social equality, mutual understanding, and tolerance.

1.2 The Japanese community in Australia

With the rapid and persistent growth and the globalization of the Japanese economy, the number of Japanese abroad has steadily risen for the past two decades.

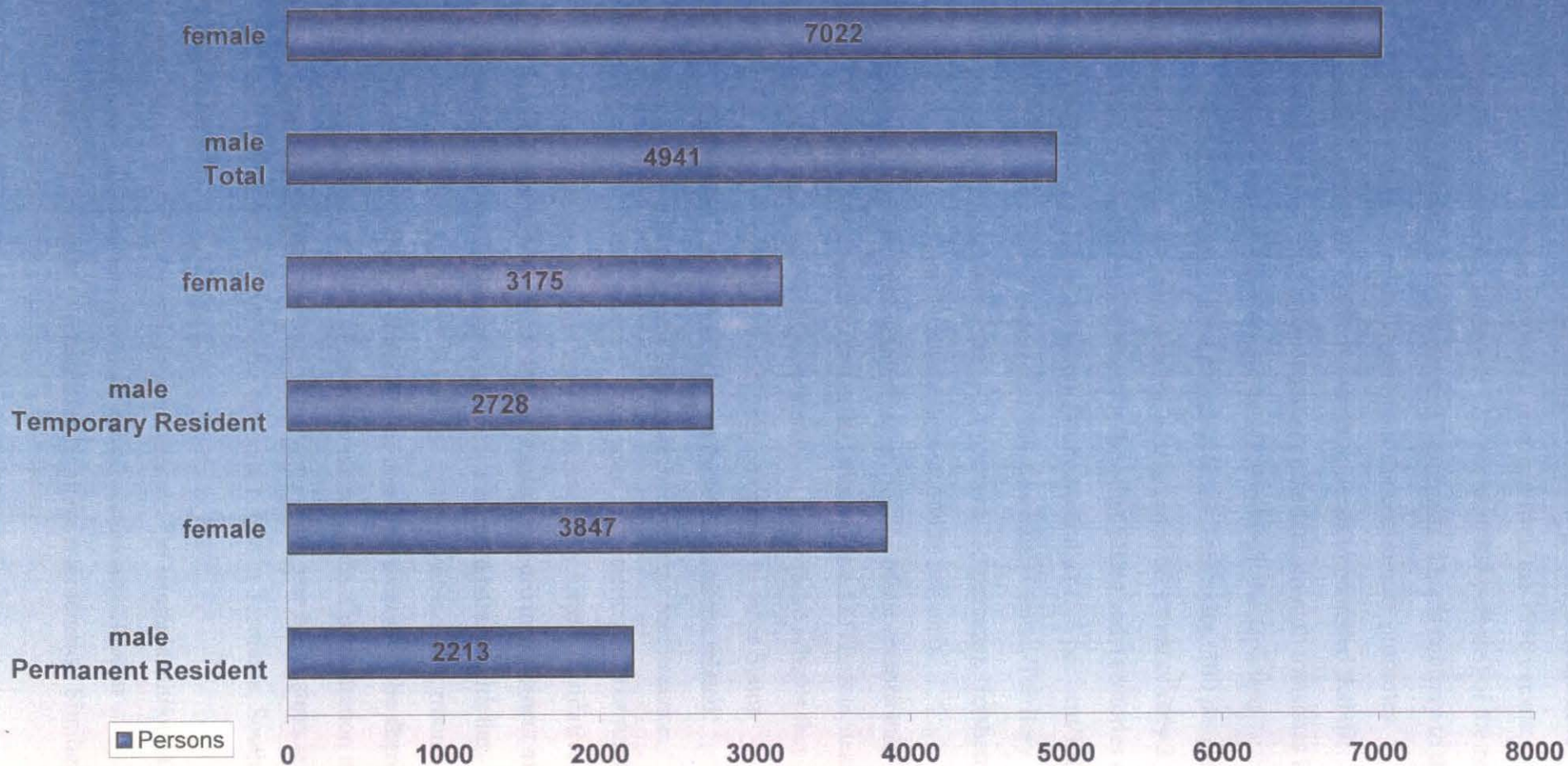
This is also reflected in the increase of Japanese children and descendents overseas. As of October 1998, the total number of Japanese abroad reached 789,534 (The Ministry of Foreign Affairs, 1999). Although around 65 per cent of these are long-term temporary residents, and roughly 35 per cent are permanent residents.

The latest figure shows that Australia has a total of 28,079 Japanese residents (The Ministry of Foreign Affairs, 1999), of which a relatively high percentage is permanent residents. This is an increase of 1.85 per cent, compared to the year 1990. In New South Wales, where the concentration of Japanese is the greatest (42 per cent of the Japanese residents in Australia), around half the population has permanent resident status. Among the Japanese-born population in Australia, females outnumber males in every state (ABS, 1996). As shown in Figure 1.1, this tendency of female predominance is present among both expatriates and migrants, and it may partly reflect the higher rate of exogamy by females. In fact, the majority of bilingual children of inter-cultural marriages in the current study have Japanese mothers. From the 1996 Census, it is estimated that approximately 3,192 children are from a Japanese-Australian mixed marriage home. On the other hand, Australian-born children from Japanese homes amount to 24,287, according to the 1996 Census. There are thus increasing numbers of second generation Japanese and children of Japanese ancestry.

Shifting focus to language use of the community, the 1996 Census reports that 25,668 Australian residents use Japanese at home. Of these, 22,937 (89.4 per cent) are Japanese-born, whereas only 2,731 (10.6 per cent) are born in Australia or other countries. In fact, Japanese maintenance by the second generation dropped from 27.3 per cent in 1991 (ABS, 1991) to 10.6 per cent in 1996. Considering the number of second-generation children of Japanese descent (27,479 in total) in 1996, the fact that only close to 10 per cent of the second generation maintains the language reveals a rather gloomy reality of inter-generational Japanese maintenance in Australia. In contrast, the language maintenance rate of the first generation is very high. Only 0.3 per cent of both sexes shifted to English use at home.

Among the second generation, however, the proportion of home speakers of English is much higher for females (98 per cent) than for males (80 per cent), and the trend is clear in every state except for 'other territories'. In New South Wales, for instance, no second-generation females were reported to speak Japanese at home,

Figure 1.1 Japanese in NSW & NT



Source: Consulate-General of Japan, Sydney (10, 1998)

Note: Numbers include 82 Northern Territory

despite having the highest concentration of first- and second-generation Japanese residents. Moreover, a rather unexpected picture emerged from the 1996 census: NSW has the lowest Japanese maintenance rate (7.5 per cent/907 persons) of the non-Japanese born population among all the States and Territories. This is contrary to the patterns of some groups, where numerical strength of the community promotes language maintenance (Kipp, et al., 1995). However, it needs to be added that the census does not provide any information on whether numerical strength translates into community size, as these persons may well not be affiliated with the Japanese community. The highest maintenance rate is found in Other Territories (100 per cent) although this high maintenance rate is misleading as it is based on a total of only 3 persons are represented. The maintenance rates for the other States and Territories are as follows: Tasmania (17.5 per cent/42 persons), South Australia (15.6 per cent/150 persons), Queensland (13.8 per cent/879 persons), the Australian Capital Territory (11.3 per cent/65 persons), Western Australia (10.4 per cent/235 persons), Northern Territory (9.4 per cent/16 persons), and Victoria (9 percent/434 persons).

Such variance would result from many reasons, but one of the reasons may be the difference in the percentage of schools that offer Japanese as a LOTE. It is clear that as of December 1995, Tasmania and Queensland had many more schools that teach Japanese both at primary and secondary levels, compared to other States (Dômo, 1996). Thus, the mainstream school support for LOTE and the related positive social environment could be one of the factors of language maintenance.

Another possible contributing factor is the type of settlement: urban or rural (Kipp, et al., 1995). Kipp et al. suggest that rural settlement may have a facilitative effect on language maintenance, whereas minority languages in urban settlement may be more susceptible to mainstream pressure, due to the extensive contact with the majority language group. This might apply to the case of the Japanese-background second generation. It seems that there is some kind of correlation between the degree of urbanization in each state and the rate of language maintenance. Concentration is especially high in New South Wales and Victoria relative to the size of the state, and the Japanese population in each state, while the opposite is true in Tasmania, South Australia, and Queensland.

Still, other factors could be at work for the variance. For example, although its population density is low, the Northern Territory has no community clubs or associations, not to mention community schools for language maintenance. Similarly,

Western Australia is large and likely to have a dispersed population, but it lacks ethnic schools that cater for the second generation. The Australian Capital Territory is small and the population is concentrated, which may promote closer community networks, but does not have the Japanese weekend school organized specifically for the second generations. On the other hand, community schools and various associations are active in New South Wales, despite the high rate of inter-generational language shift.

It is thus apparent that these factors are not straightforward, resulting from many intervening variables. Equally of note is the possibility of certain sub-group or individual differences within the same state. Therefore, it is important to detect what factors cause such variance, whether they are individual or social in character, in order to find a better way of maintaining Japanese in Australia beyond the first generation. Especially noteworthy is the possibility of undermining factors that are stronger than the individual and community effort of language maintenance. The current study examines such contributing factors of language maintenance through the longitudinal analysis of the maintenance situations among the second generation in New South Wales, where the largest Japanese community in Australia resides.

1.3 Aims of the study

In the 'multicultural' nation Australia, where 2.5 million people speak languages other than English at home (NMAC, 1999), the issue of bilingualism in relation to the development and maintenance of minority language has been a major concern for many linguistic minority parents, whether they stay in the country permanently or temporarily. This concern seems to reflect the fact that language is an important part of culture, and the various reported evidence that children's home language maintenance is essential not only for their linguistic development, but also for their emotional and intellectual benefits. However, numerous studies in Australia and elsewhere in the world have documented the difficulty of developing and maintaining a minority language within the social realm of majority language dominance.

Japanese is a minority language in Australia, and the number of Japanese residents in Australia is constantly increasing. Yet, despite the fact that the majority of Japanese parents have a serious concern regarding the development and maintenance

of Japanese in their children who grow up in Australia, few studies have been conducted on the issue relevant to this population. Moreover, no comprehensive, longitudinal study has been conducted on maintenance and development, or loss and deviation in school-age Japanese–English bilinguals’ Japanese as a minority first language in contact settings, not to mention the written form of the language. In fact, it is only recently that the literacy aspects of bilinguals have begun to receive more attention in the field (Gibbons, 1999), and no systematic study has yet been carried out on the long-term development or attrition of a minority first language literacy in bilingual children. Considering the increasing recognition given to the vital role of literacy in bi-linguistic, cognitive, and academic development, the issue needs to be investigated in terms of its nature and socio-psychological relationships in order to find a way to promote and achieve higher levels of literacy in a minority language.

The approach taken for the current study takes this into account. In spite of the high social prestige of Japanese as an important trade language, children of Japanese parentage growing up in Australia are also susceptible to the social pressure of the majority language, English. As a result, many may reach the stage where only passive comprehension skills and minimum production skills in Japanese are retained. Studies on various linguistic minorities have generally pointed out that of all language skills, writing seems to suffer most in the process of language loss since it is the least required skills in their daily lives and it would need constant use or training for its maintenance (Smolicz & Secombe, 1985; Butcher, 1995; Clyne, et al., 1997; Nagaoka, 1998; Noguchi, 1998). In other words, writing is more likely to show signs of language deterioration, in part due to the lack of register required, and in part due to the inaccessibility of such register caused by the long-term absence in use. This may be especially true with Japanese, whose orthography involves two types of syllabic alphabets (*kana*) and a large number of complex ideographic characters (*kanji*). Japanese literacy, however, is an important asset for a person ‘to be regarded as an educated member of Japanese society’ (Hatano, 1995: 255), and the Japanese script is an essential part of the Japanese culture. The standard Japanese orthography is commonly used around Japan and in Japanese communities abroad, regardless of dialect varieties in speech. The aesthetic nature of the Japanese script is also appreciated by widely practiced calligraphy. Thus, Japanese literacy is highly valued even in Japanese communities overseas. For this reason, the development and maintenance of Japanese literacy for the first and the second generations have been a

major concern for Japanese communities overseas. Another merit of developing and maintaining literacy is that literacy has been found to be a potential answer in safeguarding long-lasting lexical retention (Cohen, 1989; Olshtain, 1989), and the strong base for general language development and maintenance (Smolicz, 1983; Rado, 1991; Butcher, 1995). This would also be relevant to Japanese, as the higher level of language proficiency is achieved along with the mastery of literacy, especially in *kanji*, which augment comprehending new words and knowledge visually and aurally (Hatano, 1995). Therefore, the study focuses on the development and maintenance of literacy in Japanese as a minority language, in an attempt to solve the following issues of minority language survival:

1. What are the characteristics of minority language literacy developed without wider socio-cultural support?
2. What is the process and extent of development of minority language literacy in the absence of an ethnolinguistic community and bilingual education?
3. What are the influences of the socio-cultural context on minority language literacy?
4. What are the influences of the individual context (origin, language use, attitudes) on minority language literacy?
5. What are the influences of the socio-cultural context on the individual context of language use and attitudes?
6. What are the possible recommendations to realize 'additive' bilingualism in a minority context?

These questions are addressed based on the theoretical model of the study explained in Chapter 2, together with the fundamental issues of bilingualism and languages in contact. Details of the methodology of the study and the conceptual framework are presented in Chapter 3.

The first question is investigated in Chapter 4 through a longitudinal as well as a cross-sectional analysis on Japanese writing of Japanese-English bilingual children. More specifically, this involves two types of bilingual sample: 'Individual bilinguals' and 'Community bilinguals'. Individual bilinguals are those who have grown up outside of the Japanese community unlike Community bilinguals who have grown up in the Japanese community. Since it was predicted that the socio-cultural support for

the development of Japanese literacy is less without the presence of the community, Individual bilinguals are studied longitudinally, while cross-sectional analyses are made for Community bilinguals. The characteristics of bilinguals' Japanese writing are described, together with the explanation of the cause of non-standard features. In addition, the nature of non-standard features (development or transference) is identified by comparisons of non-standard features with Japanese monolinguals and English monolinguals.

The answer to the second question is sought in Chapter 5, by examining Individual bilinguals' progress or regression in literacy during three years. Comparisons are made between individuals, and longitudinally within individuals, regarding literacy development in specific aspects and in general. Furthermore, the effect of writing practice on literacy development was analyzed in order to examine contributing factors of the within-group variance.

Chapter 6 investigates questions 3, 4, and 5. Initially, in order to discover the connection between ability and the socio-cultural context, three types of contrast were made: 1) Japanese–English bilinguals versus Japanese monolinguals, 2) Individual bilinguals versus Community bilinguals, and 3) Contact monolinguals (Japanese monolinguals in Australia) versus Non-contact monolinguals (Japanese monolinguals in Japan). Each contrast statistically examines the between-group difference in both particular and overall skills of literacy. Subsequently, the effect of the individual context (origin, language use, attitudes) on bilinguals' Japanese ability is analyzed, and the factors that contribute to the development of literacy are identified with regard to the specific and the general aspects of literacy. Finally, the influence of the socio-cultural context on the individual context of 'language use' and 'attitudes' is assessed to clarify the interrelationship between the two contexts. In particular, Individual bilinguals and Community bilinguals are compared in their degree of Japanese use as well as cultural and group identification with Japan and Australia. Likewise, the relative degree of identification with Japanese and Australian culture and group is compared between Japanese–English bilinguals and Japanese monolinguals in Australia.

From these descriptive as well as evaluative analyses, integrated conclusions and implications of the study are addressed in Chapter 7 in relation to the last issue: possible solutions to achieve 'additive' bilingualism for children of Japanese heritage in a minority context.

CHAPTER 2

ASPECTS OF BILINGUALISM

2.1 Introduction

In this chapter, the fundamental issues of bilingualism and languages in contact are reviewed with regard to the applicability of these issues to the current study. First, various definitions of individual bilingualism in the field are presented, followed by an analysis of their validity. Second, multifaceted phenomena of bilingualism are explained at both individual and social levels, using the network model as a conceptual framework. Each variable comprising the network is described in relation to every other. Third, different types of bilingual acquisition are discussed, with special regard to bilingualism in contact settings. Fourth, theories of bilingual acquisition in terms of process, degree, and effect are addressed, raising the issues of bilingualism and linguistic minorities. Last, discussions of language changes resulting from contact and the factors involved, reveal the complexity of the phenomena involving both individual and social aspects. In relation to these issues of languages in contact, studies of Japanese-English bilinguals are reviewed, highlighting the lack of study of the literacy aspects of bilingualism in general and of the second generation in particular. This is followed by a discussion of previous studies of Japanese maintenance in the Australian context concerning their relevance and deficiencies.

2.2 Definitions of bilingualism and limitations

The term 'bilingualism' is generally employed to describe the state of an individual or a society (more commonly used term is 'diglossia') in which two languages exist as a means of communication, transmission and organization of knowledge. The common focus is individual, and a person who possesses these abilities in two languages is regarded as a bilingual. Yet, by what standard, or how and to what degree a person should have access to two languages to be called a bilingual, differs greatly among scholars. This is due to the fact that bilingualism

tends to be described only from certain aspects, despite its multi-faceted nature, and that the definition depends on the interest and the view of a person on the subject.

Often used criteria of bilingualism are 'ability' and 'use', which are also termed 'degree' and 'function' (Baker, 1993; Baker & Jones, 1998). In classifying the two criteria, the first is addressed with the question: To what degree a person knows and is able to control two languages? Thus, internal as well as external, cognitive, communicative, and socio-cultural competence should be questioned. On the other hand, a query as to the function and frequency of the use of each language in a person's life will fall in the second category. The focus is the process of acquisition and the role the environment plays in forming various aspects of bilingualism. In particular, the status of each language is substantially affected by functional needs. It should also be noted that 'ability' and 'use' are closely related. This is because opportunities and functions of language use affect its proficiency, and the degree of proficiency in turn influences the patterns of use. Moreover, the type and the degree of register to be mastered depend both on use and proficiency; register is learned in the context of use but the mastery of register involves proficiency (Gibbons, 1999). Therefore, the two dimensions are interdependent and inseparable.

Problems arise when bilingualism is defined only by a single aspect of its nature, despite the two intertwined aspects. For instance, some propose a standard such as daily use of two languages, while others suggest ultimate mastery of foreign language through second language learning (Noguchi & Yamamoto, 1995). Such definitions pose some problems. Regarding the first, the focus is only on the pattern of 'use' and how well a person is able to use two languages is ignored. It is also unclear what defines 'daily use' and amount of use in a daily life. Does it refer to all kinds of language usage, such as occupational use for language teaching, or is it specific to social communication? What is the percentage of use for two languages per day? The second definition, on the other hand, considers solely the aspect of proficiency and fails to take into account the functional aspect of bilingualism. Moreover, mastery of a second language through formal learning may not guarantee communicative skills in using the language. Is a person who daily interacts in the language with ease but has limited knowledge of a language considered to be less bilingual than someone who excelled in the language proficiency test but has poor communicative abilities outside the classroom? There are problems in both types of definitions. Since bilingualism involves both knowledge and usage, these two aspects interact in a complex way.

Consequently, a bivariate approach in terms of the degree of competence in the two languages and their functional roles seems to be a more appropriate measure of bilingualism. Yet again, it is necessary to set a certain standard for each factor.

With regard to bilingual ability, the definitions posed so far vary in respect to the degree of ability a bilingual is supposed to possess. They differ so much that they spread from one extreme to the other. At one extreme, only a person with mastery of monolingual standard language skills in both languages is considered a bilingual. The idea represented by Bloomfield (1933: 56) as 'native-like control of two languages' is too idealistic and it ignores the reality of many individuals who function with two languages without such a perfect command in both languages. Even highly bilingual people are somewhat dominant in one of the languages and have a preferred language according to domains or situations (Hamers & Blanc, 1989, 2000). It may depend on the types of addressee, topic of a conversation, or the way an idea is represented in the mind. It is an unrealistic expectation that a perfectly bilingual person can exist as a result of growing up in a perfectly bilingual environment, everything from family, friends, school, and society, which always requires the use of two languages in equal amount and quality and values both equally. Moreover, there is an increasingly clearer realization that bilinguals do not necessarily possess double-monolingual competence (Baker, 1993; Baker & Prys Jones, 1998). For this reason, Bloomfield's definition is not only obsolete, but it is not operational in reality. Still, in terms of ability, the question remains as to how competent a person should be to be considered to be bilingual.

On the other end of a strictly exclusive bilingual standard suggested by Bloomfield is a more generous definition that can include almost everyone who can use two languages. This was defined by McNamara (1967), as a minimal command of a second language in any type of linguistic skill, such as listening, speaking, writing, and reading. Even if it is possible to consider it as a starting point of bilingualism, as is often the case, the definition is extremely inclusive. In today's world where international communication is easy and personal contact with other countries and their culture is common, much of the world's population must be classified as bilingual according to this definition. Therefore, neither of the extremes seems useful for practical application.

Other definitions that suggest second language competence as a measure of bilingualism pose more moderate standards. For instance, Baeten-Beardsmore (1982)

described it as a sequence of varying knowledge and use of two languages, ranging from native-like to non-native-like. Even though it takes into account both use and knowledge as a prerequisite of bilingualism, it is too vague to be operational as a method.

Although language proficiency can be measured in the command of the four skills, some authorities maintain that speaking skills are a primary essential of bilingual aptitude. For example, bilinguals were defined as those who 'can produce complete, meaningful utterances in a second language' (Haugen, 1953:7). The emphasis is on speaking abilities, but it is still undefined in respect to the degree of competence. In the same vein, Titone (1972: 11) considered command of the spoken language to be an absolute essential in determining one's bilingualism, which was defined as 'the individual's capacity to speak a second language while following the concepts and structures of that language rather than paraphrasing his or her mother tongue'.

Under this Titone's definition, psychological functioning might be also taken into account in addition to oral skills: bilinguals are those who can speak in the second language without translating from the first. Although the cognitive aspect of bilingual functioning is unclear, this seems to suggest that the two languages are separate and a bilingual person would access the second language concepts and produce correct structures, and that his or her speech production must be natural and spontaneous without lack of L2 concepts or vocabulary. Interpreted this way, the idea is quite similar to that of Bloomfield, though Titone's version demands only the speaking skills to be native-like. Moreover, it appears that Titone's definition basically assumes two separate language systems, which is in fact questionable, as Cummins (1980b, 1981a) suggests. Other limitations in Titone's definition are the lack of clarity as to what types of speech it applies to, what is meant by conceptual and structural adherence, or how to differentiate whether the person is translating or not. Although these definitions set some standards regarding the command of oral abilities, they still lack explanatory guidance with regard to their interpretation and measurement.

At the same time, the definitions mentioned so far ignore other aspects of bilingual ability and its mechanisms. It is commonly said in the discipline of second language learning that bilingualism includes reading and writing skills as well as speaking skills (Butcher, 1995). Considering the fact that the development of spoken

and written language is interdependent, and that the mastery of reading and writing promote overall linguistic development (Garton & Pratt, 1998), it is only natural that bilingual competence would involve literacy skills as well. In addition, metalinguistic awareness (knowledge about language) and skills in decontextualized language use (interpretation of intended meaning only from linguistic forms) develop together with literacy, which results in higher levels of control over meaning extraction (Bialystok, 1991; Garton & Pratt, 1998). Moreover, literacy was found to be a basis for developing and maintaining language competency (Saunders, 1991; Butcher, 1995) and use (Baker, 1993). Therefore, it is important to include literacy skills as a part of bilingual competence, except in the case of languages without a written form. The term 'literacy' can be broadly defined, and have many meanings. Within bilingualism studies it is usually more narrowly defined, as in the following definition from Hamers & Blanc (2000: 374): 'State of an individual or community relating to the decontextualised use of language, especially in the written mode; a use of language which is characteristics of, but not exclusive to, reading and writing. It is a cognitive skill, and amplifier of language as a cognitive tool'. In order to operationalize the concept, literacy in this study is defined as 'the ability to use literate language according to its linguistic and socio-cultural rules', and the study focuses on its prominent feature, the use of written language.

Another overlooked or misunderstood element of language competence is thinking, or 'cognitive competence' (Cummins, 1984), which underlies the four skills of speaking, listening, reading and writing. In the case of a bilingual person, it is the ability to comprehend, organize and express one's ideas in either of the two languages, which Cummins (1980b; 1981a) terms 'Common Underlying Proficiency' (CUP). In other words, a single concept in a bilingual brain can be expressed in two ways. If the operational environment such as input or output occurs only in one language, it is more likely that a bilingual will function only in that language; while under mixed surroundings, both languages operate as input and output processes for each language without the need of translating one into another. However, there may be a wide difference in the level of such performance among bilingual individuals. Lack of, or loss of access to, cross-lingual concepts or vocabulary could influence the degree and the speed of functional ability in each language. These complexities again make simple definitions impossible.

Shifting the focus to the other dimension of bilingualism, context of use and function, categorization of language use in terms of time, place, and interlocutor becomes necessary. Choice of language in such a situation also depends on context and the intentions of the speaker. This approach is known as 'functional bilingualism' (Baker, 1993) and it takes into account the interrelationship between social and psychological bilingual phenomena at the individual level. In other words, it is concerned only with the personal use of two languages in direct interaction; it should not be confused with language background, which includes both micro and macro-level interactions with, and influences on, bilingual usage. It should be noted, however, that this approach does not clarify the whole bilingual picture due to the lack of information in regard to the frequency, amount, and quality of language use. As in the case of defining bilingualism from language competence, the functional approach also faces limitations due to the intricacy involved.

Language is a tool to express one's thoughts, as well as a means to organize one's knowledge (Hamers & Blanc, 1989, 2000). In other words, knowledge and thought are shaped through language. On the other hand, language is molded by a society's culture and history. In Vygotsky's (1962) terms, language represents not only speaking, but also social and cultural knowledge gained through experience. The close linkage of language with thought, knowledge, and socio-cultural experience means that one cannot use a language to a full extent, without these underlying components that construct, and are created by, the language. Bilingualism is an even more complex phenomenon than this intricate state of monolingualism. In short, bilingualism can be described more precisely by approaching it from diverse angles.

Hamers (1981) applied such a method to some extent in an attempt to explain bilingualism separately, at the individual level and the societal level. First, individual bilingualism is termed 'bilinguality': 'the psychological state of an individual, who has access to more than one linguistic code as a means of social communication; the degree of access will vary along a number of dimensions' (Hamers & Blanc, 2000: 6). Then, bilingualism is explained from a wider scope. It represents both the individual and societal state in which two languages operate as a means of communal interaction, due to the contact between the two. According to the definitions, bilinguals are portrayed as those who can think and act in a language sufficiently well to communicate with members of a society who function in the language. There will be individual differences in each bilingual's capacity, such as linguistic abilities,

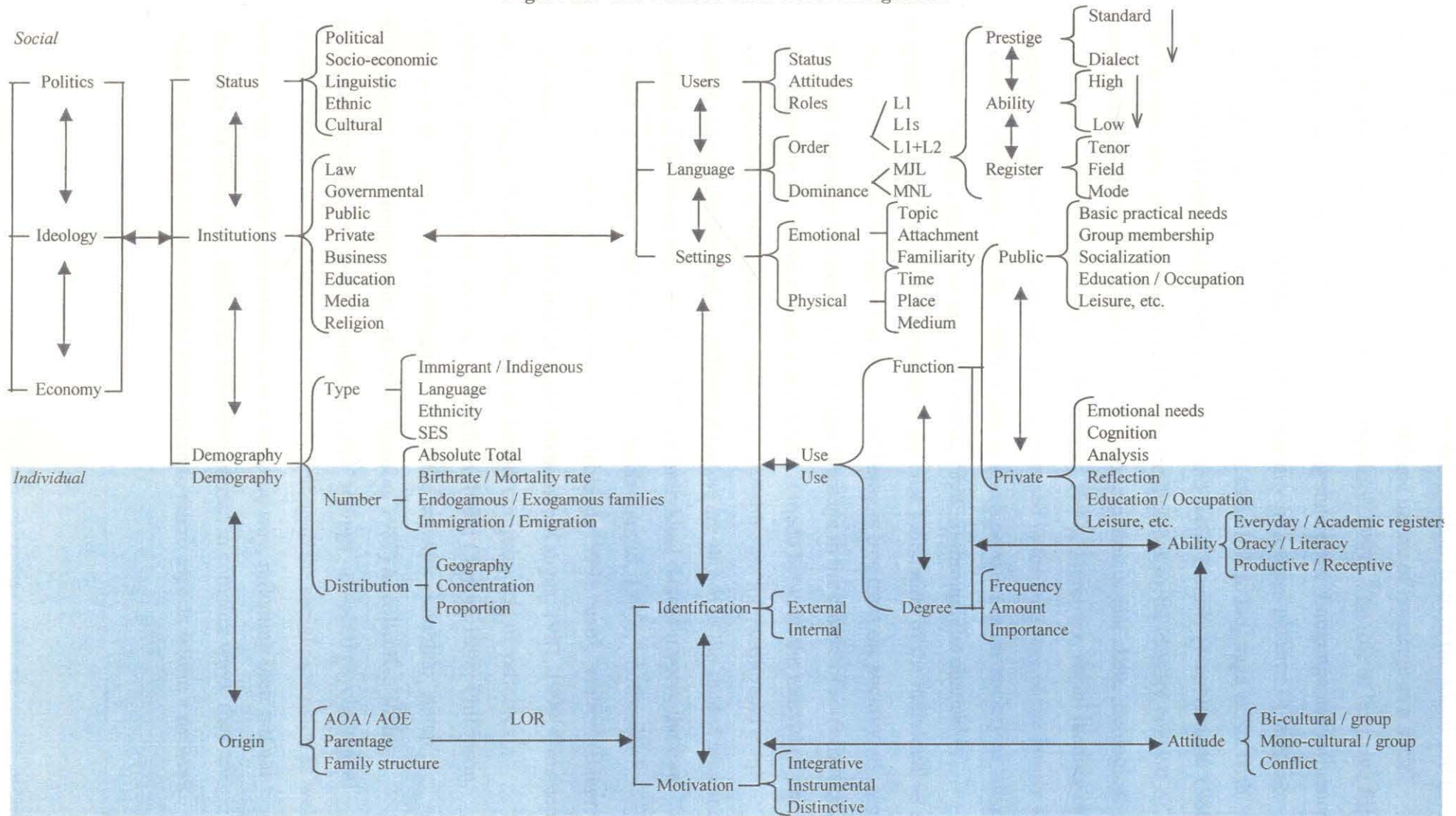
cognitive skills, and cultural understanding. This variation is thought of as a reflection of one's linguistic and intellectual aptitude, age and length of acquisition, relative status of each language, attachment and attitude to each language and associated culture, and the need to use two languages on a daily basis. Accordingly, use of several measures for different dimensions is recommended, as it would most accurately assess individual bilinguality. For this reason, the following section explains bilingualism from various perspectives at both individual and social levels, using the bilingualism model for the present study.

2.3 The variable network of bilingualism

The current study takes an interdisciplinary approach to the issues of bilingualism and languages in contact. As language is closely related to an individual's cognitive development, formation and display of social identity, and interpersonal relationships within and between social groups, a comprehensive study of bilingual development would need to take into account theories and research results from various disciplines. These include the fields of linguistics, applied linguistics, psychology, social psychology, and sociology. The model of bilingualism was thus developed for the present study in an attempt to integrate the complexity, adapting a variety of theories and findings for its framework. Specifically, the current study was conducted based on this model, and the framework has been modified to incorporate the results of the study.

In this framework, bilingualism is seen as a product and an agent of complex social networks surrounding an individual. Social networks here refer to the range of relationship one establishes with various agents of the society, directly or indirectly, mentally or physically. In terms of linguistic development, they supply language models including behaviors and scripts (Hamers & Blanc, 1989). They also convey values, attitudes, and perceptions in relation to the language (Hamers & Blanc, 1989). Importantly, these are transmitted through language, which is a commodity of agents, or variables in a network. The model in Figure 2.1 illustrates how these network variables are linked and interact with each other in promoting or undermining bilingual ability.

Figure 2.1 The Variable Network of Bilingualism



First of all, it is necessary to analyze bilingualism both in the social and the individual context. This is because of the intrinsic nature of language as a social product, as well as a basis of self-identity (Spolsky, 1999). The role of language for an individual and a society is clear in the following statement: 'Language use influences the formation of group identity, and group identity influences patterns of language attitudes and usage' (Liebkind, 1999: 144). The same link to language exists with ethnic identity (Gudykunst & Schmidt, 1988) and social identity (MacNamara, 1988). Such connections are important, considering the fact that social identity consists of numerous elements, such as gender, ethnicity, occupation, social class, ideological associations, and nationality (Skutnabb-Kangas, 1999). Moreover, social identity is acquired through socialization, which is experienced in the language of the family and the wider community (Padilla, 1999). There is also a pressure in the society to 'shape our identity to the context we are in' (Corson, 1998: 6) through the channel of language in that context. Thus, language is the core foundation of the individual as a social being. In turn, no individual as a social being is free from the socially constructed ideology that permeates through language in the course of socialization.

Based on the above notion, a distinction is made between the individual and social dimensions of bilingualism, though the variables are interacting and some variables overlap the distinction. Individual factors are shown in the shaded area and are placed in the lower half of Figure 2.1. The individual factors involve the five dimensions of 'origin', 'identification' (Skutnabb-Kangas, 1990), 'motivation' (Gardner & Lambert, 1972; Gardner, 1979; Liebkind, 1999), 'use', 'ability' (Baker, 1993; Baker & Jones, 1998) and 'attitude' (Skutnabb-Kangas, 1981, 1990; Grosjean, 1982; Harding & Riley, 1986). The social factors comprise sets of variables: 'politics', 'economy', and 'ideology' (Tollefson, 1991; Corson, 1998; Phillipson, 1999) as both a cause and a consequence of all the network variables; 'status', 'institutions', and 'demography' (Giles & Johnson, 1987) as collective socio-demographic variables; 'users', 'language', and 'settings' as social psychological variants. Of these, demography and use partly belong to the social dimension as well. Similarly, the variables are networked in a dynamic way, reflecting their mutual influences. As social and individual variables interact in complex ways, they are explained in the following sections from macro to micro aspects within a network.

2.3.1 Political economy and its ideological bases

The initial starting point of the analysis of network variable interactions is the macro level social domain, where the most dynamic interaction takes place. That is, the historical background and current status of political and economic relationships in the world influence the political and economic conditions in each nation. In turn, the world economy and political situation are influenced by the state of affairs in each nation. Important in these relations is the fact that ideological bases, such as capitalism, ethnocentrism, and 'linguicism' (Skutnabb-Kangas, 1990), always accompany such a process. Ideology consists of the commonly and unconsciously accepted notions rooted in a society, whose acceptance depends on the power structure of the society (Tollefson, 1991). This means that ideology, power, and structure are closely linked. Thus, ideological notions are not only ideology, but are reflected in the structure and exercise of power. In particular, linguicism is used to justify 'an unequal division of power and resources (both material and non-material) between groups' (Skutnabb-Kangas, 1990: 11) based on language. Due to the strong connections between ideology, power, and structure, power struggles are ever present in politics and economy, wherever ideologies exist, at the world, national, and individual level. Such struggles are transmitted through practices and events in a society, while resulting from such societal activities (Corson, 1998). They are intrinsic to a society where individuals have different interests and belong to different social groups (Tollefson, 1991).

Although policies of different kinds reflect power struggles, policies on immigration and language echo clearly the current state of such struggles at the macro and micro level. While a nation's relative public peace, stable economy, and employment opportunities attract immigrants and refugees, the supply of immigrants usually exceeds the demand for certain selection categories (e.g. humanitarian, family). This reveals political, economic, and ideological concerns and constraints regarding the unequal power relations between countries, and within each country.

To illustrate from the case of Australia, the acute need of labor and external pressure loosened the regulation in selection measures, such as the abolition of racial criteria for immigration (Kalantzis, et al. 1990) and the increase in the upper limits of some visa categories (e.g. refugee, spouse, child) while limiting others (e.g. parent) (DIMA, 1999). The increase in diversity and the internal demands eventually led from

the unsympathetic and unconstructive assimilatory approach to a more inclusive multicultural approach towards immigrants and refugees.

According to Tollefson (1991), language policy is used to institutionalize language as a basis of stratifying social groups. That is, it plays an important part in gaining or maintaining the majority group's social power in inter-group relations. Tollefson (1991) and Corson (1998) claim that this is because power is enforced through language, or more specifically through its control. In other words, language is considered fundamental to the reproduction of ideology or social conventions, and to sustain status relations between social groups. The close link between language and labor income (Grin, 1999) would be a typical example of the *status quo* maintained by such a policy. Tollefson (1991: 12) maintains that people's acceptance of the policy depends on the degree of 'hegemony', or what he calls 'the successful production and reproduction of ideology' in a society. He also argues that hegemony is usually perceived as normal and natural, as it is rooted in a society in such a fundamental way. Corson (1998) agrees with this view, maintaining that such conditions in turn lead to the continuous reinforcement of hegemony from both sides of the power relationship.

2.3.2 Socio-demographic factors and agents of ideology

The intentions of policies are in part manifestations of, and in part manifested in, 'status' relationships among social groups and their attributes, the functions of social 'institutions', and the characteristics of national 'demography' (Giles, Bourhis & Taylor, 1977). These three socio-demographic factors combined are considered to be the major determinant of 'ethnolinguistic vitality' (Giles & Johnson, 1987), the strength to maintain distinctive and active characteristics, including language, as an ethnolinguistic group in contact situations. It is claimed that language use and collective identity are either supported or undermined, depending on the perceived vitality of one's ethnolinguistic group. It must be stressed, however, that Giles & Johnson's theory views vitality as something internally determined by group characteristics, ignoring the crucial role of external social force (Tollefson, 1991). It also fails to explain variance and complexity involved in inter-group relations (Hamers & Blanc, 1989). For this reason, the present model takes the following

approach: the group, or ethnolinguistic vitality, as a result of both external and internal influences.

In the current model, status includes group-level political, socio-economic, linguistic, ethnic, and cultural prestige and power, or their similarities and differences compared to those of the mainstream group in a society. In the case of immigrants, the host country's political and economic relationships with their respective home countries affect the group's overall social status. As for indigenous minorities, the historical legacy of their institutionalized treatment predetermines a major part of their current status (Corson, 1998). For both groups, favorable socio-economic status, high linguistic prestige, ethnic and cultural characteristics similar to the mainstream seem to be crucial in facilitating integration, though the majority's attitudes towards the group may play an important role. In other words, when the status gap is too wide, integration would be discouraged from inside and outside, due to restricted contact or negative attitudes towards the minority group.

Despite ethnic or cultural differences, high linguistic prestige due to economic or political value is likely to encourage institutional support such as the priority LOTE (Languages Other Than English) programs and bilingual education, which are themselves the likely outcomes of the support from the majority public and other influential institutions. The status of a language can be elevated in several ways through official recognition as one [or more] of the following: national language, official language, medium of education, and recognized 'foreign' language (Gibbons, 1987). The degree of recognition depends on the extent of linguistic hegemony in a society, the results of various cost and benefit debates both in the government and the public, and competing lobby group demands. Language policy in education is especially important, considering the role of the school in recreating and transmitting a dominant culture and ideology to the next generation, regardless of their backgrounds or interests (Corson, 1998). Also, school helps develop the skills and knowledge necessary for full participation in society. As school plays a vital role in a child's linguistic and intellectual development through education and socialization, the influence of language policy in education is significant even for later life.

The following scenario may illustrate an example of policymaking and the implementation process. Along with some social changes, the need for language policy or its revision arises out of different interests. The government eventually reaches a decision on the policy after mediating pressure from the two sides, for and

against. Most often, however, the interests of the dominant group and its institutions prevail. That is, the majority is frequently able to gain support from most of the public, private, business, educational, and religious organizations. The result is reported through the media, usually from the viewpoint of the majority to the general public. Subsequently, implementation of the policy depends on the willingness of the federal and state governments to provide finance, and the cooperation from the relevant institutions and the people involved.

Other forms of institutional support that lift a group's status and vitality include: community schools to maintain minority languages and cultures, availability of interpreting and translation services in the public and official settings, accessibility of the media in various forms, the existence of major and minor business corporations owned by the ethnic group, accessible clubs and associations for the community, and religious services held in the community language. Yet, it should be noted that these institutions are established and sustained mainly by the continuous effort and at the cost of the minority groups concerned.

These factors indicate, or they are indicated by, demographic variables such as 'type', 'number', and 'distribution' (Giles, Bourhis & Taylor, 1977). 'Type' is the distinction between the immigrant and indigenous populations, language repertoires with regard to their authenticity and proficiency (see also Section 2.3.5), and ethnicity, which is recognized by self and others; the individual-level 'socio-economic status (SES)' in a society. Both objective and subjective recognition of one's social positioning is the key in this categorization. 'Number' refers to groups' statistical information on different categories. These are total population, birth/mortality rate, percentage of endogamous/exogamous families, and the population increase or decrease through immigration/emigration. They reveal various pieces of information, such as the historical background and the current trend of migration, the group's degree of integration and its relationships with the majority, and the comparative state of welfare.

The factors of 'type' and 'number', in relation to status and institutional variables, are partly manifested in the 'distribution' variables. 'Distribution' consists of three variables: 'geography', 'concentration', and 'proportion' (Giles, Bourhis & Taylor, 1977). Geographical location of the group in general, for instance, indicates 'socio-economic status' (SES) including occupational opportunity in the area, which also relates to majority language proficiency, qualifications, or the demand for

speakers of the minority language in certain sectors. The same factors contribute to concentration, but they could also be an indicator of group cohesion as in the general tendency of endogamy, or the majority's willingness to socialize with the minority group. 'Proportion' signals the ratio of the ethnic makeup in the area at a district, state, or national level. As such, it may indicate the degree of adaptation to the mainstream society and numerical or socio-economic strength. It is of note that the findings from a study by Kipp & Clyne (1995) suggests that the ethnic composition of the population in the immediate environment is more crucial for language maintenance than that of the state or the nation. In summary, these socio-demographic factors are interrelated, and they affect the ethnolinguistic vitality of each ethnic aggregate in contact settings. However, since individuals are the basis of the collective body, it is inevitable that these influences also have an effect on individuals at the micro level.

2.3.3 Individual origin of bilingualism

Turning to the individual factors, 'origin' (Skutnabb-Kangas, 1990) is one of these variables that constitutes partly of demography, and is affected by other social factors. Although Skutnabb-Kangas (ibid.) defines the 'origin' of bilingualism as use or acquisition of two languages from the onset of language, 'origin' here refers to the individual starting point and the biological determinants of acquiring two languages, which may or may not be simultaneous. While it is not specified in the original definition, 'origin' in the current model includes 'Age on Arrival (AOA)', 'Age of Exposure (AOE)' to L1s or L2, 'parentage', and 'family structure'. This inclusion is made because they determine the type of bilingualism. For example, age of bilingual contact is a measure for distinguishing childhood and adolescent bilingualism, whereas natal factors such as parentage and the presence of monolingual grandparents influence the formation of a child's immediate social network, thus controlling the development of ethnicity, ethnic and cultural identification through the initial socialization process. These may also affect the pattern of later language use, depending on the degree of contact and the balance between the family and social pressure for each language, which is influenced by 'Length of Residence (LOR)'.

2.3.4 Identification and motivation in the development of attitude

'Identification' and 'motivation' are constituted in the course of one's socialization process with family, community, and society. 'Identification' of bilinguals denotes the mechanism of recognizing and learning one's group and/or cultural identification with both, or part of either, linguistic community, acknowledged by oneself and by both language groups (Skutnabb-Kangas, 1990). Internal identification is formed in the course of socialization, initially with family, and later with peers and wider social groups. As the socio-cultural context is the base of self-identification (Corson, 1998) and it occurs through language, the values and norms including ideology are learned in relation to the 'language', its 'users', and the 'settings'. In contact settings, a child is exposed to two varieties of language; thus, there is the need and opportunity to learn two sets of conventions associated with two languages, along with their models and behaviors. Through this active and passive process, the child constructs his/her own social representations of languages, which consist of 'internalized' social conventions, shared scripts, and meanings (Hamers & Blanc, 1989). Such social representations play an important part in shaping identification and relations to the languages involved.

External identification, on the other hand, is based on others' judgment criteria that are more superficial and exclusive. Whether one is accepted as the same, depends very much on surface level distinctiveness and behaviors: external appearances; the way one speaks, acts, and responds. In some circumstances, racial or cultural differences block possible acceptance even when linguistic barriers are overcome. This affects internal identification as a consequence and changes occur in one or more of the following directions: less affinity with an exclusive group supplemented by a stronger affiliation with an accepting group, or more desire for a rejected group membership, which furthers more assimilation and rejection of the other membership, or reaching a balance after going through stages of identity conflict.

These processes of identification eventually lead to the formation of attitude unique to an individual. That is, the individual's group membership is recognized by self and others, based on certain social markers, which comprise his/her social, cultural, and ethnic identity (Hamers & Blanc, 1989). Thus, attitude towards the group is likely to be influenced by the relative status of the respective language within an individual and a social network, alongside the perceived or real attitudes of each

language group towards the individual and each other. If the mutual attitudes are positive, bi-group membership and bi-cultural identification are the likely results (Harding & Riley, 1986). Whereas, professed negative attitudes by one of the language groups, especially by the majority language group, may lead to single group affiliation or a mono-cultural identification, through the rejection of, or conformity to the disapproving group (Skutnabb-Kangas, 1981). There could be cases of attitudinal conflict, when one is pressured to lose part or whole of the minority group identity, but at the same time he/she feels rejected from joining the majority group (Grosjean, 1982; Skutnabb-Kangas, 1990). Still, as individuals shape, modify, and change their attitude to the context they are in, attitude is subject to the individuals' diverse emotional and physical experiences throughout their lifetime. Importantly, attitude influences bilinguals' language ability to some extent, as it affects the degree of language use and types of function for each language.

One such factor closely related to attitude and language development is 'motivation', the incentive to learn and use language(s). Motivation can be in part the result of one's identification, yet in part the indirect cause of it. To illustrate, affective or social needs, such as close family ties for emotional well-being and a pressure to be accepted by peers, play key roles in determining language use patterns, resulting abilities and the nature and degree of one's group identification. Three types of motivation are identified: 'integrative', 'instrumental' (Gardner & Lambert, 1972; Gardner, 1979), and 'distinctive' (Giles, Bourhis & Taylor, 1977). Those who identify with both groups are likely to be motivated to learn and use both languages for an 'integrative' reason (Gardner & Lambert, 1972; Gardner, 1979), while those who wish to succeed in a majority culture despite their identification with a minority group would learn the majority language for an 'instrumental' reason and consequently adapt part or whole of their identity to be accepted into the mainstream society. Another motivation is to maintain or achieve positive and 'distinctive' social, ethnic, and ethnolinguistic identity (Liebkind, 1999). This is achieved by linguistic divergence, or an emphasis on linguistic difference from the out-group in an inter-group setting. This strategy is most likely used in the following situations: language comprises a core value of the group; perceived self-status is higher within the in-group; the group membership is exclusive; the group is perceived to have strong ethnolinguistic vitality (Liebkind, 1999). Thus, identification with the in-group is strengthened under this motivation, whereas the other two, integrative and

instrumental motivations, are either neutral towards each group or favorable towards one of the groups.

It is possible, however, for an individual to have double or even multiple identifications, though the degree of affiliation would vary. Similarly, an individual may possess all three motivations for different purposes. For example, the need for peer interaction in the majority setting could induce the integrative motive to use a majority language. Likewise, educational or occupational requirements may lead to an instrumental motivation to learn a particular language, regardless of its social dominance. A distinctive motive to use a minority language would be prompted when in-group privacy or solidarity is needed.

On the other hand, such motivations to use or learn a certain language may not entirely derive from individual choice. Rather, they could be the consequence of socio-cultural pressure that drives individuals and groups either to integrate or separate, emotionally or physically (e.g. language medium of education, a majority group's positive/negative attitudes towards certain minority groups, etc). In this case, motivation for language acquisition and use is not a matter of individual choice or decision, but a conscious or unconscious behavior resulting from external forces. The same would apply to the development of identification, as it relates to the formation of motivation. This lack of choice in, and susceptibility to, the development of identification and motivation is more likely the case with immigrant and indigenous minorities, due to the social and cultural dominance of the majority group in a society.

2.3.5 Micro-level socio-cultural context: language, users, and settings

'Identification' and 'motivation' also reflect a micro-level socio-cultural environment, such as users, settings, and language involved. In this section, the key concepts of language are discussed first, followed by an explanation of users and settings as agents and backgrounds of 'language' in contact. 'Language' used in contact settings can be distinguished by two major categories: 'order of acquisition' and 'social dominance'. Specifically, the first category differentiates language(s) of a person by the order of acquisition: 'L1' for the first language of monolinguals; 'L1s' for two first languages acquired simultaneously from the onset of language; 'L1 plus L2' for two languages acquired consecutively (the second language is learned later than the first language). 'Order of acquisition' thus distinguishes language types not

only between monolinguals and bilinguals, but also between two types of bilinguals: simultaneous bilinguals and consecutive bilinguals. On the other hand, the second category differentiates language by the degree of dominance in society; ‘majority language (MJL)’ is a language used by a socially and culturally dominant group, whereas ‘minority language (MNL)’ is used by a group that is subordinate in a social and cultural context (Hamers & Blanc, 1989, 2000). Focusing on a bilingual person in contact settings, he/she usually has a command of both MJL and MNL, regardless of order of acquisition. Furthermore, a bilingual individual’s language system varies in terms of the types of ‘prestige’ in each language, the degree of ‘ability’, and the availability and employment of ‘register’.

‘Prestige’ refers to the status relationship between varieties of a language. A ‘standard’ language variety assumes a superior status to ‘dialect’ varieties in a social and cultural context, and it is used as an official language (Hamers & Blanc, 1989, 2000). When a minority language is a dialect variety, its maintenance could be more difficult than a standard variety due to the lack of formal learning materials or opportunities, or the negative stereotypes attached to it (Bettoni & Gibbons, 1988).

Language ‘ability’ in general ranges from high to low. Unlike monolinguals, bilinguals’ language ability involves two languages, usually a majority language and a minority language. The assessment of bilinguals’ ability in a minority language is especially difficult, as the domain and the degree of use are different from one individual to another, unless the same conditions (e.g. formal learning through the same materials) exist for the comparison between individuals. Also, ability involves various aspects of linguistic competence, which are interrelated. Further details will be discussed in Section 2.3.7.

Closely related to the aspects of ability is ‘register’. ‘Register’ is a variety of a linguistic system produced at a crossing point between the linguistic systems of communication and the surrounding environment of their use, including their users. In other words, it is ‘a sociolinguistic phenomenon’ (Döpke, 1992: 11) of adjusting speech styles according to the addressees, the mental or physical settings, and the intention of addresser. Register is comprised of sets of vocabulary items and usage conventions associated with certain social groups or occupations in general (Wardhaugh, 1992), and can be categorized into the three dimensions of ‘tenor’, ‘field’, and ‘mode’ (Halliday & Hasan, 1985; Halliday, 1989; Halliday & Martin, 1993).

'Tenor' is formed by socio-demographic characteristics such as ethnicity, socio-economic status (SES), gender, and age. It is also subject to the relationship between users, in terms of their status, attitudes, familiarity, and roles. These may affect the choice of wording, tone of the voice, and even the use of body language. 'Field' refers to a certain area of specialized knowledge comprised of a specific set of vocabulary and its usage. Such employment of a particular terminology is necessary to build the context and the topic of communication upon which the construction of meaning depends. For example, the language of a cookbook is different from that of a stock exchange report, each of which makes use of expertise constructed through special terms. Meaning, however, can be expressed in different ways, though there may be some constraints. In other words, semantic concepts can take numerous forms by way of paraphrasing and compressing. In addition, it depends on a user's intention whether the expression of the thought should be an instantaneous or thoughtful one. These variations are called 'mode continuum' (Halliday, 1989), which ranges from unplanned and context-embedded to planned and context-reduced. Accordingly, 'mode' is a way of expression that varies in terms of the degree of planning and contextual support. Although such a difference is generally equated with the distinction between spoken and written language, this is not always the case (Gibbons, 1999).

The variation and density of tenor, field, and mode depend on the type of register, as in the difference between 'academic registers' and other registers for daily use (Gibbons, 1999), the latter of which is here termed 'everyday registers'. Everyday registers are used for various domestic level colloquial communications in daily life, while academic registers are needed for education and other intellectual purposes. Although studies of register have been conducted mainly on monolinguals (Gibbons & Lascar, 1998), they have a significant relevance to the study of bilingualism. Notably, the development of academic register relates significantly to literacy development (Gibbons & Lascar, 1998; Gibbons, 1999), which is important in that literacy is a possible key to the long-term maintenance of lexical knowledge among bilinguals (Cohen, 1989; Olshtain, 1989). Also, literacy is crucial to the positive cognitive effects of bilingual development (Hamers & Blanc, 2000). As the mastery of different types of register is essential to language development and its use, so is the background to its mastery. In short, the three aspects of register together reflect user

characteristics and their relationships, as well as the emotional and physical settings of language use.

Given the involvement of these intricate factors in language development, it is evident that the situation is particularly complex in the case of bilingual development. Even in the limited context of everyday or academic registers, bilingual communication may take place with word or sentence level code-mixing or code-switching, depending on the user types, the topic or the setting, and the availability of such registers in each language. Such language behavior can be regarded as a bilingual version of register use. Yet, the disparity between the two languages would be greater in the development of academic register and literacy skills, as it is largely affected by the availability of, and the need to interact with, language models. Even among monolinguals, it is claimed that institutional support and socio-cultural pressure are essential to the acquisition of standard orthography (Hatano, 1995). In addition, studies have found that higher-level academic language development and the related intellectual growth after age 12 depend significantly on early language development through the culture of literacy in early childhood education (Corson, 1999).

In view of the nature of 'literacy as a social construction', and its learning as an institutional practice (Luke & Kale, 1997: 15), it is clear that the role of the socio-cultural context must be crucial in academic language development. It would be no surprise then, that such social factors are far more critical to those literacy related aspects of language development in a bilingual's minority language, considering the lack of status and role of a minority language in a wider society. In fact, Hamers & Blanc (2000) point out that the literacy development in a minority language in contact settings certainly requires its 'valorization', or a psychological process of attributing values to a social and a physical object (ibid: 376), in the bilingual's social network and especially at school. Thus, in order to understand the roles and the relationships of languages in social networks, socio-cultural factors should be examined with these notions in mind.

As stated earlier, factors other than language in the local level socio-cultural context include 'users' and 'settings'. Users function as agents of language and its related conventions, while settings condition or restrain the background of users' action. For instance, the 'status' and 'roles' of users to an individual affect the individual's choice of language in cross-lingual interactions. Similarly, language

choice is affected by 'attitudes' of users towards the individual, and the individual's attitudes towards users. With regard to status, the following is of note: language value tends to be measured by the value of its users, due to the nature of language as a commodity and an attribute of its users. This means that the opposite could be true in some circumstances: the language or its variety could symbolize its users' values. For example, it was found that the characteristics of speakers with dialects or ethnic accents are negatively perceived compared to the standard variety in a matched guise test (Bettoni & Gibbons, 1988). In other words, the language of a group of higher social status assumes the higher status of its users, and people in other groups who use the language of a higher status may gain status by doing so. Such associations of language and status functions may lead to a situation where an inter- or intra-group communication takes place in the language of social power, promoting language shift among minority language groups. Especially of note is that school plays a significant role in this process; the language used as a medium of instruction at school tends to have high status, while the status of other languages unused as such is reduced (Hamers & Blanc, 2000). This is especially so when the school language is also the main language in a society.

In addition, the relationships of an individual with different language users in terms of roles and attitudes determine the need and the value of language required to communicate with respective users. In the process of primary socialization, a child learns the language(s) of family members enthusiastically, as communication with family is important in the child's social networks, and both the child's and the family's attitudes to language learning are mutually positive. In the case of a bilingual family, however, if either language can meet the communication needs for maintaining these relationships, the child is likely to use his/her preferred language, in the absence of discipline from the parents not to allow the child to do so (Harding & Riley, 1986; Saunders, 1988; Döpke, 1992). Moreover, this tendency could become stronger as the secondary socialization progresses, mainly through schooling in a majority language.

A main cause of this would be that the acceptance from peers is most important for a child, particularly for friendship, and that peers play a key role in the child's development of social identity, though teachers play a central role in pedagogical and mental support for developing and realizing aspirations. Since the approval of peers and teachers is important to many children, the language of these

interlocutors becomes equally important to meet communicative and emotional needs. The other reason for the preference of the majority language use is the emotional and cognitive effects of the culture of schooling. On the one hand, it reconstructs norms and values of minority children through the dominant language of a society, which works in assimilating their cultures and languages (Corson, 1998). On the other hand, it generally restricts the available academic language variety to that of the majority language only. This, combined with the lack of minority language users in the public domain, limits the opportunities and the need to use this variety in daily life. Consequently, language development in this aspect stagnates, as it requires learning of models and behaviors based on the child's 'social and cultural experience' (Vygotsky, 1962).

To summarize the points: the status, roles, and attitudes of people around the child in relation to the values of his/her languages significantly influence the choice and motivation to learn each language. This is particularly apparent in socialization through education. A number of studies have reported that negative attitudes of teachers and peers towards minority language users severely discourage their use, and challenge minority group identification in a profound way (Skutnabb-Kangas, 1981; Corson, 1998; Cummins, 2000). The child's attitudes are thus affected by the quality and the quantity of contact and relationship with users. Accordingly, a change of attitudes can result in the decline of minority language ability, alongside the decreased usage and limited demands both in public and private life.

The degree of contact with users of each language depends on the settings, which form different kinds of language experience. In particular, the settings in which language contact takes place, such as home, community, and school, predetermine the language models in these domains, affecting the choice of language to be used, and the type of register to be acquired. These settings consist of the emotional and the physical environment, each of which influences acquisition processes to a varying degree.

The emotional aspect includes topic, attachment, and familiarity, while time, place, and medium belong to the physical aspect. The degree of 'attachment' and 'familiarity' with a 'place' or a 'topic' depends on the individual experience of events and practices involving language and its users. The richness of such experience is in turn determined by the use of language and the relationship with users, which eventually affects the emotional connection with the settings of the experience.

'Time' factors, such as days, hours, dates, and especially age set the type of interlocutors, domains, and language contact. The process of growing up is likely to accompany the change of attitudes towards users and their languages, the emotional involvement with a topic or a place, which would eventually lead to the change of ability including a command of register in each language. One other factor of setting is 'medium'; how, from whom or through what, a child learns and uses a language. In other words, medium is the way the language is used around the child, and the means with which language models are provided by users and their products and commodities in the environment. These socio-cultural factors of users, language, and setting are thus closely linked together, influencing each other and the choice of language.

2.3.6 Function and degree of language use

While monolinguals choose types of register according to the socio-cultural context of users and settings within a language, bilinguals can choose them in each of their two languages. Such language choice is also influenced by the individual's social identification and communication purposes, but bilinguals have additional concerns of ethnic group identification and the resulting motivation to communicate in certain ways. As in the case of monolinguals choosing a register variety, bilinguals' language choice can be seen in terms of 'function' and 'degree' (Milroy, 1980; Li, Milroy & Ching, 1992).

There are two aspects of function: public and private (Baker & Prys Jones, 1998). 'Public' functions of language use include: 'basic practical needs', 'group membership', 'socialization', 'education/occupation', and 'leisure'. These involve various degrees of emotional and intellectual needs in social interactions. In general, a bilinguals' majority language would have more public functions than the minority one in contact settings. For example, basic needs in public, such as asking for directions and buying items in a shop would normally take place in the majority language, unless they occur in the ethnic community or the premises owned or managed by a community member. Similarly, when an individual's social life revolves mainly around the circle of people who are majority language speaking, interactive communication needs have to be met in their language. For example, a minority child would satisfy most purposes of interaction with friends, teachers, and a wider

community through the majority language. Only within the ethnic community would the child have wide-ranging opportunities to utilize the minority language for public functions.

On the other hand, language is used for 'private' purposes, as it is not only the means of social interaction, but also the knowledge base of individual thought. In addition to the category used for public functions (education/occupation and leisure), private functions comprise 'emotional needs', 'cognition', 'analysis', and 'reflection'. In particular, various emotional needs such as communication, intimacy, and survival, are the driving force behind different functional uses of language. To be more specific, communicative needs are the need to express oneself and to send and receive a message, while intimacy refers to the need to be understood and cared for by important others. Survival may demand the reconstruction of one's identity, as the former self is incompatible with a new environment. This proceeds in three ways: denial or reaffirmation or integration of the original identity. It is of note that since language including its register develops in the social and cultural context through social interactions (Hamers & Blanc, 1989), the type of language used in private would also reflect such contexts and the availability of register in each language. That is, as socialization progresses, 'emotional needs', 'cognition', 'analysis', and 'reflection' that utilize self-talk would be increasingly conducted in the language developed through relevant public experiences. Thus, when private activities involve the same or similar contexts to public interactions, they are likely to take place in the language used in public. For instance, an individual would use the language of school in doing homework alone at home. In the general case of a minority child bilingual in minority and majority languages, the available register for school is mainly the majority language, so the cognitive and educational development occurs mostly in this language variety. On the other hand, when social acts that are culture-specific are experienced in the minority language only, related private cognitive functions may proceed in the same language. For instance, an Arab person in Australia who grew up to believe in Islam in Arabic may pray and practice his/her belief in Arabic. The degree of use of each language is thus determined by the socio-cultural context a person experienced in the respective language.

As the private and public uses of language are closely related, the development of registers in two languages is influenced by the private and public functions and the degree of use of each language. 'Degree' has three aspects to be

considered: 'frequency', 'amount', and 'importance' of language use for each category of 'function'. In other words, it is concerned with how often, how much, and how importantly it is used in one's daily life. These three factors are all important in considering both private and public functions of language use, and their inter-relationships. Also to note is that the three dimensions, 'frequency', 'amount', and 'importance' are related; that is, the more or the more often one needs to use a language, the more it becomes important, and vice versa. These degrees and functions of private and public use in each language determine the type of register to be acquired, and the eventual bilingual ability.

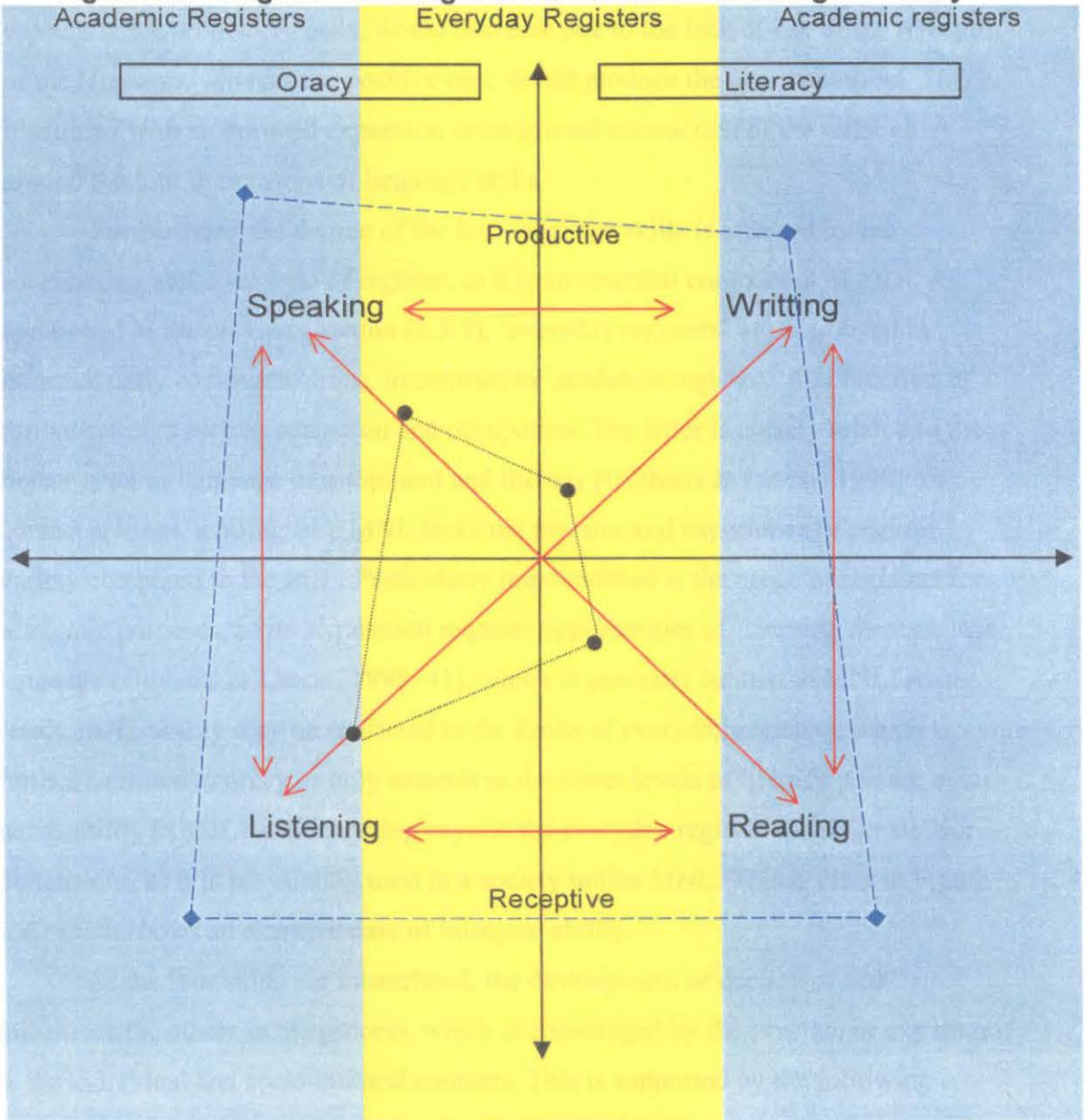
2.3.7 Bilingual ability as both an outcome and a cause

As discussed so far, various factors are involved in the development of bilingual ability in individuals. Although some may overlap, the factors belong to either of the two aspects: the individual and the socio-cultural contexts. In contact situations, a child develops two languages used in the surroundings according to the needs of, and the demands for, each language (Grosjean, 1982; Harding & Riley, 1986). In this process, the relative status of the respective language to a child is affected by the comparative degree of values and norms attributed to each language in both the immediate and the wider environment (Hamers & Blanc, 1989). Such status relations and attributes of languages are transmitted to the child (Hamers & Blanc, 1989) through their users and settings, which becomes an internalized attitude towards both languages. For example, a child of linguistic minorities may develop negative attitudes towards the minority language when its value is low both within and outside the family, and both in the immediate and the wider social network. On the other hand, if the minority language is central to the family and personal well-being, or when the minority group membership is more important than the majority one, it may maintain high value despite the negative social pressure to devalue it. These attitudes are at the same time manifested in the form of identification and motivation, language models to be acquired, and language use, which would eventually determine the type of ability in two languages and of attitudes towards two groups and cultures.

As schematized in Figure 2.2, the type of bilingual ability is viewed here as an interactive radar chart that stretches towards the four dimensions of language skills, depending on the individual and socio-cultural contexts of two languages shown as

the vertical and horizontal axis. The four skills of language, speaking, listening, reading, and writing compose each of four dimensions. Concurrently, these belong to either of the two major aspects of language ability, 'oracy' and 'literacy' (Baker, 1993), which are vertically divided in Figure 2.2.

Figure 2.2 Register and linguistic dimensions of bilingual ability



- ←→ The socio-cultural & the individual contexts of MNL/MJL
-● MNL example
- ◆-----◆ MJL example
- ↔ Interaction

Speaking and listening are grouped into oracy, on the other side of literacy that consists of reading and writing skills. In addition, the nature of these four skills can be horizontally partitioned into two types: 'productive' and 'receptive' (see also Section

2.4.1). That is, speaking and writing are productive skills, while listening and reading are receptive.

The state of productive and receptive abilities would change, according to the relative social status of, and the comparative values attached to, a bilingual's minority language (MNL) and majority language (MJL) in the individual and the socio-cultural contexts. In other words, when such contexts are negative, both types of ability, especially the productive ones, would decrease due to the lack of use or the rejection of the language, whereas the positive case would produce the opposite effect. This is illustrated with an outward expansion or an inward contraction of the radar chart around the four dimensions of language skills.

Furthermore, the degree of the four language skills is affected by the accessibility and command of register, as it is an essential component of each. As mentioned in the previous section (2.3.5), 'everyday registers' are employed in informal daily communications, in contrast to 'academic registers' that function in formal settings such as education and occupation. The latter is closely related to the higher level of language development and literacy (Gibbons & Lascar, 1998). In contact settings, a bilingual's MNL lacks the practice and experience of register variety compared to the MJL. Particularly impoverished is the range of registers for academic purposes, as its acquisition requires opportunities of 'learning *through*' the language (Gibbons & Lascar, 1998: 41), which is generally limited in MNL. As a result, MNL ability may be restricted to the limits of everyday registers, which is further confined to oracy or only extends to the lower levels of literacy. On the other hand, ability in MJL would develop beyond the everyday register sphere in all four dimensions, as it is prevalently used in a society unlike MNL. This is clear in Figure 2.2, which shows an example case of bilingual ability.

As the four skills are interrelated, the development or decline of one influences the others in the process, which is encouraged by the practice or experience in the individual and socio-cultural contexts. This is supported by the following studies. Garton & Pratt (1998) report the finding that aural experience of book reading and the development of spoken language in early childhood contribute to the later achievement of literacy, emphasizing the importance of parental support. In the case of non-alphabetical orthography, Hatano (1995) claims that Japanese literacy has a facilitating effect in comprehension and acquisition of knowledge; that is, literacy increases the amount of vocabulary for speech and improves aural comprehension

skills. He also stresses that cultural pressure and institutional support for mastering standard orthography are necessary for the acquisition of literacy. Lüdi (1997:211) maintains that the acquisition of literacy constructs 'new linguistic and cognitive abilities which are part of discourse competence'.

As for the many cases of bilinguals who have no opportunity of developing literacy in MNL, the interaction of skills may seem to occur only within oracy; yet, there is a likely underlying interaction between the lack of literacy and the development of oracy in MNL. This is because of the close relationship between the development of literacy and academic registers. Specifically, acquisition of academic registers would be hampered without literacy development, which at the same time affects oral ability in MNL, by limiting the register repertoires available for communication. Smolicz (1983), for example, notes the lack of L1 literacy as one of the main factors causing L1 attrition. Similarly, Secombe & Zajda (1999) report many cases of bilinguals who experienced MNL deterioration and trouble in communicating abstract thoughts in MNL. Their studies show that such cases of limited ability in MNL are common among bilinguals who did not have the chance to fully develop MNL literacy due to the MJL education and inadequate MNL programs. It is also noteworthy that the lack of MNL literacy among their subjects coincided with the negative individual and socio-cultural contexts, doubly impeding the development of MNL ability.

Moreover, when MNL is the mother tongue, the lack of its development and maintenance, especially in academic registers, could have negative influences on the attainment of higher levels of MJL ability and literacy in particular (Cummins, 2000). Such a situation where MJL develops (not necessarily to the full potential) to the detriment of MNL is a 'subtractive' type of bilingualism, as opposed to 'additive' bilingualism from which a child reaps cognitive advantages, due to the positive socio-cultural and individual contexts that encourages the development of both languages concerned (see also Sections 2.4 and 2.5.3). This social and cognitive relationship of bilingualism is illustrated in Figure 2.3. The greater the outward extension of the dashed arrow in the upper right sphere is, the more developed the bilingual ability and the greater the cognitive benefits would be.

In the current framework, the nature of bilingual ability is considered to be a balance between the influences of individual and socio-cultural contexts. To be specific, the following factors are regarded significant: the linguistic environment in

the home during initial socialization and the subsequent period, along with the social cultural experience of the wider society. These factors determine the type of register to be acquired in each language, which significantly influences bilingual ability and the cognitive relations between the two languages. In particular, home language and culture in early childhood shape emotional connections with the language and an orientation towards further development in literacy. In the case of ‘simultaneous’ bilinguals who acquire MNL and MJL as first languages, MJL may become a preferred language (Döpke, 1992), whereas many ‘consecutive’ bilinguals are dominant in MNL before the acquisition of MJL during secondary socialization through schooling. Subsequently, social predominance of MJL, reinforced by the culture of MJL education (Kalantzis, 1985) and the resulting difficulty of obtaining academic registers in MNL (Gibbons & Lascar, 1998) influences the state of bilingual ability.

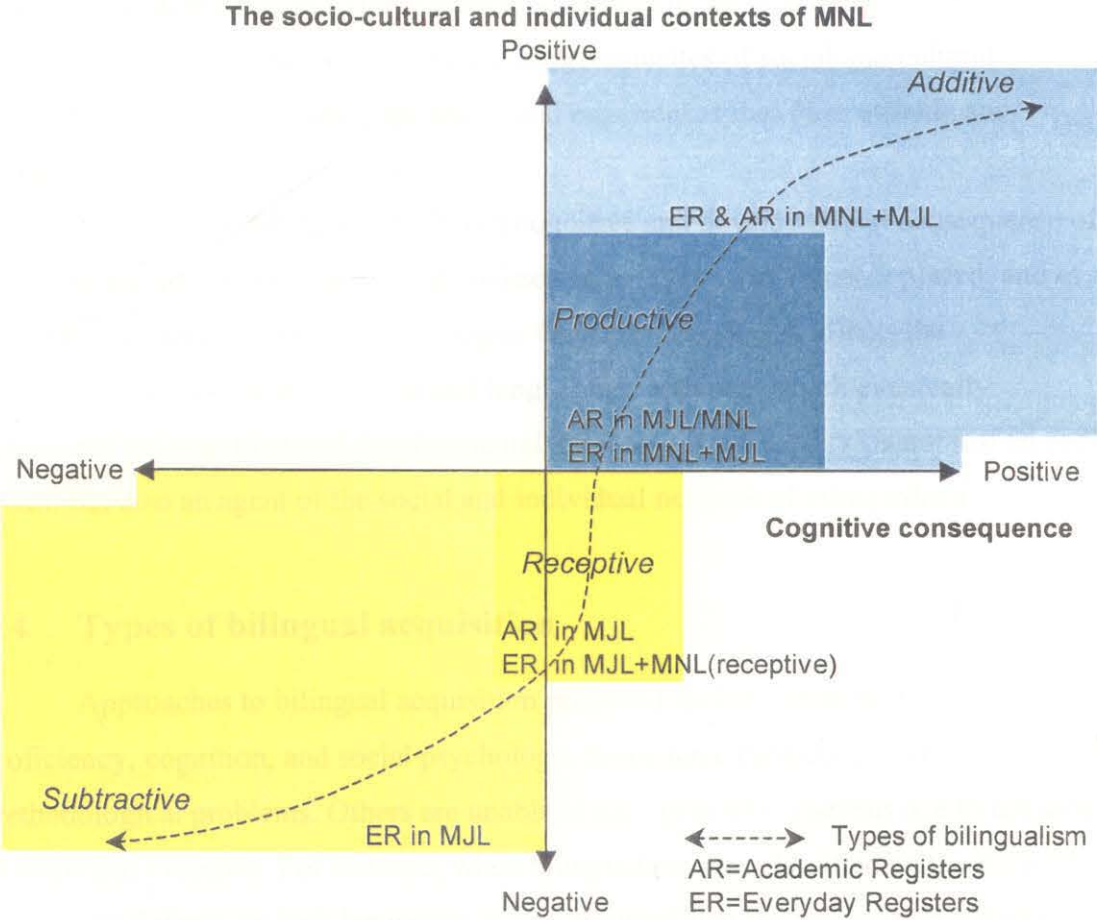


Figure 2.3 The social cognitive relationship of bilingualism

Although there are individual variances, lack of MNL function would be experienced both in public and private, due to the connection between the two, and

the lack of an MNL register for public use. Especially of note are the lack of academic registers and the consequential limit of cognitive functioning in MNL, as it may lead to loss of use, status, and ability. In addition, this entails modification of attitude, as language is closely connected with cultural and group identification (see Section 2.3.4). On the other hand, strong identification with MNL may counteract the negative force of the socio-cultural environment by maintaining active MNL use and literacy practices. Literacy practice here refers to an engagement in individual or social activities that require/promote literacy, not the fuller sense of the term used in Baynham (1995). Improved ability would in turn increase function and degree of use, a range of users and settings, and further strengthen identification and motivation. Furthermore, when such individuals with MNL ability constitute a collective body, they would eventually influence macro-level status and institutional variables, and the original sociopolitical conditions of political economy and the intervening ideology. However, considering the nature of language as a social product, reinforced by the use and identification of its individual members, achieving broad and high levels of MNL ability would be difficult without the initial prerequisites of social and cultural support, which are reflected in the individual experiences that form attitude and ability.

In summary, bilingual ability is a cognitive and developmental consequence of the socio-cultural and the individual contexts in which an individual is placed, and of individual experience with two languages. On the other hand, it affects the individual's socio-cultural context and language experience, which eventually influences the cognitive and developmental outcome. Thus, 'ability' is not just an end result, but also an agent of the social and individual network of bilingualism.

2.4 Types of bilingual acquisition

Approaches to bilingual acquisition proposed include those based on proficiency, cognition, and social psychology. Some have theoretical and methodological problems. Others are unable to gain general consensus due to the lack of empirical evidence. For instance, when bilingualism was classified on the basis of relative proficiency in both languages, it was assumed that the two exist in balance. Those who have equal competence in both languages were called 'balanced' bilinguals and those who have unequal balance between the two were labeled

'dominant' bilinguals (Lambert, 1955). This theory seems to work, as most bilinguals appear to be 'dominant' in one of their languages. However, some may possess seemingly high or low proficiency in both languages.

Yet, no study free of methodological faults has found a person who is skilled in all domains in two languages, nor an individual equally limited in all aspects of competence in each language. In addition, not all bilinguals can be categorized under the two labels. Some may have almost equal balance except in certain domains, whereas others may be dominant in one of the languages for half the realms and the other in the other realms. Experiences of bilinguals also suggest that bilingual competence is unstable and unique to an individual; it can change in various ways during a lifetime, in accordance with needs and circumstances (Grosjean, 1982). Moreover, there are purely practical issues concerning categorization. Since the amount of conceptual realization in one individual is enormous, and its entire estimation is not feasible, it is impossible to cover everything by measurement. Even though a bilingual's competence can be compared to a monolingual standard of the two languages involved, it is still inadequate to define completely balanced bilinguals. For these reasons, this classification in a strict sense has not yet been established.

Another theory of bilingual categorization distinguishes between 'co-ordinate', 'compound', and 'subordinate' bilingualism, based on cognitive organization (Weinreich, 1953), though a theoretical confusion occurred when Ervin & Osgood (1954) incorporated 'subordinate' into the 'compound' category (Skutnabb-Kangas, 1981). It was assumed that co-ordinate bilinguals have different conceptual representations for each language, which have developed naturally through two separate experiences. Accordingly, two languages were believed to be stored separately through input and output from different channels. Compound bilinguals, on the contrary, have only one conceptual base for both languages, which have developed in childhood through continuous switching between two languages. Subordinate bilingualism occurs when one language is learnt through the other as a 'foreign' language, often by formal language learning. Under these assumptions, co-ordinate bilinguals would not suffer from interference between the two languages, whereas compound and subordinate bilinguals would never achieve native-level competence in either of the languages, due to interference.

However, cognitive and semantic organization depends on various other factors such as the degree of language similarity and difference, cultural differences

reflected in the two languages, the existence of common and uncommon conceptual representations, capacities of memory and storage, and age and the circumstances of acquisition. For this reason, the distinction between the types is not clear-cut, and Hamers & Blanc (1989, 2000) maintain that different varieties of bilinguals exist between these types. In other words, it is more likely that each bilingual has a unique form of cognitive and semantic organization, depending on the domain of concepts, or conceptual interchangeability between the two languages. In fact, Weinreich acknowledged this after more than twenty years of much debate and fruitless experimentation for concrete decisive evidence (Skutnabb-Kangas, 1981).

Uneven availability of signifiers for a conceptual representation in each language would be the most likely case for minority- majority language bilinguals; some concepts are learned only at home or at school, but others in both home and outside-home situations. Also, they are likely to have different levels of skills in each language. More importantly, bilingual language behavior is a reflection of extremely complex factors, and so is the degree of competence and difference in bilinguals; just a single aspect of cognition cannot determine such multifaceted phenomena. As a result, the validity of the theory was much debated (see, for example, Skutnabb-Kangas, 1981; Baker, 1993) and it is usually seen as no longer valid in the bilingualism research.

There are other models of bilingualism that are still in current use. With regard to the effects of socio-cultural factors on bilingualism and cognitive development, a distinction is made between 'additive' and 'subtractive' bilingualism (Lambert, 1974). It is claimed that the relative competence between the two languages manifests subtraction and substitution of a language and its culture with another (Lambert, 1977). In a state of additive bilingualism, a child receives cognitive benefits from the bilingual experience, as a result of positive social support for the two languages in the surrounding environment. A subtractive case of hindered cognitive development occurs if the mother tongue has a low status and its use is discouraged. In this situation, the higher status language starts to overtake the incompletely developed first language, which eventually will be lost as a result.

Lambert's theory is of value in that it identified the influence of socio-cultural factors on bilingual development. Nevertheless, it is not clear what exactly are 'additive' or 'subtractive' environments, and how each type of bilingualism is formed according to such environmental variables. Likewise, caution should be used

regarding the claim for cognitive benefits. The supposition of a causal link between types of bilingualism and resulting cognitive effects seems too straightforward; the process involved in cognitive development is unexplained.

The Thresholds theory (Cummins, 1976; Skutnabb-Kangas & Toukomaa, 1977) may provide more insight as to the developmental process of cognitive attributes in relation to bilingualism. The theory and its supporting evidence (Dawe, 1983; Bialystok, 1991; Clarkson & Galbraith, 1992) suggest that certain levels of proficiency determine the outcome in either direction. That is, the lower threshold level of competence (underdeveloped in both languages) leads to negative cognitive effects, while the higher one receives cognitive benefits over monolinguals and other bilinguals with lower proficiency. For instance, the findings of Dawe's (1983) study substantiated the theory that an increase in mathematical reasoning skills corresponds to enhanced competence in two languages.

It is notable, nonetheless, that studies have found positive effects chiefly among bilinguals from mixed-language homes and those schooled through a minority second language, whereas negative influences were observed mainly among children of minority language background educated in a majority language (Hamers & Blanc, 1989). This shows the influence of socio-cultural context on bilingual ability and its cognitive consequences. Considering the common reality that most immigrant children are schooled in a subtractive way (e.g. monolingual majority language education), the educational implications of the theory are thus significant. At the same time, individual or ethnic group differences regarding cognitive effects and language proficiency may require additional explanation other than micro-level socio-psychological factors; macro-level variables, such as politics, economy, and ideology need to be examined.

2.4.1 Childhood bilingual acquisition

'Childhood' refers to the period from birth until age 11 (Hamers & Blanc, 1989), and 'Childhood bilingualism' stands for simultaneous as well as sequential bilingual language acquisition, and second language learning in children (Lyon, 1996). Of these, simultaneous or infant bilinguality is when children grow up with regular exposure to two languages in infancy and develop 'two mother tongues' (Hamers & Blanc, 1989:10). This process may begin from birth (Lyon, 1996), or 'at

or nearly at the onset of language' (Kessler, 1984:26). Sequential, or consecutive bilinguals are those first exposed to one language and then to the other after the age of 3 and before the age of 11. This reflects the general consensus that children master basic linguistic competence around the third year of their lives (Kessler, 1984). In childhood second language learning, the language initially acquired remains the 'mother tongue' (Skutnubb-Kangas, 1981), but the second language may grow dominant. Note that although some regard 'acquisition' as a natural learning process, and 'learning' as a formal conscious learning process (Krashen, 1981), they are used interchangeably in general (Ellis, 1994). At this early stage, they are termed 'developing bilinguals' (Dodson, 1983) since their linguistic skills are still limited in both languages. Despite the limitation or the uneven degree of competence in two languages, by the third year of infancy, the child can be regarded as bilingual (McLaughlin, 1978).

Bilingual development later in life is more affected by other socio-psychological factors such as language use and linguistic environment rather than the types of bilingual acquisition (Grosjean, 1982). Consequently, some speakers may become 'productive' or 'active' bilinguals, while others may develop 'receptive' or 'passive' skills only. The former can produce and use both languages actively. On the other hand, the latter usually have comprehension skills only in their weaker language. Still, their receptive knowledge can be activated in a relatively short time through a change of circumstance, such as living in a country where the target language is the only means of communication. Such cases have been reported in several studies (Arnberg, 1981; Harding & Riley, 1986; Döpke, 1992). Thus, maintenance of passive skills should still be valued even if the acquisition of productive skills seems to have failed. This is of importance to many immigrant parents who give up talking to children in the mother tongue since they always answer back in a majority language. In short, if 'receptive' skills are maintained, there is a strong possibility that dormant knowledge may be activated when the opportunity arises in the future.

2.4.2 Second language acquisition

The term 'second language acquisition' represents all paths of acquiring a second language after the basic mastery of a first language, through formal or

informal learning (Ellis, 1994). 'Consecutive', or 'sequential' childhood bilingualism is also considered a result of second language acquisition. Studies of bilingualism are of importance to the field of second language acquisition, as its final goal is the attainment of bilingual competence. The following theories are worth mentioning in that they apply to school-age children in a minority language community. All stress the significance of socio-psychological aspects in language learning.

The close connection between language and culture is pointed out in Lambert's (1974) Motivation Theory. He noted that one's self-identity is basically composed of one's language and culture, which means people identify themselves with their language and culture. This may well be true in that language is a 'product of culture' as well as a 'transmitter of culture', which is used as 'the main tool for the internalization of culture' (Hamers & Blanc, 2000: 199). In other words, language and culture influence each other, and are closely related to the formation of attitude, as discussed in Section 2.3.4.

Accordingly, personal identity and attitude, together with aptitude, play important roles in learning a second language (L2). In particular, integrative motivation was found to be more effective than the instrumental in producing mastery of a language (Gardner, & Lambert, 1972). This may explain the situation where a second language can become the preferred language of a learner who mastered the language for an integrative reason. Bilingual mastery can have either a positive or a negative influence on the self-concept or self-esteem of an individual.

Integrative motivation is also a component of Schumann's Acculturation Theory (1978), in which language is considered to be a part of culture. He suggests that the degree of second language acquisition is controlled by 'the degree to which a learner acculturates to the target language group' (1978:34). In addition to the personal psychological factor, social factors that surround an individual play an important role in deciding the learning achievement. For example, Schumann (1978) claims that although acculturation is accomplished through several factors, a learner's integrative motivation is the second most influential factor after the dominance of the second language and its culture. That is, subordinate status of the first language and culture hinder second language acquisition, while the relative equality of the two languages in status and integrative motivation aid successful outcomes. In other words, a positive relationship between the two language communities would produce positive and strong integrative motivation. Consequently, the stronger the integrative

motivation is, the higher the degree of acculturation, and thus a higher degree of language acquisition results. Other social factors Schumann notes as influential are: cultural similarity or adaptability of the L2 learner groups in relation to the target language group, and mutual desire toward assimilation of the learner group in the long term. This may explain why certain ethnic groups acculturate with ease whereas others do not.

The value of Shumann's (1978) theory rests on the recognition of the sociopolitical aspects of language and their powerful influence on both individual and society. However, his model may not apply to all situations (e.g. the dominance of L1 despite the subordinate status of L1, successful L2 acquisition in spite of the lack of assimilation of a learner community, etc). Another limitation is the lack of explanation as to the psychological internalization of L2 and inner processes of language learning.

While Lambert's (1974) model was fairly fixed in relation to the choice of paths to the final outcome, and Schumann (1978) failed to explain the internal processes of language learning, Gardner's Socio- Educational Model (Gardner, 1979, 1985, 1988) provides additional explanations for the individual difference in the end results, and interactional relationships between internal factors. Socio-cultural background is placed first as a primary source of individual differences, which includes intelligence and situational anxiety in learning, in addition to motivation, attitude, and aptitude in language learning. In relation to the causality hypothesis that integrative motivation leads to L2 achievement, he stresses the idea that language learning involves learning typical behaviors in the target language culture, so that the attitudes toward the language community affects motivation, and thus success in L2 learning. These attitudes and motivation are influenced by one's cultural belief, which is rooted in one's socio-cultural background. Next, settings of learning are dichotomized into formal and informal, though there is a possibility of mixed learning. In the final stage, there are two possible end products: bilingual proficiency and non-linguistic changes in attitude, cultural values, and intelligence.

This shows that the model is 'cyclical' (Baker, 1993: 98) unlike that of Lambert; that is, once learners obtain a certain level of competence in L2, they experience internal changes from the language learning experience. As they continue further learning, such changes in attitudes and intelligence continue to influence additional learning experiences and end results. Thus, this process can become either

positive or negative, depending on the personal learning experience. In other words, the initial conditions of learners cannot be a determinant of their final achievement. Similarly, when the individual changes in attitude correspond to those of his/her group, this could be reflected as a change at the societal level, which may eventually change the direction and outcomes of the next cycle from the same community. In fact, such a cyclical relationship may explain certain tendencies in L2 achievement among groups from different ethnic or social backgrounds.

Gardner's theoretical model, which was based on empirical research, was criticized on methodological and theoretical grounds (Crookes & Schmidt, 1991). Gardner's methodology, which led to the finding of a link between integrative motive and L2 achievement, faced several critiques. First, Oller (1981) claimed that affective relationships are unstable because they are not linear. Yet, this point is not so critical since a correlation still exists even when it is other than linear (e.g. curvilinear and log linear), and strong linearity cannot be expected due to individual differences. Au (1988) criticized the results for incorporating all the possible correlations other than positive and negative. This may not be very crucial, however, as it is more serious to ignore other variables that do not have correlations. Also, Gardner's model shows that integrative motivation is not the sole factor influencing L2 proficiency, and as such, it does not explain all the variations.

Still, there was no evidence which proved that integrative motivation leads to low achievement in L2. Similarly, while the measure of motivation was questioned for its appropriateness (Chapelle & Roberts, 1986), it is questionable whether the inconsistency is due to the background difference in the subject groups, or the measurement itself. To be more specific, Chapelle & Roberts' subjects are Spanish and Arabic speakers in an intensive English program, while Gardner's subjects are English speakers learning French. The first group consists of speakers from very different backgrounds with possible differences in their initial language ability, while the second group shares a relatively homogeneous background and learning experience. Also, the status of the respective languages may have played some role in deciding the final achievement in the second group.

Regarding causal theory, some questioned the cause and effect relationship and the opposite was claimed to be true: L2 achievement is not the result of socialization, but its cause (Hermann, 1980; Strong, 1984). Although a better L2 command may facilitate favorable attitudes toward the L2 group, due to more

socialization with the L2 community, no explanation was given as to the cause of high L2 achievement itself. Likewise, no studies substantiated the contrary hypothesis of achievement as the cause of positive attitudes, as argued by the critics (Gardner, 1980, 1985, 1988).

Other criticism was directed to the definition of 'motivation', as it expanded from the originally proposed integrative motive to the more inclusive one, such as an aspiration toward language learning regardless of motive (Crookes & Schmidt, 1991). The modification should be viewed, however, as the acknowledgement of individual differences in motivation for L2 attainment (Gardner, 1985, 1988).

Lastly, the significant role of integrative motivation or attitude in achieving L2 competence was questioned in that motivation and social attitude should be separated (Crookes & Schmidt, 1991). It is unclear, however, as to how and whether such separation is practically possible, since motivation and attitude are related to each other. Nevertheless, the critique could be understood as the need to consider other social factors surrounding an individual's L2 acquisition.

In brief, despite some useful insights, each theory has its limitations in providing a complete explanation and in terms of practical applicability. The case of minority language speaking young children in a majority language society usually involves natural learning of L2, while some L2 learning may proceed both informally and formally. There is also a complex variation in each individual's learning process and socio-cultural background. For this reason, only the essence of each model can be applied to the reality and it has to be adjusted to the individual cases.

2.5 Theories of bilingual acquisition: process, degree and effect

The question of how and to what extent children acquire two languages has been the most controversial issue in bilingual acquisition studies. Of the theories that have been proposed so far, three are most influential. They are the Gradual Differentiation theory (Swain, 1972; Volterra & Taeschner, 1978), the Separate Development theory (Padilla & Liebman, 1975; Lindholm & Padilla, 1978; Meisel, 1989; Genesee, 1989; De Houwer, 1990, 1995) and the Thresholds theory (Cummins, 1976, 1978, 1984a, 1987, 1991; Toukomaa & Skutnaab-Kangas, 1977).

Swain (1972) was the first to express the idea of bilingual first language acquisition, that is, initial acquisition of one language consisting of two languages.

Later, this initial language will be gradually separated into two independent language systems. She claimed that monolingual and bilingual acquisition is basically the same in that children learn language(s) using one language store and that they code-switch according to the type of addressee. The only difference is that monolinguals choose codes within one language, whereas bilinguals select from two languages in the speaker-situation. Yet, this notion of interlocutor-dependent code-switch was not sufficient to explain the use of different languages without a set of rules for each.

Several years later, however, Swain's theory was further elaborated by Volterra and Taeschner (1978) and reappeared as a three-stage model, the Gradual Differentiation theory. Volterra and Taeschner (*ibid.*) claimed the following three stages: initially, one language store consists of a lexicon from each language; subsequently, this language store functions as one syntactic system, which uses the two types of lexicon; finally, the one language system gradually differentiates itself into two separate systems. The theory also maintained that no translation equivalents occur in the first stage.

The point of controversy here is whether the lack of use of translation equivalents observed in speakers can be generalized. It could be a result of speakers' dominance in one language or the use of a preferred language for a certain word. Since the subjects were siblings who grew up in a similar environment, their language use cannot be generalized to other cases. Likewise, it is doubtful whether language mixing and the absence of cross-linguistic equivalents can be regarded as evidence for a single syntactic system; it is more likely that mixing is a result of mixed input, and the lack of translation equivalents is due to the acquisition of a word in one language earlier than in the other.

The hypothesis of an initial single system was challenged mainly because of the following two points. First, early translation equivalents did occur in later studies (Mikes, 1990; Quay, 1993). This suggests Volterra and Taeschner's results cannot be the basis of claims about the existence of translation equivalents. Second, many have questioned their study for methodological and analytical reasons. For instance, lack of lexical equivalents in one language can be attributed to the later development or the dominance of the other language in that particular stage. If this is the case, it is doubtful that the same syntactic rules were applied to both languages. Moreover, Volterra and Taeschner's evidence consists of interference phenomena, and as such, two language systems must have existed in their subjects, rather than a single

language system (Meisel, 1989). To summarize, the disposition of the current field is to regard the theory of Gradual Differentiation, or 'single system hypothesis' as inappropriate in explaining the process of bilingual acquisition (De Houwer, 1996).

In contrast, the Separate Development theory claims two separate morpho-syntactic systems develop from the beginning of the bilingual acquisition process. Also known as the Separate Development Hypothesis (SDH), this hypothesis maintains that 'the morpho-syntactic development of a preschool child regularly exposed to two languages from birth, which are presented in a separate manner, proceeds in a separate fashion for both languages' (De Houwer, 1990:339). In this theory, language mixing at an early stage is seen to be of little significance. It is regarded as the result of the immature metalinguistic awareness common to infants. In other words, early mixing would not hamper separate grammatical development since code mixing is neither language confusion nor interference.

A number of case studies have given evidence for the SDH, and have found separate development of linguistic forms (García, 1983; De Houwer, 1990, 1996) and word orders (De Houwer, 1988; Meisel, 1989) in language specific patterns. In addition, other evidence has been reported to substantiate the claim. This applies to the acquisition of tense and aspect (Schlyter, 1990), gender marking (De Houwer, 1987) and grammar (Pfaff, 1992), to name a few. Moreover, this evidence was found not only among children who grew up with a one person-one language input where each parent uses a different language, but also among those raised otherwise. This shows that the separate development of two language systems takes place no matter what type of input children receive, as long as they grow up with constant exposure to both languages.

Although the theory has not been undermined by any criticism so far, the SDH does not answer the question of whether the two systems are balanced to the same degree in their development, nor how they interact in the acquisition process. Similarly, while the SDH applies to early childhood bilingual acquisition, it does not provide any suggestions for the development of bilingual systems in older children. In this regard, the SDH still needs to be tested through longitudinal studies from infancy until the teenage years, or studies of bilingual school children, to clarify these issues.

The Thresholds theory, in contrast, presents a model that applies to various types of bilingual development, focusing on school children. Originally proposed by Cummins (1976) and Skutnaab-Kangas and Toukoma (1977), it was further

developed and became ‘the developmental threshold model’ (Cummins, 1987).

Cummins devised the sequential model to describe the process of bilingual acquisition, while considering the relationships between bilingualism and its effects on cognitive development. It is claimed that decontextualized language skills receive greater influence from the process of bilingual acquisition: ‘Those aspects of bilingualism which might positively influence cognitive growth are unlikely to come into effect until the child has attained a certain minimum or threshold level of competence in his second language’ (Cummins, 1978: 858).

It is of note that Cummins (1980b; 1981a) proposed a single storage system for both languages as Common Underlying Proficiency (CUP) that makes bilingual functioning possible. Cummins then divides language proficiency into two dimensions: ‘Context Embedded’ and ‘Context Reduced’ (Cummins, 1981b), which are formerly termed, ‘Basic Interpersonal Communication Skills’ (BICS) and ‘Cognitive Academic Language Proficiency’ (CALP) (Cummins, 1979), respectively. The first is required for cognitively unchallenging, face-to-face communication, while the second is needed for cognitively demanding, analytical thinking. In second language acquisition, BICS is acquired in a relatively short time (around two years) regardless of L1 proficiency, but CALP takes much longer to be acquired — a period of five to seven years — co-dependently with L1 academic language proficiency. The most recent definition of CALP is further clarified, since the concept of register is incorporated. In light of register as a linguistic system realized in a specific context or conventions, CALP is redefined as the extent of access to, and command of, academic registers in oral and written mode (Cummins, 2000).

In the latest version of the threshold model, three thresholds define four stages of bilingualism. The earliest stage of bilingualism is regarded as ‘early language,’ which consists of lexicons from one or two languages, depending on the type of input children receive. As their language develops to the simple sentence level, they cross the first ‘early threshold’ to reach the next level called ‘potential bilingualism.’ At this stage, only one language develops age-appropriate simple sentence usage, while the other language stays at the ‘early language’ level. When the potential bilinguals develop their language systems further, they move up to the next level, ‘developing bilingualism’. Here, the stronger language evolves continuously in accordance with their age (4 to 5), though the weaker one remains a step behind. However, if the growth of the weaker language catches up and reaches its age-appropriate level,

'proficient bilingualism' is achieved, and the 'higher threshold' is crossed. Consequently, proficient bilinguals receive advantages in their cognitive development. In contrast, if the initially stronger language is taken over by the weaker one before the first develops beyond the simple sentence usage level, it may have negative influences on cognitive growth.

As discussed in Section 2.4, Lambert (1974) observed these situations from the socio-cultural viewpoint and defined them as 'additive' and 'subtractive' bilingualism. While Lambert suggested only the environmental conditions as an affective factor for a child's language preference and resulting cognitive benefit or detriment, Cummins proposed linguistic factors of developmental threshold as an explanation. Yet, they agree on one point: the establishment of one language as a pre-requisite for the development of the other. If not, the development of the latter language is delayed. At the same time, it should be noted that this 'one-after-another' hypothesis assumes that balanced bilinguals cannot exist between the ages of four and five, which means school-aged children would be more likely to be balanced bilinguals.

However, when both theories are combined in relation to the education of minorities, it is most likely the case that an initially dominant minority language is still insufficiently developed without CALP at the start of majority language schooling; then, due to the tendency to shift towards the socially prestigious language at the cost of the minority mother tongue, these may develop a negative influence on cognitive growth. The hypothesis indicates that unless children are schooled in a primarily stronger language or a lower-status first language until they develop threshold level of competence in CALP, they would not receive cognitive advantages, but they may instead suffer the consequences of underdeveloped cognitive skills and likely school failure.

Also noteworthy is that Cummins' model advocates the importance of age-appropriate language development in one of the two languages before entering school, in order to gain benefits in cognitive growth. Interestingly, a recent longitudinal study of monolingual children by Hill found age-norm language development before the age of five critical for successful literacy development later in their lives (cited in Monk, 1999). Also, the study discovered that three and four-year olds are already developing literacy skills. Indeed, literacy-oriented skills are claimed to be especially important, as they are co-dependent on cognitive skills (Garton & Pratt, 1998).

In this light, literacy skills can be seen as a necessary component of the development of CALP. These findings on monolingual children support Cummins's hypothesis about their bilingual counterparts, since it can be assumed that bilinguals would go through a similar developmental process as monolingual ones, though they proceed in two ways instead of one. In short, the findings above mentioned show that early language development, which is interdependent on cognitive growth, plays an important role for both bilingual and monolingual children in determining the later achievement of CALP. For bilingual children, the development of the first, or the originally stronger language in the early stage of life is thus crucial, as CALP in L1 is transferable to L2.

In fact, there is strong evidence in a number of studies on bilingual education that those who developed the first language either before the introduction of second language, or concurrently and equally as a means of school instruction, achieved higher competence in both languages and better educational attainment than those schooled only through a second language (Cohen, 1975; Skutnabb-Kangas, & Toukomaa, 1976, 1990; Gale, McClay, Christie, & Harris, 1981; Juarez, 1983; Hamers & Blanc 1989). In addition, significant cross-lingual correlations are found in the literacy competence of bilinguals (Iwasaki, 1981; Cummins, et al., 1984; Cummins & Nakajima, 1987; Laurén, 1987) and they are consistent despite the dissimilarity of the languages (Mohan and Lo, 1985; Cummins, 1991). These results have significant implications in planning functional, consecutive bilingualism and academic success for children. Also, they provide some explanation regarding the varied outcomes of bilingual education, with regard to bilingual, biliterate proficiency and cognitive correlates.

However, Cummins' model does not explain how two languages are separated as stronger or weaker in the acquisition process. Moreover, it applies only to sequential bilingualism in which the first language is developed prior to the second. Even if it may apply to a particular case of simultaneous bilinguals who received more input in one language than in the other (Lyon, 1996), it is unclear how they could become proficient bilinguals at a later stage. Likewise, it does not provide any explanation for the case of a simultaneous bilingual who grows up with balanced input from both languages. In addition, no concrete explanation is given regarding the individual or group differences in the achievement of the threshold levels. Most of all, the cognitive correlates of bilingualism are explained only in relation to language

development, and the way in which each level is defined is unexplained. In summary, although 'the developmental threshold model' and BICS/CALP distinction are important and may offer a possible explanation for the different findings on cognitive effects in sequential bilingual acquisition, its use is limited to explaining sequential cases only and still requires more clarification and testing on the aforementioned points.

For these reasons, the model should be applied in combination with other factors. For example, studies have found 'strong evidence that promoting L1 literacy skills enhances overall academic achievement' (Hamers & Blanc 1989:206), which suggests that the development of literacy in the first language is also vital for children of language minorities. This implication is of significance in considering the individual differences in, and the relationship between, bilingualism and cognitive development.

As pointed out before, the importance of literacy in relation to the development of language and cognitive skills is proposed by many; it was discovered that literacy practices enhance linguistic development in general (Garton & Pratt, 1998; see Joseph & Taylor, 1990 for a dissenting view), and that metalinguistic consciousness and decontextualized language skills expand along with literacy (Bialystok, 1991; Garton & Pratt, 1998). These skills are not limited to metalinguistic aspects, but exist in a wider linguistic dimension of 'analysis and control' (Bialystok, 1991:138). The decontextualized language skills are described as 'originality, creativity, divergent thinking, problem solving, symbol substitution, rule discovery, sensitivity to linguistic cues, disambiguation, and verbal flexibility' (Hamers & Blanc 1989:78).

It may well be then, that academic performance would also reflect this ability to some extent. In fact, poor literacy skills were found to be a significant factor contributing to low academic achievement, regardless of age, gender, socio-economic background, and general intellectual ability (Laurén, 1987). This relationship has been supported by a good deal of evidence (Hamers & Blanc 1989). Furthermore, literacy in the mother tongue is the firm foundation for its development and maintenance in bilinguals (Smolicz, 1983; Rado, 1991; Butcher, 1995). Hence, it is apparent that literacy skills are one of the contributing factors for individual variance in bilingual ability and cognitive consequences.

Other possible causes can be sought in the socio-psychological, economic, and political environment. It has been found that the following factors are attributed to bilingual development: parental language use with a child (Döpke, 1992), parental attitude to a language and its literacy (Hamers & Blanc 1989; Butcher, 1995), home literacy practices (Butcher, 1995), language use in a child's surroundings (Grosjean, 1982; Laurén, 1987), ethnic identity (Skutnabb-Kangas, 1981, 1990; Gudykunst & Schmidt, 1988; MacNamara, 1988; Fishman, 1999; Liebkind, 1999; Padilla, 1999; Kondo, 1999), instrumental and integrative attitudes of individual and ethnic community toward the language and its members (Gardner & Lambert, 1972), socio-economic conditions (Troike, 1984; Hamers & Blanc 1989; Döpke, McNamara & Quinn, 1991; Tollefson, 1992), comparative status of the two languages (Lambert, 1974, 1977), language of elementary and secondary education (Cummins, 1981; Hamers & Blanc 1989; Skutnabb-Kangas, 1990, 1999), language policy and its ideological base in a society (Tollefson, 1992; Phillipson, 1999), and attitude of the majority toward minorities (Gardner, 1985; Skutnabb-Kangas, 1990).

If these environmental factors encourage the development of both languages, they lead to higher bilingual competence and a positive cognitive outcome (Mohanty & Babu, 1983; Cummins & Mulcahy, 1978), but in an opposite case, lower cross-language aptitude and negative consequences such as intellectual impairment ensue (Tsushima & Hogan, 1975; Skutnabb-Kangas & Toukomaa, 1976; Laurén, 1987; Hamers & Blanc 1989). Yet, it should be noted that negative consequences could not be blamed on the bilingual experience itself. In fact, deprived socioeconomic circumstances are found to be more responsible for poor academic performance, rather than the effects of bilingualism (Troike, 1984). This study found that a socially and economically more depressed monolingual population performed worse than a bilingual group who have a higher socio-economic status.

However, it is more likely that combined effects are more influential than an individual factor itself. Also, whether a certain factor is vital or relevant depends on individual cases. For example, home literacy practices are discovered to be a more significant factor than socio-economic ones for the enhancement of literacy skills among monolinguals (Gibbons, Lascar, & Morales, 1999). This means socio-economic disadvantages alone cannot explain low literacy competence, which is closely related to low educational achievement. Rather, these are the reflection of various socio-cultural factors. That is, on the one hand, immigrant parents in

favorable economic conditions have more concern about children's linguistic and academic performance (Butcher, 1995). Also, they can afford extra tuition for the children's language practice and education. On the other hand, economically disadvantaged parents may care all the more about their children's literacy and academic achievement, wishing for a better future than their own (Pérez & Torres-Guzmán, 1992; Tollefson, 1992; Butcher, 1995). For example, Butcher (1995) reports that the concerned parents would try to ensure educational success of their children, with great sacrifice and pressure. At the same time, a family's higher economic status may not always mean better educational attainment for their children; for instance, wealthy parents may be too absorbed in their work to spare much time to look after their children, resembling the situations of many low-income families. Thus, literacy skills and academic achievement in relation to socio-economic conditions would reflect two tendencies; as such, they cannot be judged only from one angle. A similar approach is recommended in assessing the effects of bilingualism; each factor needs to be considered with respect to the other, and as a part of the whole.

To summarize, of the theories of bilingual acquisition proposed so far, the Thresholds theory is the most applicable to explain the process of consecutive bilingual development in school children. Especially noteworthy is the significance of age-appropriate language development in early childhood for the later achievement in the skills related to literacy. The inclusion of the notion of register in the theory further clarifies this point. Yet, questions still remain to be explored regarding the cognitive process and correlates of simultaneous bilingual acquisition. With regard to the degree of bilingual development and its cognitive consequence, the discussion showed that the integration of other factors with the cognitive factors is necessary in explaining these aspects of bilingualism. While this section presented the theories and the issues involved, the following sections will discuss the findings of studies on bilingual acquisition.

2.5.1 Degree of language development: monolingual and bilingual comparison

One of the common questions regarding childhood bilingualism is the rate of language development: Is it slower or faster than monolingual children, or at the same

rate? (Döpke, et al., 1991) So far, only a few case studies have been conducted on the subject in terms of lexical and structural development. A study of French/English bilinguals compared to English monolinguals (N=13 each) on the average age of first utterance of a word (information supplied by their mothers) found that the bilinguals uttered their first word 0.8 months earlier than their counterparts (Doyle, et al., 1978). Yet, further testing proved neither group's linguistic development faster or slower than the other. Even so, it was found that lack of input might affect each language's vocabulary development in certain domains, though the total amount of vocabulary is comparable to that of a monolingual.

As for structural development, studies have found contradictory results. Swain's (1972) case study of two bilingual French-English subjects (aged from 3;2 to 3;9 and 4;0 to 4;5) suggested that the development of wh-question structures in bilingual children is slower than in monolingual children. On the other hand, Padilla and Liebman (1973) found the growth of Mean Length of Utterance (MLU) similar in bilingual and monolingual children. Since MLU is an indication of the rate of structural development in childhood, this suggests comparable growth in terms of linguistic structure. Meanwhile, a case study by Padilla and Lindholm (1976) led to the same conclusion that structural acquisition in bilingual children occurred at the same time as their monolingual counterparts. In addition, each structure (possessives and negatives) developed at much the same rate in both languages (Spanish and English). Although Spanish interrogatives tended to be acquired prior to English ones, this was explained as a result of the greater complexities of English interrogative structure compared to those in Spanish.

Some case studies of simultaneous bilinguals have noted minority language usage to be somewhat stagnant and less expansive, compared to their use of the majority language or that of their monolingual peers (Saunders, 1982; Taeschner, 1983). Yet, this may be natural, as 'each language will be developed to the extent that it is needed' (Grosjean, 1982: 256). It has been widely reported that the acquisition of a minority language did not hinder majority language development (Döpke, et al., 1991).

To conclude, the evidence is still too limited to answer the question of whether the linguistic development of bilingual children is delayed or advanced, compared to that of monolingual children. Yet, the answer may be affected by various factors such as the imbalance of input, the need for each language, and the attitude toward them. In

addition, since developmentally normal language behaviors in monolingual children vary, a larger-scale comparison of both groups would be necessary to provide any conclusive answers. This is because there would be some individual differences both in bilingual and monolingual children. For this reason, it is unlikely that the case studies' comparisons as to the rate of acquisition between monolinguals and bilinguals can be generalized.

2.5.2 Code-mixing and transference

Traditionally, 'interference' in language learning refers to learning problems due to the influence of one language on another. This includes the unconscious or inappropriate mixing of two language elements, and deviations from the standard forms or rules of either of the languages involved. It occurs in both directions at all linguistic levels, in a range of linguistic aspects. The word 'interference', however, tended to have negative implications such as a static state of hindrance and impediment. For this reason, the use of 'transfer' or 'transference' has become popular in recent years as an alternative. Similarly, mixing of two linguistic codes is termed 'code-mixing', referring to a strategy of communication to transfer another language elements or rules to the base language without integrating them (Hamers & Blanc, 1989, 2000).

Transference is regarded as a transitional process of bilingual development, which is natural and inevitable (see Pienemann, 1998 for a different point of view). This phenomenon commonly occurs where a majority language influences a minority language within a bilingual individual. Saunders (1991) notes that there are no homogeneous, consistent patterns according to the language combinations, or individuals. There are many studies of such divergent language use in different language varieties. Varied study results concerning the extent of transference are due to the following factors: different ages of the subjects, the type of transference examined (lexical, syntactic, semantic, morphological, phonological), and varying linguistic environment. Also, individual differences may be explained by parental language use patterns. A range of studies has found that parental language mixing may cause a deficiency or a delay in language separation by a child (Harding & Riley, 1986; Döpke, et al., 1991; Döpke, 1992). Although it is generally agreed that the transference decreases with age, the reason is still disputed. It could be the result of

growing metalinguistic awareness (De Houwer, 1990), or lack of lexical equivalents in early stages (Padilla & Liebman, 1975; Lindholm & Padilla, 1978), or initial language system consisting of two language constituents (Swain, 1972; Volterra & Taeschner, 1978).

Transference is found mostly in the lexicon, followed by the syntax (Döpke, et al., 1991; Döpke, 1992). Phonological transference was found to increase with the increasing imbalance in use and ability between the two languages (Clyne, Fernandez, Chen & Summo-O'Connell, 1997). Similar lexical forms in both languages are more likely to face semantic transference (Döpke, et al., 1991; Döpke, 1992), though it occurs even among dissimilar languages, such as English and Chinese (Clyne, et al., 1997). Morphological transference is less frequent, but is likely to occur when a word from one language is incorporated into a sentence in another (Clyne, 1972; Saunders, 1991; Clyne, et al., 1997).

While transference, or code-mixing, is found both in simultaneous and sequential bilinguals, it is generally experienced either in early childhood or throughout the teenage years until a firm basis is established in the weaker language. Where adequate input is received and sufficient output opportunities are provided, mixing decreases dramatically with age. For example, De Houwer's (1990) longitudinal case study of a simultaneous bilingual child focused on the phenomena of language mixing in detail. She found that most of the language mixing was single word insertion (89.4%), of which 46.4% consisted of nouns, but little mixing occurred after the age of three. She suggested that mixing is not caused by 'borrowing' (Poplack, Wheeler & Westwood, 1989) to fill a lexical gap; rather, it is due to the recently increased use of a certain word, differing degrees of clarity in a word perception, and the prior learning of a word in one language to the other. In this case, transference is seen as a normal step in bilingual acquisition and not a source of concern.

On the other hand, receptive bilinguals or those dominant in the majority language, display a significant degree of transference even in the late teens. Clyne et al. (1997) studied three groups of LOTE (Languages Other Than English) speakers in Australia, and found a range of transference in English-dominant bilingual teenagers. This was consistent irrespective of differences in language, acquisition type, and background, though the rate of transference did increase with generation. Limited input and insufficient output opportunities, and little emphasis on grammatical

competence in the course of acquisition, all play a role in restricting extensive minority language development and triggering transference. However, the results may not be interpreted as all negative. As Goodz (1994) notes, mixing can be considered not as a confusion of languages, but a result of strong communicative needs. Indeed, it has been pointed out in Clyne et al. (1997) that minority language speakers with home backgrounds who are 'functionally oriented' do not pay much attention to grammaticality, but concentrate more on quick and effective ways of understanding each other.

In short, studies suggest that code-mixing or transference is not a disorder or abnormal behavior. In early childhood, it is a necessary stage of bilingual development, which gradually diminishes with age, provided adequate linguistic models and practice exist in the every day environment. If transference persists in adolescence, it is partly due to the developmental gap between the two languages, and partly due to the established habit or strategy of communication with limited ability in a weaker language. At the same time, mixing can be a norm in some bilingual communities and regarded as a feature of their identity (Pérez & Torres-Guzmán, 1992).

2.5.3 Intellectual and emotional consequences

Misconceptions about bilingualism seem still prevalent among minority language speaking parents and the general public (Saunders, 1991; Pérez & Torres-Guzmán, 1992; Butcher, 1995). One such myth is that L1 maintenance will cause L2 learning difficulty, especially when L2 is the majority language of the society. For instance, a study of Chinese children with language learning difficulties found that the parents thought their children should spend more time in learning English and not Chinese (Butcher, 1995). Such a misapprehension is based on the myth of 'Balanced Effect' hypothesis (Macnamara, 1966) or 'the Separate Underlying Proficiency' (Cummins, 1980). The former claimed that the brain has only limited capacity to store language and if two languages exist, it has to be shared; as a result, this leads to lower proficiency in each language compared to that of monolinguals. The latter views the bilingual brain as having two separate language stores for each language, competing for limited space. As each language develops separately, the growth of one has to be compensated by that of others; that is, the more L1 acquisition and expansion in the

brain takes place, the less capacity and possibility for L2 acquisition exists. This idea led to the assumption that L2 would be better acquired by discarding L1 altogether. This is not the case, however. In fact, the opposite is true. Knowledge gained in one language is transferable into another, as it is stored in one cognitive system, which can function in either of the two languages. As mentioned earlier, this central system of thought is termed 'Common Underlying Proficiency (CUP)' (Cummins, 1981a) that can be developed irrespective of the language used to acquire concepts and knowledge. In addition, the BICS/CALP distinction (Cummins, 1983) and 'the developmental threshold model' (Cummins, 1987) have been presented as an explanation for how CUP is developed and processed.

Consequently, to improve L2 acquisition, it is important to keep developing L1 and especially its literacy while learning L2, even if their structures differ substantially, since the development of L2 competence is aided by an underlying proficiency already achieved in L1. In the latest statement, Cummins (2000) emphasizes the importance of developing academic registers in L1 for the successful attainment of both languages. The benefits of maintaining L1 in L2 learning have been pointed out by a number of studies (Cohen, 1975; Skutnabb-Kangas, & Toukoma, 1976, 1990; Gale, McClay, Christie, & Harris, 1981; Juarez, 1983; Hamers & Blanc 1989). In addition, Mohan and Lo (1985: 514) found that despite the marked difference between the first and the second language in their organizational patterns, 'language transfer seems more likely to help than to interfere.' It is therefore important to inform parents of minority children of the educational benefits of L1 maintenance, since many of them tend to make their children concentrate on the L2 to the detriment of the L1, believing the still popular misconception of L1 interference or hindrance in learning L2.

A similar concern held by many is that bilingualism may hinder intellectual development. This mistaken belief is reinforced by earlier research results that lack credibility due to their methodological shortcomings such as uncontrolled comparison of subject groups. In contrast, later studies since the 1960s have found that relatively balanced bilinguals have various cognitive advantages over their monolingual counterparts, such as higher IQ (Pearl & Lambert, 1962; Cummins & Gulutsan, 1974), earlier metalinguistic awareness (Ianco-Worrall, 1972; Cummins, 1978), higher ability in divergent or creative thinking (Scott, 1973; Carringer, 1974; Gorrel, et al, 1982; Kessler & Quinn, 1987), advanced levels of convergent thinking (Kessler

& Quinn, 1987), and superior control of linguistic processes (Bialystok, 1987a, 1987b, 1991; Galambos & Hakuta, 1988). In addition, cognitive benefits were found irrespective of socio-economic status (Kessler & Quinn, 1987) or level of IQ (Rueda, 1983). Further more, evidence of Diaz (1985) and Portes & Rumbaut (1990) indicates that bilingualism is the cause of cognitive and academic advantages and not vice versa. In particular, a large-scale study by Portes & Rumbaut (1990) have found that high school GPAs (Grade Point Average) of bilinguals are higher than those of monolinguals among immigrants of diverse ethnic background.

The subjects of most studies are of school age and fairly balanced, though not proficient, in abilities of both languages. This means that they are active bilinguals who maintained their minority language either in the form of 'additive' bilingual education or despite majority language schooling. In the case of minority children, it may well be that the first or minority first language was maintained at home, as family support is one of the essentials for active use and positive attitude towards the minority language (Hamers & Blanc, 1989). Likewise, majority children in immersion programs are found to have parents supportive of bilingualism (Hamers & Blanc, 1989; Berthold, 1995). Yet, institutional support, such as bilingual education, is also important for additive bilingual development.

'Additive' bilingual education has two varieties: 'maintenance' and 'immersion'. The former stands for education of linguistic minorities in their heritage language, with a majority language taught as a second language or as a medium of instruction in varying proportion to the minority language, either consecutively or simultaneously (see Baker, 1993 for a more detailed description). The latter refers to partial or total use of an L2 for the linguistic majority children at the various starting points. Yet, both aim at linguistic equality and harmony in society, and they aspire to a high degree of bi-linguistic and educational achievement. Also, both forms of bilingual education are usually optional for the children and their parents.

Maintenance, or heritage language education, has been found effective in achieving its mission, with positive self-esteem and enhanced cognitive, social, and emotional development as additional advantages (Cummins, 1983, 1992; Cummins & Danesi, 1990). As for immersion, high levels of success have been reported, especially from the Canadian experience (Swain & Lapkin, 1982; Genesee, 1983; Swain, 1984), but also from studies in Australia (Berthold, 1995), and in Japan (Bostwick, 1995).

In addition, there is a combination of the two additive programs: the 'two-way immersion', or 'dual language' program, which serves both majority and minority children (Howard & Loeb, 1998; Cazabon, Nicoladis & Lambert, 1999). This was realized by placing both groups in the same classroom with 50/50 ratio, and by proportioning instruction time in the two languages into either 50/50 or 90/10 (MNL/MJL) ratios. Thus, in addition to the majority language development for both groups, the two-way goal is achieved: maintenance and development of minority language for minority students, and minority language learning as L2 for majority students. The effectiveness of two-way programs on academic achievement was reported in a nation-wide study in the USA by Thomas & Collier (1997) as the best program to achieve long-term school achievement compared to submersion (with ESL lessons), early-exit and late-exit transitional. Cazabon, Nicoladis & Lambert (1999) found both academic and attitudinal benefits of the program in the comparison of reading and math scores with English and Spanish control groups. In the United States, the two-way program has gained remarkable popularity since the mid 90's, growing more than seven times as compared to a decade ago (Howard & Loeb, 1998). Unfortunately, this has been met by a severe anti-bilingual education backlash in recent years (e.g. 'English-Only' movement in California; see Schnaiberg, 1999).

The above-mentioned groups are by no means 'subtractive' bilinguals who are schooled in the majority language only, which would eventually replace the initially stronger minority languages. The subtractive form of education is called 'submersion', where linguistic or socio-political minorities are taught in a society's high-status language, either from the beginning or after gaining communicative ability in the language with transitional bilingual programs. Poor school performance of children from early-exit transitional programs is explained by lack of CALP upon entering the majority language education; they cannot cope with cognitively demanding classes without establishment of CALP (Cummins, 1983; Baker, 1993).

At the same time, children in the submersion classrooms are often trapped in a vicious cycle; they either conform to or reject the majority language school while dragging behind academically in a daily struggle to survive. The situation is exacerbated by the discriminatory behavior of teachers and peers (Kondo, 1998). If they reject the school language, academic failure is inevitable. On the other hand, if they manage to acquire reasonable L2 competence at the expense of their L1, they would experience increasing difficulties in communicating with parents due to

underdeveloped L1 skills or the parents' limited L2 abilities. Geracitano (1977) illustrates an example with a vivid image: 'It is not unusual for such a family to sit at the dinner table with very little conversation between children and parents' (ibid: 114). The situation worsens when parents abandon L1 use with a child, believing it will help their child's L2 learning. In this case, the child is left without any base to build on his/her learning of L2, feeling detached both from the school and the parents.

A number of studies have reported such negative emotional influences of the parents' decision not to speak their mother tongue to their child, especially when the parents are not fluent in the majority language (Rodriguez, 1984; Döpke, et al, 1991; Nieto, 1993; Kondo, 1998). In addition, Dornbusch, Prescott, & Ritter (1987, cited in Kondo, 1998: 33-34) have found that the absence of home language use statistically correlates to the lowest level of self-esteem, scholastic effort, and educational achievement in an extensive study of Asian- and Pacific-American adolescents. Likewise, harmful and cruel consequences have been described in relation to overt or covert assimilation and marginalization of minorities, in the form of education and social pressure, which prohibit or discourage minority language maintenance (Geracitano, 1977; Grosjean, 1982; Neville, 1987; Skutnabb-Kangas, 1990; Pérez & Torres-Guzmán, 1992; Baker, 1993). Cases have been reported of people who went through such a process and emerged as social outcasts without any social group to belong to (Grosjean, 1982; Skutnabb-Kangas, 1990; Kondo, 1998). The disturbing damage found in the emotional as well as the intellectual development of children suggest the importance of mother tongue maintenance not only for academic advancement (Skutnabb-Kangas, 1990; Baker, 1993; Nieto, 1996; Kondo, 1998), but also in establishing an intellectual intimacy and a strong emotional bond between parent and child (Skutnabb-Kangas, 1990; Döpke, et al, 1991; Nieto, 1993). Moreover, the linguistic development of children depends highly on such a close relationship and the quality of family interaction (Döpke, 1992) in the context of developed countries.

Consideration of the findings so far leads one to the conclusion that bilingualism itself causes no negative influence on a child's linguistic, cognitive, intellectual, and emotional development. Rather, it is the surrounding socio-political environment that affects the state of bilingualism and other aspects of child development. This notion is confirmed by the findings that negative socio-political environments are a principal cause of academic troubles in many minority groups, and

not their language and cultural background (Skutnabb-Kangas, 1990; Pérez & Torres-Guzmán, 1992).

To conclude, an additive form of bilingual development fostered by a favorable environment, such as the parents' mother tongue use at home and additive bilingual education such as 'maintenance' and 'immersion', is beneficial to a child's emotional as well as intellectual development. In order to assist the children's bilingual acquisition, it is recommended that parents should be consistent in their language use and encourage the children to appreciate decontextualized language by reading them books from an early age. This is important since 'language mixing by the parents may result in a lack of language separation or a delay in language separation by the child' (Döpke, et al, 1991: 28) and decontextualized language learning is necessary for the development of cognition and high levels of language aptitude, which is transferable from one language to another (Cummins, 1989). Note however, that these may depend on the socio-cultural context. Conversely, when children are pressured to use the majority language only, and to assimilate into the majority culture, the cost can be high: loss of L1, emotional disconnection with the home culture and people, and an increased likelihood of school failure. Such adverse consequences could be alleviated to some extent by L1 or minority language maintenance at home and in the community, visits to the country of origin, and through active participation in language and cultural maintenance organizations such as ethnic schools and religious associations. These problems and coping strategies are relevant to both simultaneous and sequential bilinguals, who are initially dominant in a minority language. However, the ultimate solution may lie in additive bilingual education, though it is extremely difficult to realize this potential in a society with large number of different linguistic minorities, and in a world where 'linguicism' (Skutnabb-Kangas, 1990) is prevalent.

2.6 Languages in contact: shift, attrition, and maintenance

'Language shift', or mother tongue shift refers to two situations. One is where a child of a minority language heritage is unable or has refused to attain his/her heritage language, and functions exclusively in a majority language (Waas, 1991). It is intergenerational, in that one or both parents' first language failed to be passed on to the next generation. The other is the case where minority language speakers stop

using their heritage language for some reason at some point in their residence in a majority language-speaking country or region. The reason and the time it takes for this change to happen all depend on individual or group circumstances in language contact situations.

The shift of one language to another can take place in certain areas of communication or topic, or across various 'domains' of interaction such as home, educational institution, work, and religion (Kipp, Clyne & Pauwels, 1995). Thus, 'language shift' denotes change in the degree of verbal communication usage between the first and the second language, or the first, the second, and subsequent generations, which could occur at individual, sub-group, or entire linguistic community level (Kipp, et al., 1995). In other words, it includes both intergenerational and intragenerational cases of shift in language use.

Factors that contribute to these changes are studied and debated in various parts of the world where different languages compete for power and survival. A vast range of factors can be divided into three categories: 'political, social, and demographic,' 'cultural,' and 'linguistic' (Baker, 1993: 43-45). Another way of approach is dichotomization into two levels: individual and group (Kipp, et al., 1995). In this method, however, the division may be sometimes ambivalent, as the factors influence each other across the category (Kipp, et al., 1995). For this reason, application of both approaches would be useful in maximizing the benefits of the two as an explanatory model. Here, each of three categories by dimension is thus further classified into either individual or group factors.

First, 'political, social, and demographic' factors at the individual level comprise age of arrival, birthplace, length of residence, gender, marriage patterns, socio-economic status and mobility, occupational language use, contact with the language community, and frequency of homeland visit. At the group level, size and residential proximity of the community, continuity of migration from a homeland, distance and cost of travel to a homeland, racial difference from the majority, attitude of the host society towards the minority group and its language, and socio-economic status of an ethnic group and its language are considered to be of relative importance.

Second, 'cultural' factors identified at the individual level are: motivation for migration, cultural affiliation and social identity influenced by the attitude of the majority to the individual, strength of family ties and community involvement. Group factors in a cultural aspect are: availability of the minority language resources and

services (e.g. media, clubs, shops, school), language of cultural and religious activity, symbolic status of the language as an ethnic identity, and cultural distance from the host community.

Third, 'linguistic' factors that relate to change in individual language use include literacy in the minority language, deviation of the home language from the standard variety, and knowledge of the majority language before migration. Other causes of change that affect the whole are: linguistic distance from the majority language, international status of the language, group attitude towards code mixing, and functional ability in the minority language.

Kipp et al. (1995) examined some of the above-mentioned factors that are relevant in relation to the situations of Australian immigration. Although the relative predictive power of each is difficult to define, some are identified as 'clear-cut' factors and others as 'ambivalent' ones (Kloss, 1966). The application of the Kloss model to the Australian experience confirmed that the residential proximity of the community (linguistic enclaves) and the cultural distance (religious and racial difference) from the majority are the two factors that undoubtedly encourage language maintenance. The groups that share one or more of these features are Vietnamese, Turks, Lebanese, and Greeks, who have highest success rate in maintaining their languages.

An ambivalent factor in both the American and Australian experiences is the attitude of the mainstream society towards the minority group and its language, due to the complexity of self-identity and political situations of the homeland (Kipp, et al., 1995). This may also be due to the fact that individuals react against the negative attitude of the majority in different ways; some may assimilate more, while others may dissociate more, with the majority culture and society.

Although the educational level has been found ambiguous in the Canadian (Richmond, 1974) and American (Kloss, 1966) contexts, this claim has not yet been substantiated in Australia due to lack of appropriate data. Also, while Saunders (1991) regards biliteracy as a clear-cut factor promoting language maintenance, Kipp et al. (1995) did not mention this point. Yet, both studies have identified bilingual education as an encouraging factor in language maintenance of Australian minority language speakers. Since rich biliteracy is most likely to be fostered in bilingual education, it might well be that the effect of biliteracy is nested in that of bilingual education.

In summing up Australian studies, it has been found that maintenance rate in first-generation immigrants is considerably better than that of the second-generation; especially it is higher among first-generation females. Inter-ethnic marriage furthers language shift, particularly that of LOTE (Languages Other Than English) speakers and monolingual English speakers. This observation however is not always borne out of my data (see Section 5.2.2.5). Non-standard language varieties of low status have less chance of survival than the standard variety of high status, though the relative size of the community plays its part in deciding the final outcome. Lastly, the reasons for migration (parental or individual), together with social identity and value of language for ethnic identity, may also affect language use patterns. Furthermore, Clyne (1991) proposed several factors that could predict the direction of minority language usage in Australia, on condition that the current situations surrounding minority languages continue. These are based on the statistical data: the allocation of age group for each language community, marriage patterns ('endogamous' or 'exogamous'), the birth and the mortality rate, and the institutional resources for language maintenance.

These predictive variables, however, have limitations due to the changeability and complexity of socio-economic and political situations that encompass likewise unstable and intricate psychological and sociolinguistic aspects of language maintenance and shift. Similarly, each factor functions in a reciprocal action with other factors, which is thus susceptible to its surrounding environment and changes in interrelated factors. Moreover, difficulty in definition and identification of language groups and membership poses fundamental problems in applying predictive models (Clyne, 1991). This is especially true when the proposed model derives from different context and situations, such as language 'vitality' model of Welsh-English diglossia (Giles, et al., 1977). These problems are recognized in the field, and the supposition of simple correlations between affective factors and future language use pattern is considered problematic.

For these reasons, the value of more explanatory case-by-case approaches should not be overlooked, which may identify group-specific factors and predictive models. In addition, it will clarify attitudinal and psychological factors that are discrete and difficult to assess from large-scale statistical data such as that of surveys or censuses. For example, case and group studies may be able to examine factors such as attitudinal change towards the majority language and culture, motivational change

in language maintenance, change of social identity, and the degree and the speed of acculturation. A number of case studies in Australia and other countries show that these factors are important in deciding the direction of change in language use (Dorian, 1981; MacNamara, 1987a, 1987b; Döpke, et al., 1991).

Also noteworthy is the parental influence on second-generation language use, though negative influence on language maintenance has been identified more clearly than a positive one. In one such study in Australia, Saunders (1991) points out several reasons why intergenerational language shift occurs, in relation to parental decisions on this matter. These include: misconception of bilingualism as a hindrance to English development, misguided belief that bilingualism causes intellectual impairment, and ignorance of normal stages and behaviors in bilingual acquisition. Misapprehension of bilingualism and its influence has been found to be prevalent among the general population, including doctors and those in authority (Harding & Riley, 1986; Saunders, 1991; Baker, 1993; Butcher, 1995), and the resulting anxiety among parents of linguistic minorities has led to the cases of abandonment of minority language use with their children (Saunders, 1991; Döpke, 1992; Butcher, 1995). Even where an attempt was made to raise children bilingually, it may not continue when parents uninformed about common processes and manners involved in bilingual development encounter seemingly difficult situations such as code mixing, reluctance to use a minority language, and under-developed linguistic abilities compared to monolingual peers. Yet, these are common in normal bilingual development and they should not discourage language maintenance efforts, for the sake of emotional and intellectual benefits (Dodson, 1983; Harding & Riley, 1986; Saunders, 1991; Döpke, et al., 1991; Döpke, 1992; Butcher, 1995). To summarize, the impulse towards language shift or maintenance can be either from inside or outside, or both. These pressures are in a constant competition, reflecting the changeable climate that surrounds two languages.

In many cases, language shift is a consequence of not planning language preservation. When the movement towards language shift is not chosen voluntarily, it could be reversed by an extra effort on the part of the individual and the language community, together with various supporting factors, to maintain the use and prevalence of a heritage language (Fishman, 1991; Baker, 1993). The basic idea of language shift 'reversal' stems from the analogy of language shift as a linguistic disease, which gradually takes away one's heritage and culture, severing emotional ties with family, relatives, and language community. The process is painful and the

sufferers feel often helpless without the support of a community or a specific remedy to stop the pain and treat the illness. Thus, the solution was sought with the realization that an affirmative action is needed to beat the sickness from inside, as well as to create a cure on the outside, rather than just coping with pain (Fishman, 1991).

This innovative notion advocates the following important interdependent principles. First, a linguistic minority must organize itself to create autonomy. Cooperation within a community is essential in planning and acting out the best possible movement. Second, it has to take the initiative in asserting language rights and cultural co-existence in an effective and determined manner. The community knows best what is needed and what should be changed; some needs may be specific to a particular group and others may be a shared interest. These include government support for bilingual education, availability of minority language mass media, and public services in a minority language. In such a case, unanimous expression of all the community would best address the demand and is most likely to yield approval. Third, the role of culture in preserving a language should not be overlooked; namely, language derives from its culture and culture is transmitted through its language. Without these complementing effects, neither is complete and stable. Fourth, literacy in a minority language should be achieved as a complementary mode of communication, which broadens one's knowledge with an extensive access to the culture and thought of one's heritage. This would add more values to a minority language. Literacy forms a sound basis of a language as a whole, which is a powerful influence for minority language maintenance (Saunders, 1991). When bilingual education is unavailable, community schools can play an important role in attainment of biliteracy. Most of these principles require collaboration of a community; thus, the degree of success in reversing language shift would depend on cooperate interest as well as the size and proximity of a community. If language shift is already well in progress, a formidable effort is required from each member of a community, especially for the second generation.

Unlike language shift, whose focal point is the changing balance between two languages in speech practice, 'language attrition' focuses on the change in the command of language. 'Language attrition' in the context of language contact, which excludes pathological causes, signifies both intergenerational and intragenerational (Seliger & Vago, 1991), gradual replacement of minority language ability by that of a society's major language (Waas, 1991). It occurs in both directions, that is, from a

first language (L1) to a second (L2) in an L2 environment, or vice versa in L1 environment. It is termed as 'erosion' (Seliger & Vago, 1991:18) of a first or an initially dominant language in grammatical or practical competence and fluency (Seliger & Vago, 1991).

Focusing on first language attrition, the cause of the phenomenon could be attributed to lack of contact with, or use of, the minority language, which may be unintentional or intentional. In this sense, the phenomenon of language attrition is nested in that of language shift. It develops both in individuals and in groups, in a situation where one language dominates all the others. For example, a person's first language skills may deteriorate after several years of residence in a host country due to its limited exposure and practice, with or without choice. This occurs even to an adult who has a relatively more secure mastery of a native language than the general population, such as a language instructor (Noguchi, 1998) in the area of least used nouns and complex scripts. Although her study is anecdotal and unclear with regard to the differentiation between competence and performance, that is, permanent loss of knowledge and temporary recall difficulty, the aspects most vulnerable to attrition agree with the results of other studies: 'infrequent, specific nouns' (Olshtain & Barzilay, 1991:140) and Chinese characters (Clyne, et al., 1997).

Another possible reason is transference of a second language and a lack of 'confirming evidence' (Smith & Van Buren, 1991:23) that one's language usage is appropriate to the native norm. For instance, the lexicon is cited as the most affected area of transference from L2, particularly among the younger generation (Clyne, et al., 1997). It is also likely that insufficient opportunity for modeling and monitoring the L1 leads to fossilization of incorrect usage (Clyne, et al., 1997). Other transferences were found at syntactic, semantic, morphological, and phonological levels (Saunders, 1991; Clyne, et al., 1997). Studies on the language maintenance of the first generation found more transference among those who immigrated in early childhood, especially if they have little or no schooling in L1 (Iwasaki, 1981; Clyne, et al., 1997; Nagaoka, 1998).

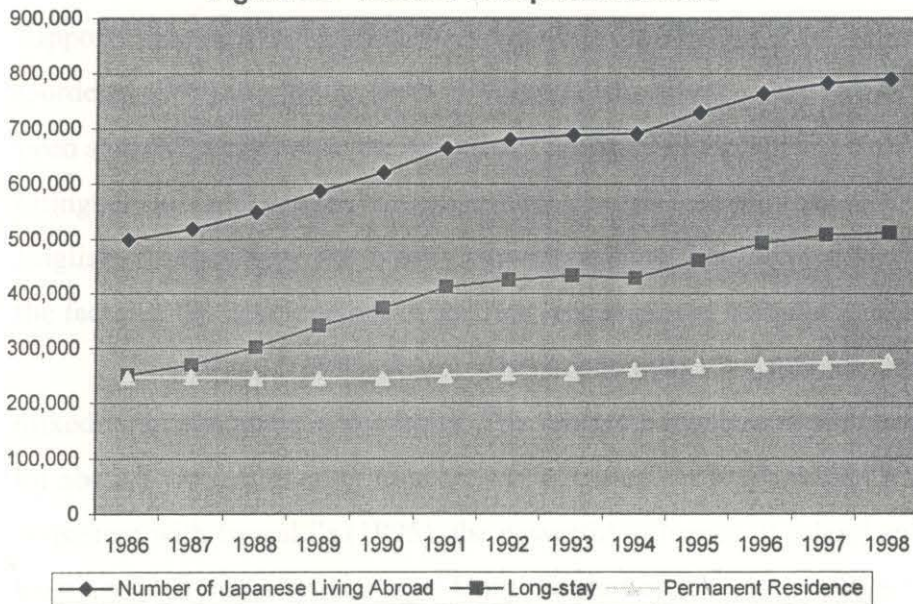
The extent and nature of these changes may vary, depending on the personal attitudes and situations that are favorable or unfavorable to the maintenance of one's language skills. The following factors could either encourage or discourage the maintenance of L1 competence: the quality and quantity of contact with L1, the L1 status in a host society, socio-cultural distance between L1 and L2 community, and

the individual and group level of acculturation into L2 society (Olshtain & Barzilay, 1991). The amount of contact, however, was found significant only when combined with the effects of length of residence and vice versa (De Bot, et al., 1991). The same would be true for minority first language maintenance in simultaneous bilinguals, who have two first languages: a minority L1 and a majority L1. In both cases, no single cause itself could impact the ultimate outcome of L1 knowledge and accessibility. Rather, each factor plays its role and interacts with others in defense or attack of an L1 in a vulnerable position.

2.6.1 Japanese-English bilingual children in contact settings

Although the number of studies of Japanese-English bilingual children overseas is still small, it has increased during the last decade, reflecting the massive increase in the number of Japanese nationals abroad (See Figure 2.4). Note that the number of Japanese overseas does not include those who became foreign citizens and lost their Japanese nationality, as double citizenship is not allowed after the age of 22 under Japanese law. Also, it was not until 1984 that Japanese citizenship was granted to those who have a non-Japanese father (Yamamoto, 1991). As a result, there are unknown numbers of Japanese immigrants and their descendents in the world.

Figure 2.4 Number of Japanese abroad



Source: The Ministry of Foreign Affairs, Japan (Nov. 1998)

However, this population has been largely ignored, and the majority of studies instead focus on *kaigaishijo*, the children of Japanese expatriate company employees

residing abroad temporarily. Moreover, these studies of *kaigaishijo* tend to concentrate on their second language acquisition or the relationship of the first language with the second language, and the educational concerns of first language maintenance during the stay overseas (Cummins & Nakajima, 1987; Okada, 1993; Okamura-Bichard, 1985; Nagaoka, 1998; Oshitani, 1998). Rare exceptions are case studies of simultaneous bilingual acquisition of an infant *kaigaishijo* (Fukushima, 1995), and a preschooler of a Japanese–English mixed language home (Muranaka, 1999).

Fukushima (1995) studied her one year-old daughter during a two-year stay in the United States. The focus of the study is on the bilingual acquisition process, in which the first language is gradually replaced by the second in a relatively short time. It is noteworthy that this switch occurred with a change of sociolinguistic environment. Entry in kindergarten had the greatest influence on the child's language use. Within a month, her previously acquired Japanese lexicon had switched to English and she became an English-dominant, passive bilingual after nine months. However, a month after returning to Japan, she went back to a monolingual state in Japanese. It is of interest that Japanese negation system continued to be used in a structurally English sentence, as in 'I *shiranai* [don't know] that song'. This may be due to the difficulty of English negation for those from a Japanese language background, as it is markedly different from Japanese negation. The finding thus supports the claim that marked forms are less transferable than unmarked forms (Jordens, 1992). As for the level of bilingualism achieved, the subject seems to have been somewhere between the stages of 'potential bilingualism' and 'early bilingualism' in Cummins' model, in that she was able to produce simple sentences in English, but they were not exactly age-appropriate. This delay could be attributed to the fact that the development of the first language was eclipsed by the second.

Muranaka's (1999) subject is her acquaintance's daughter, born and raised in a mixed-language home in Australia. The subject's acquisition of Japanese was studied for about a year, after entry to preschool at the age of 5. Muranaka's finding is consistent with Iwasaki's (1995): the powerful influence of school and peers' language on a minority language. Until the start of school, the subject's two languages were relatively balanced; yet, this pattern gradually shifted to dominance in English. Although the influence was mostly at a lexical level, the length of English insertions in a syntactically Japanese sentence had become increasingly longer and more

frequent. Another point to note is that a child's language use may affect that of a parent. This may suggest the difficulty of consistent 'one language' use when a child lacks vocabulary and expressions, as communication may take priority, rather than a concern for minority language development. This communicative emphasis could also underlie the tendency of the child, and possibly that of the parent, to simplify a sentence. Increased English use may also relate to the child's cognitive development; as the new concepts are learned mostly in English, the role of Japanese for the same cognitive function is limited. Literacy practices might have helped narrow such a gap to some extent, but Japanese literacy was largely absent in the case of this subject.

In terms of sequential bilingual development in *kaigaishijo*, Iwasaki (1981) conducted a study of older bilingual Japanese children in New York. She examined sociological as well as developmental factors that affect first language maintenance and second language acquisition. The study examined the effect of age of first intensive exposure to a second language on Cognitive/Academic Language Proficiency (CALP) (Cummins, 1983) in both languages. It also tested the transferability of CALP from Japanese to English. Her subjects were 76 full-time Japanese school students and 72 part-time (Saturday) school students; about half of each population belonged to grade 7 (age 12-13) and the other half to grade 8 (age 13-14). Data for each school were analyzed separately and then compared.

The results found a significant correlation between the age of L2 exposure and bilingual acquisition. Of those who scored low in both languages, most experienced major language shift around the age of 8. The shift took place either upon entry into a local school or when moving back to full-time Japanese school. It also revealed that a high level of second language development compensated for the underdeveloped first language. This occurred when a child was exposed to the second language before the age of 5, or received almost the entire local elementary school education in L2. This situation applies to the majority of overseas-born/raised children of Japanese descent.

On the other hand, the current researcher's reexamination of Iwasaki's data also suggested the following. Proficient bilingualism was achieved in any of the following three conditions: exposure to English starting between ages 5 and 7, then switching to a Japanese school between 9 and 12; L2 exposure between 7 and 8, which continued for five to seven years; and L2 school entry between 9 and 10, but staying at the school less than three to four years.

As for the transferability of cognitive proficiency, Iwasaki (ibid.) found relatively strong relationships between Japanese and English literacy skills despite markedly different syntactic structures and writing systems. Sociological factors were found to be more influential for English development than Japanese. The duration of local schooling affected the acquisition of English the most, and peer influence in language development was significant for both languages. The results indicated that grade-norm English acquisition was achieved at 27 months of local schooling. It should be noted, however, that the standardized English test was a strictly multiple-choice comprehension test, whereas the Japanese test required some production and writing skills as well. This might have made it easier to score highly in English than in Japanese. In other words, it could to some extent have misrepresented the result.

In terms of Japanese maintenance, Iwasaki's study found that the number of younger siblings correlates positively with Japanese proficiency, while passive provision of an English environment at home, through books and TV etc., had a negative correlation.

Although the study provided some useful findings, Iwasaki admits that the lack of age-range of the subjects limited the examination of the effects of many sociological factors on language maintenance. In other words, a more extensive measure that also includes younger subject groups could have provided stronger evidence to substantiate the claims. Another weakness is the fact that the Japanese test was not standardized at a grade-norm level, due to the inclusion of test materials for lower grades. This might have distorted the results, as a higher level of proficiency could not be measured, as compared to the standardized English test. Also, the Japanese test may have been inadequate in assessing the comparative standing of the subjects' proficiency level in Japanese grade-norm. Such an assessment could have been useful in examining the effect of L2 exposure on L1 development.

Other studies involving school-aged *kaigaishijo* were conducted by Cummins, Swain, Nakagima, Handscombe, Green & Chau (1984) and Cummins & Nakajima (1987), though their focus was on examining the hypothesis that cognitive language skills in L1 are transferred to L2 in spite of different orthographies and structures. Cummins et al. (1984) studied 91 children who attended a Japanese Saturday school in Toronto, Canada. The sample consisted of students from grades 2 & 3 and grades 5 & 6, to assess separately the influences of age on arrival (AOA) and length of residence (LOR) on second language proficiency in oral and reading skills. These

skills were also measured in the children's first language, Japanese. Although the AOA had a significant influence, which supported the hypothesis, LOR accounted for more of the development of L2 proficiency. This shows cross-linguistic transferability even between the two markedly different languages. The stronger effect of LOR may indicate the greater influence of the socio-cultural context on L2 acquisition than that of the individual context. A second study of 273 Japanese students from grades 2 to 8 in Toronto, which was much more extended than the previous one, also found consistent results. Assessment was made through writing as well as reading tests in both languages. While LOR accounted for 15 percent more of English reading skills than AOA, significant relationships were found between L1 and L2 writing skills, regardless of age and reading proficiency.

It is thus clear that the interdependence hypothesis has been supported in the three studies on school aged Japanese subjects: cognitive or academic proficiency in literacy skills is transferable from Japanese to English. Sociological factors such as length of local schooling and peer influence are also related to second language proficiency. In spite of these findings, little is known about the maintenance and development of Japanese as a minority first language and its correlation with the socio-cultural environment. Similarly, the age at which a child must be exposed to a second language in order to receive cognitive benefits is still unclear and more studies are needed in this area. It is of note, however, that studies so far have focused on the effects of the first language on second language acquisition and not vice versa.

In summary, there are only a small number of studies of Japanese in Japanese-English bilingual school-aged children residing outside Japan. Most tend to focus on the cognitive effects of bilingual proficiency or Japanese maintenance of *kaigaishijo* in relation to English acquisition (Cummins & Nakajima, 1987; Okada, 1993; Okamura-Bichard, 1985; Nagaoka, 1998; Oshitani, 1998). Even fewer are longitudinal or semi-longitudinal studies on the development of Japanese or bilingual development in English-dominant countries. These are limited to case studies of a single subject in early childhood (Fukushima, 1995; Muranaka, 1999), and are special cases of what Skutnabb-Kangas (1981: 144) calls, 'advantaged middle-class' children, so their findings may not represent those of other segments of the population. Another limitation is that their subjects were observed during a preschool period only. This means that the studies are limited to observation of the development of spoken forms, and questions remain with regard to literacy development, which is necessary for later

linguistic achievement. Moreover, a major concern to many parents of Japanese-English bilingual children is long-term maintenance and development of Japanese literacy, especially after entering a local school (Dômo, 1996; Kondo, 1999). Attrition of Japanese ability due to English dominance in a society may not be obvious from surface level oracy, but is often noticed in decontextualized forms of cognitive production, specifically in writing. Amongst the few studies conducted on children of Japanese immigrants, there are many cases of restarting to learn the language after missing out the initial period of crucial formation (Ikeda, 1972; Kondo, 1999). Ikeda's (1972) report on the problems of underdeveloped first and second language in relearning the first language is especially of note. This is relevant to both the temporary and permanent resident populations of bilingual children, whether they are from endogamous or exogamous families.

Despite these concerns, Japanese literacy development or maintenance in elementary school bilingual children outside Japan is little explored. The only available study related to Japanese literacy is on teenage *kaigaishijo* in the U. S. A. Nagaoka (1998) explored the problems and difficulties of achieving biliteracy among four grade-9 Japanese students who received local schooling and attended weekend Japanese school for more than 5 years. It is a descriptive case study, in that the data consists of interviews with the students and their three teachers. However, in spite of the extremely limited number of Nagaoka's subjects, and their age and background differences, the following findings are relevant to the current study: the limits of 'bi-schooling' (ibid: 19), or L2 schooling during weekdays as well as L1 schooling on weekends, for the attainment of biliteracy; the need for bilingual education for language minorities to achieve this goal; difficulties of maintaining L1 writing skills. Nagaoka also points out the gap between the teachers' expectations of the students' L1 abilities and the reality of the students' hardship in attaining the expected levels of L1 abilities. The plight of Japanese students as a minority is evident in Nagaoka's study.

Nonetheless, the study leaves some key questions in the debate on minority language maintenance unanswered: what is the fundamental cause of problems in biliteracy achievement and what is a possible solution? Such bilingual behavior needs to be studied longitudinally, in combination with examination of both situational (socio-psychological and pedagogical) and developmental (cognitive and linguistic) aspects (Skutnabb-Kangas, 1981). The current study is based on these principles,

investigating both situational (individual and group background) and developmental (cause, process and result of learning) aspects, based on qualitative as well as quantitative data. Its aim is to shed light on a neglected area of Japanese–English bilingualism in order to discover factors and strategies that contribute to the development and maintenance of minority language literacy.

2.6.2 Relevance of studies to Japanese-English bilingual children in Australia

Most bilinguals learn a minority language as their first language(s). In such situations, the minority language may suffer from the undermining effects of the society's dominant language. Such negative influences may lead to transfer errors, delayed linguistic development, and language attrition. These problems are of concern to Japanese temporary residents in Australia with school aged children, as they intend to return to the country of origin and expect their children to be at the academic level of local students when they return. On the other hand, permanent residents also have concerns about their children, such as Japanese maintenance, as well as achievement of English proficiency. This is because Japanese is a key to the inheritance of cultural knowledge from parent(s), which creates a strong parent-child bond, whereas English is a key to success in the host country.

Like other linguistic minorities in contact settings, Japanese is the first language, or one of the first languages for the majority of children from a Japanese family background, whether or not their parents are both Japanese. Yet, depending on the family structure or situation, some are simultaneous bilinguals with two first languages: Japanese and English. These children were born in Australia with either one or two Japanese parents. In a Japanese monolingual family, a child is likely to be a Japanese-dominant bilingual until entry into an English-medium kindergarten. As for children of Japanese-Australian intermarriage, English may be their preferred language, since it is usually the language most spoken around them or the only language system by both parents. Others came to Australia with Japanese parents after birth, so their first language is Japanese only. In any case, it is important to foster the minority language for the following reasons:

First, Cummins' Threshold theory (1987) advocates age-norm development of the stronger language before school entry, prior to the weaker one, to prevent negative effects on cognitive growth. This applies to the case of children who immigrated at an

early age. In the case of older children, the results of previous studies are especially of importance; that is, cognitive academic proficiency in the first language complements that of the second language. In addition, in successive bilingual situations, the importance of prior establishment of L1 literacy to that of L2 is suggested in both international and Australian studies (AGPS, 1991). For instance, Cummins (1980b) points out the benefits of L1 cognitive academic language proficiency in second language learning, while Goodman, Smith, Meredith & Goodman (1987) and Garton & Pratt (1998) claim close interrelations between spoken and written language. Also, Secombe & Zajda (1999) report that a subject who had developed L1 literacy before migrating to Australia mastered L2 much more easily than children who started L2 schooling without L1 literacy. In short, as mentioned in Section 2.5, L1 development and maintenance, especially in literacy, is important for successful L2 attainment, while additive bilingualism in simultaneous bilinguals requires the establishment of at least the stronger language along with the continuous development of the other.

Second, minority language development need not be discouraged for the sake of the majority language. This is because of negative consequences to the social and psychological aspects of a child's life (Saunders, 1991). Without a medium of communication through the minority language, conveying or understanding a certain message can become difficult for parents and children with a minority language background. Moreover, children might despise their parent's imperfect English as they start noticing the difference from the standard form. These negative factors may undermine the close bond between parent and child. Furthermore, children will lose valuable opportunities to communicate with grandparents and relatives overseas. This is unfortunate as it means loss of close relationships with an extended family, which is usually built on childhood friendships and socialization.

Third, language is essential in passing on cultural values and beliefs to the next generation. This is important since children can understand and learn about their parents through this cultural knowledge. Losing one's home language can be at the cost of one's culture and roots. It can result in 'loss of confidence, social isolation', and 'questioning of identity and belonging' (Makin, et al., 1995: 51). Undoubtedly, when accelerated with negative socio-cultural environment, loss of mother tongue will have serious damaging impacts not only on a child's well being, but also on the society as a whole. Since the threshold level of L1 development is essential for successful L2 acquisition (Cummins, 1980b), many from minority language homes

may end up becoming 'semilingual' (Skutnabb-Kangas, 1978); as the lack of L1 academic proficiency would impede acquisition of academic registers in both languages (Cummins, 2000). Despite well-argued criticisms (e.g. Martin-Jones & Romaine, 1986), 'the concept of *semilingualism* is one which often rings true for teachers and caregivers' in the Australian context (Makin, et al., 1995: 57). Worst of all, such 'semilingual' children are likely to face school failure and drop out as a consequence, leading themselves into possible economic and social problems. For instance, Vaznaugh (1995) reports that the dropout rate for linguistic minority youth is 1.5 times higher than the English-background majority in the USA.

Such problems of ethnic and indigenous minorities and unequal social structure are an undeniable reality in many countries with large numbers of minority groups (Tollefson, 1991). Of course, there are other causal factors such as low socioeconomic background (e.g. Paulston, 1982), but a number of studies show that the influences of subtractive majority language education and negative socio-cultural context are significant. The negative socio-cultural context includes the lack of information regarding bilingualism on the part of parents, and the lack of resources and time to support special educational needs. Therefore, the educational help of the community and school in minority language maintenance would be a key to solving the problem.

To conclude, although previous bilingual studies provide useful insights, there are few studies focused on Japanese literacy maintenance in contact settings, and no such study conducted in Australia has been found. Of these literacy maintenance studies, none of them specifically studied overseas-born children of Japanese descent, let alone those of intermarriage. The main focus of the current study is on these groups of children and their Japanese literacy maintenance and development, especially in writing. It examines features of simultaneous bilingual children's Japanese writing, upon which no study has been conducted, and the socio-cultural and the individual factors that affect the development of general and specific aspects of Japanese literacy in contact settings. In the next chapter, the conceptual framework and the design of the present study will be presented in detail.

CHAPTER 3

DESIGN OF THE STUDY

3.1 Introduction

This chapter provides an overview of the study in terms of the conceptual framework, the sample, instruments, data collection procedures, and data analysis methods. Firstly, the theoretical framework of the current study's approach towards the bilinguals' minority language is discussed as background information. Secondly, two population groups are described in detail: Japanese–English bilingual children in Sydney, and monolingual Japanese children in Sydney and Japan. Further groupings within each population are also described in this section. Thirdly, an illustration of each instrument used for the data collection is made, together with the collection procedure. This seems the most appropriate way to present the means involved in the present study, due to its multifaceted approach and the resulting complexity. Finally, the methods and procedures taken for the data analysis are discussed.

3.2 Conceptual framework

The analysis of Japanese–English bilinguals' Japanese writing in the present study draws on the theoretical framework of language transfer and 'interlanguage' (Selinker, 1972) in the field of second language acquisition. The historical background of concepts, the aspects adopted from the original for the current study, and the definition of the original term 'translanguage' will be discussed in this section.

3.2.1 Translanguage (TRL): a developing minority language in a bilingual system

Lado (1957) substantially developed the concept of language transfer in language learning, and his work was the impetus for a number of 'contrastive analysis' studies thereafter. His point was that the forms and meanings of a learner's first language tend to be transferred to those of the second language in both

production and reception, so that a comparison between the two is necessary to predict learning problems in the learner. Although the need for contrastive analysis was mentioned earlier by Fries (1945) and Harris (1954), Lado's claim had been most influential in terms of pedagogical relevancy. Thus, the classical goals of pedagogically oriented contrastive analysis were to predict and describe errors, or learning problems and difficulties in second language learning, by contrasting two linguistic systems.

Equally important to the development of contrastive analysis works were linguistically oriented contact studies of second language acquisition, represented by those of Haugen (1953) and Weinreich (1953). They initiated a drift towards comparative and descriptive approaches to the study of languages in contact, which provided key concepts not only to the study of bilingualism, but also to the field of second language research. In particular, the notion of cross-lingual relationships that lead to 'deviation from the norm' and 'interlingual identifications' was foreshadowed by Weinreich (*ibid.*), who suggested the need for comparative studies on the issue among various language groups. In addition, the bi-directionality of such relationships was proposed as one of the central issues to be investigated. These notions partly became the bases of contrastive analysis, and partly evolved into a new concept a decade later.

In short, contrastive analysis developed conceptually from contact studies of second language acquisition, and practically from pedagogical interests and demands. It is of note that the approach was based on the assumption that the first language is the major cause of errors that interfere with successful second language learning and acquisition, and that a developing language is a deviation from the target language. This assumption, together with practical pedagogical concerns, became a driving force of the approach, as it provided possibilities for its application without major constraints (Gass & Selinker, 1992). As a result, the idea of regarding errors as obstacles and contrastive analysis as a solution to pedagogical and learning needs was popular until the late 1960s.

However, this approach has been increasingly questioned thereafter for the following reasons. Above all, it has become ever more clear that the native language influence alone cannot account for all types of errors in the target language. Some errors share characteristics with those common to first language acquisition in children, while some are unique to an individual second language learner. Studies

have found many examples of such error traits, that they were regarded as attempts to formulate language systems unique to learners, which gradually developed towards a higher-level second language system. This is similar to the way children develop their first language through continuous revision of previously learned knowledge (Lightbown & Spada, 1993). Another source of problems lies in the fact that the assumed transfer tendency of an individual learner, tended to be perceived as that of all learners with a similar background without empirical data (Selinker, 1992). For instance, Lado (1957) maintained that a Japanese learner of English might identify the concept of the question marker 'ka' with that of 'do' in English. This, however, cannot be generalized devoid of empirical evidence or exclusive conditions; it was certainly not the case with my experiences of learning English, for example. Furthermore, the limitation of contrastive analysis was also evident in its ambiguous goals and lack of evidence to support the underlying assumption (Selinker, 1992).

This led to a shift towards a new approach called 'error analysis', which aims to find out what learners can do with their internal knowledge, and how they internalize new input into the existing knowledge. As the name suggests, this method is carried out through the analysis of errors based on detailed descriptive work. Unlike contrastive analysis, which regards learners' second language as an imperfect version of native speakers', error analysis considers it as a distinct system of its own, which is ever-changing and evolving along with a learner's language experiences. Under this innovative assumption, the learner's second language system is termed 'interlanguage' (Selinker, 1972), whose roots can be traced back to Weinreich's notion of 'interlingual identifications' (Selinker, 1992). Interlanguage has certain characteristics of the first language, the second language, and interlanguages of various backgrounds in general. Since the developmental pattern of interlanguage is supposed to be similar to that of children who are first language learners, errors are not considered to be negative, but a necessary step in the learning process. That is, progress can be gauged by an increase in new types of error. In addition, an examination of errors can reveal the process of learning, as it would give an insight into the roles of errors in discovering the target language rules (Corder, 1967). Corder (1981) described learner language as an 'idiosyncratic dialect' to emphasize its self-contained uniqueness, and as a 'transitional dialect' because of its unstable nature.

In analyzing errors, a primary distinction should be made on the basis of their nature: developmental or transfer. Developmental errors are found in the process of

first language acquisition. These errors mainly consist of simplification and overgeneralization (Lightbown & Spada, 1993). Simplification involves omission of various grammatical morphemes, such as inflections and markers, while overgeneralization is caused by extending a rule of a certain grammatical function to other purposes that require different sets of rules.

Transfer, as discussed earlier, is an attempt to apply familiar language patterns to the target language, either consciously or unconsciously. Transfer errors are not always marked, especially when the two languages are similar in roots and structure. Therefore, it is often difficult to see what caused the errors or what the intended meaning is, unless the researcher is familiar with both of the languages involved.

The advances made by error analysis studies in the 1970s were mainly in the methodology used to investigate learners' errors, in the recognition of the significance of errors in language learning, and in counter evidence against the assumption of contrastive analysis. Corder was the most prominent among major contributors to these progresses. In terms of methodology, Corder (1981) suggested that the best procedure to investigate learner language is a combination of the following: 1) collection of longitudinal 'textual data', or descriptive data of interlanguage that allows the researcher to form inferences about the cause of each interlanguage feature; 2) error analysis to explain such hypotheses; 3) hypothesis testing based on the 'intuitional data' derived from an elicitation test. Note that 'intuitional data' is the one that reveals cognitive insight into the learners' interlanguage. Corder also pointed out the need to differentiate 'errors' of competence and 'mistakes' of performance, where the latter signifies the kind that can be easily corrected by a learner, while the former cannot. Although this notion was valuable and he argued that the analysis should deal only with errors, this posed the problems of distinguishing between the two. In part, the problem is due to the inaccessibility of learners right after they made errors, to check whether the cause of errors is lack of competence or a failure of performance. It could also be due to the variance in competence or performance within individuals, depending on the context or occasion. Moreover, mistakes could constitute a part of competence in a broad sense. That is, 'a slip of the tongue' could occur due to unsound knowledge or imperfect fluency.

Accordingly, studies in general have found operationalizing such a distinction difficult without standard guidelines. With respect to the description and interpretation of data, however, Corder (1981) provided a useful procedural

instruction by means of an algorithm. This included practical criteria to decide whether the errors are covert or overt, which path to take in interpreting them, and which language (L1 or L2) of the learner to choose in reconstructing them into correct sentences or meanings. In this process, the psycholinguistic aspects of errors are put into focus; that is, how and why the errors occurred. It is claimed that such an analysis is best achieved by approaching the learner's language not as an incorrect version of the target language, but as a unique 'transitional idiolect', similar to the developing first language of a child (Corder, 1981: 34).

However, there was a tendency to focus more on the error itself, to ignore the necessary statistical quantification, and to conduct only cross-sectional studies in the field. This trend in error analysis revealed methodological weaknesses, because of the sole focus on theoretical and surface level details of errors. Some of the perceived weaknesses were the difficulty of separating errors and mistakes, the lack of operational measures to identify the source of errors, and a narrow focus on the errors, failing to capture the whole picture of interlanguage phenomena. Although error analysis lost popularity as a result, it contributed to SLA (Second Language Acquisition) research in major ways, especially in the recognition of errors and their value in the language learning process (Ellis, 1994, 1997). For this reason, the possibility of improving the original error analysis is still being sought, by shifting its focus to qualitative and in-depth examination to establish a more complete portrait of the learner's language (Ellis, 1994).

The longitudinal data of the current study is based on the selected conceptual framework of error analysis and interlanguage. As the study is on bilingual children's Japanese as a first language and not as a second language, only the applicable concepts are adopted. In particular, the concept of interlanguage, or transitional dialect is interpreted in a context of bilingual development in contact settings. The bilingual sample's two languages develop side by side, albeit unequally, due to the dominance of the majority language of the society, English. Under these conditions, it is supposed that the bilinguals' Japanese would consist of some developmental characteristics shared by the children acquiring Japanese monolingually, some transfer features found in a native English speaker's Japanese as a second/foreign language, and some individual/general traits observed only among Japanese-English bilinguals' Japanese.

To differentiate the applied concept from the original one, a bilingual's developing minority first language is here termed 'translanguage'. This is based on the following considerations. Firstly, the conceptual bases in two languages are shared and transferable to each other (Cummins, 1980b, 1981a). Such interdependency excludes the cases of unavailable cross-linguistic equivalents due to culturally specific notions and a gap in the development of register in each language. Secondly, the minority language system shares certain characteristics of both monolingual first language acquisition, and second/foreign language learning, which are intertwined in a complex and dynamic way in the process of bilingual development. In other words, translanguage consists of both developmental and transference features. This is similar to the characteristics of interlanguage, whose rules are shared by the first and the second language. Thirdly, the minority language is unstable in nature, continuously changing in competence and performance as a transitional language, whether it leads to full development or loss of the language. In short, translanguage is a conceptually transferable and transitional language. It is emphasized however, that the term is employed in a positive sense, acknowledging its essential role in minority language development as a creative tool of communication to supplement any lack of knowledge and experience. It should also be noted that although translanguage would include both standard and non-standard forms, only the non-standard features are investigated in the current study, as they would reveal the process and the possible components of constructing unique translanguage rules.

3.2.2 Explanation of translanguage: development and transference

With regard to the methodology of the current study, Corder's suggested procedure, as discussed earlier, was adapted to the investigation of bilinguals' translanguage, Japanese. That is, 'error' analysis was conducted to explain the prediction about the how and why of translanguage, based on the longitudinal data. Additionally, the prediction was tested by an instrument that ensured everyone had an opportunity to reveal certain aspects of translanguage. In describing translanguage, interpretation procedures were used in a similar way to those proposed by Corder (1981). The approach was psycholinguistic, in that the analysis was done with a subject's viewpoint in mind, utilizing the investigator's bilingual knowledge as to the different ways of expressing one's thoughts in English and Japanese.

In considering the nature of translanguage, there is a range of possible causes for its non-standard form. Firstly, there could be two major distinctions: 1) errors of knowledge or ability, and 2) mistakes of lapse or carelessness. It was supposed that the distinction between 'errors' and 'mistakes' is not appropriate at this stage of cognitive and language development, considering the age and the background of the subjects. Also, individual differences have to be taken into account when such a distinction is made; some types of deviation considered as mistakes in one individual could be described as errors in another. Furthermore, a longitudinal study would clarify whether non-standard features are simply accidental or not. Therefore, all types of deviation were categorized only as translanguage features in the sense of 'non-standard forms' for operational reasons. Likewise, as the focus of the present study is the non-standard features of translanguage, the term translanguage is generally employed to stand for such deviation from the norm.

In this light, the nature of translanguage could be accounted for either by developmental or acquisitional causes. The reason for the possible existence of developmental translanguage forms is that bilingual children are still in the process of cognitive and linguistic development, like any monolingual children. This means that there would be some features of translanguage that are shared both by bilinguals and monolinguals. These developmental features would be identified by comparing the non-standard forms produced by monolinguals and bilinguals. At the same time, features that are unshared between the two populations would also emerge as a result. This is because bilinguals' knowledge in one language may be used to supplement the other language, or the habits of one language could influence the other, in forming individually unique as well as commonly shared language rules. These characteristics are thus not developmental, but derive from transference in nature.

On the other hand, there is also a possibility that such translanguage forms are developmental, unique to the bilingual population. As learners construct their own grammatical rules utilizing available knowledge (Corder, 1981), it is predicted that the Japanese-English bilinguals in the present study and monolingual English speakers learning Japanese would use their stronger and more developed language, English, in creating their rules for the weaker language, Japanese. In the case of a second/foreign language learner, an individually unique target language system is called 'interlanguage' (IL) (Selinker, 1972), in that it shares rules from both a first and a target language. If this were the case, the two groups would share the features of the

non-developmental translanguage forms in producing Japanese as the target language. This, in turn, would substantiate the cross-linguistic influence that underlies bilinguals' translanguage, which are not shared with the Japanese monolinguals, but shared with the English monolinguals.

Accordingly, the approaches taken in the current study in investigating translanguage are based on these theoretical frameworks. Initially, the characteristics of bilinguals' Japanese as a translanguage were identified through a longitudinal study. Subsequently, the collected translanguage data was examined to investigate which aspects are developmental or a result of transference, in comparison with Japanese monolinguals' L1, and English monolinguals' IL Japanese. In addition, the influences of the socio-cultural and the individual context on translanguage literacy were assessed by comparisons between the monolingual and bilingual populations, and within each population. Further details will be discussed in the subsequent sections.

3.3 The Sample

3.3.1 Individual bilinguals

The main sample consists of bilingual subjects in the Japanese Sunday School in Sydney. This population was selected as a longitudinal focus, as it represents a model for 'individual bilingualism'. The Sunday School operates at the premises of a local school in the southern suburbs of Sydney, where Japanese background residents are widely dispersed in this predominantly English-speaking community. The Sunday School was started in 1992 by the parents, who are members of the Japan Club of Sydney. The total number of students enrolled at the school was around 50 in 1995, which has slightly increased to about 60 in 1999. These are mostly the children of permanent residents or Australian citizens, who go to local schools during the week. There are kindergarten, elementary (Grade 1 to 4), and high school levels (Grade 5 onwards) In 1999, the high school level was renamed the 'international course' (Dômo, 2000). Japanese is taught on Sundays as the only subject and is used as the medium in three 45-minute-sessions. The students use the same textbooks as those used by monolinguals in Japan. Class sizes are relatively small (average of 10 students per class) and these classes are divided according to language proficiency

levels, so that the subjects' command of Japanese is supposedly at the same level, while their ages vary (age 6 to 10, for example).

Since a random selection of subjects was impossible due to the limited size of the population, students from the whole classroom participated in the study. At the start of the study in March 1996, all 10 students from grade 2 took part in the project, though the number fell during subsequent years (7 in 1997 and 1998). Of the 10 subjects, 4 are from exogamous families where the mother is Japanese, and 6 are from endogamous families where both parents are Japanese. However, they were all born in Australia, except for 2 subjects born in Argentina who immigrated at the age of 5 and 3, respectively.

The sample size should be appropriate for a 3-year longitudinal case study of development and maintenance of Japanese literacy in bilingual children, considering the large data size and the comprehensive approach of the study. The study takes a combination of descriptive and evaluative approaches, which focuses both on linguistic and socio-psychological aspects. Following the Corder's (1981) suggestion discussed in Section 3.2.1, quantitative measures were designed to examine the qualitative longitudinal data, and the evaluation of data was made cross-sectionally and longitudinally. In particular, a Japanese proficiency test was designed in relation to the longitudinal data on individual bilinguals' language development. The test results were then used to investigate the relationship between the degree of Japanese development and various contributing factors. To be more specific, a comparison of subjects' backgrounds was made, in terms of socio-cultural, psychological and environmental factors, to assess differences in each subject's command of Japanese. Subsequently, their Japanese proficiency data was compared cross-sectionally with the same age/grade Japanese Saturday School subjects who, according to information given by teachers who teach at both the Sunday and Saturday Schools, seem to have a higher rate of language maintenance and better linguistic skills than those of the Sunday School. Since the two groups differ in their socio-cultural backgrounds, this would also allow investigation of the socio-cultural link with proficiency as a possible contributing factor for the difference between them.

3.3.2 Community bilinguals

The Saturday School is situated in the North Shore of Sydney, where a fairly large concentration of the Japanese-speaking community resides. The school size of 160 (in August, 1995), has expanded to 280 four years later and reflects this reality. The community is active in many institutional activities, such as business, community clubs and public services. The Saturday School is also such an example. Parental volunteers of the community established the school in March 1993 and the school was recognized by the government in the following year. Classes cater for children with Japanese-speaking backgrounds, ranging from kindergarten to all grades of the elementary level (as of December 1998). Grade levels were extended to the entire junior-high level in the following year (Dômo, 2000). Classes are held on Saturdays at a local school and teach Japanese in three 45-minute-lessons. In addition, Japanese social studies and history are taught in Japanese for grade 5 and 6 students after Japanese classes. Textbooks, drill books, and test materials used are the same as those used at elementary schools in Japan. Like the Sunday School, Saturday School students are assigned to grades suitable for their language proficiency levels, yet the age difference in each grade is relatively small. The backgrounds of the students vary, but permanent residents and Australian citizens outnumber the temporary residents. This tendency is especially strong in the lower grades. Also, there are more children of exogamous marriages in the lower grades than in the upper grades. The parentage of the Saturday School subjects is similar to that of the Sunday School subjects, although 2 cases are from exogamous families where the father is Japanese. The majority are Australian-born, while some were born in Japan or had a shorter length of residence in Australia than others at the same grade-level.

The total number of Saturday School subjects from grade 1 to 6 is 56 for the Translanguage Analysis, and 26 for the Interview Test, which is much larger than that of the Sunday School. Due to this relatively large sample size and wide range of age groups, only short-term data was collected for the Translanguage Analysis (except for grade 4 samples), as it allowed a cross-sectional comparison of 1 Sunday School subject with an average of 7 Saturday School subjects. However, semi-longitudinal data (11 months) was also collected from grade 4 Saturday School subjects (N= 8) since the data for this age group (9 & 10 years old) were most extensive for the Sunday School, gathered from 80 percent (N=6) of the sample. Thus, this would make

a more comprehensive comparison between the two age groups possible. Additional data for this sample group on the Translanguage Analysis consists of average number of words per week or entry in the same period. Similarly, grade-level contrasts were made between the two fourth grades with a slight difference in age within each group.

3.3.3 Non-contact monolinguals

In order to obtain a clearer picture of age/grade appropriate levels in Japanese proficiency, a large sample of monolinguals was taken from a local elementary school in Japan and from a Sydney Japanese School. The school in Japan is in a small city in the Southern part of Nagano where the chance of finding '*kikokushijo*', or 'returnees' who have lived overseas is very slim. In fact, there was only one case (a returnee from Portugal) among the sample taken from all grade levels. Another exception was where a child has a migrant ethnic origin other than Japanese. These two cases were excluded from the sample to ensure the strict monolingual criteria. The fact that the local Japanese school subjects have very limited contact with English in their environment (e.g. loan words use, learning English after school in a few exceptional cases) guarantees their monolingual status. This is important in comparing non-standard linguistic features of children in Australia with those of their Japanese counterparts, to discover which features are developmental or English influenced. That is, the question should be solved by a comparison of the two populations. Since non-standard Japanese use among monolingual children in Japan should not result from English influence, non-standard forms found in monolinguals are strictly developmental. In other words, the idiosyncratic features found only in Australian children of Japanese heritage are likely to be the result of transference. For this reason, a large sample of the local school in Japan (66 for the Translanguage Analysis, 194 for the Interview Test) was necessary to allow this estimation.

3.3.4 Contact monolinguals

With regard to the monolingual samples in Australia, subjects were chosen from the Sydney Japanese School situated in the outer northern Sydney suburb of Terry Hills. The school is authorized by the Japanese Ministry of Education as a Japanese school to conduct a compulsory education curriculum. It opened in May 1969 as the first full-time Japanese school in an English-speaking country. It has

kindergarten, elementary, and junior high school levels with a student population of 384 as of 1995 (excepting for kindergarten, which was added in 1997). Classes are divided into 'Japanese' and 'international' sections to cater for both Japanese and Australian children. Subjects are taught in Japanese for the Japanese section and in English for the international section. English is taught everyday for an hour in the Japanese section and the international section does the same with Japanese. Moreover, classes for music, arts, and physical education are held with both sections mixed; so both Japanese and English are used during the classes.

Subjects were selected from all grades of the elementary level in the Japanese section. The sample size from the Sydney Japanese school is much smaller than that of the local school in Japan: 41 for the Translanguage Analysis and 24 for the Interview Test. This is in part due to the limited availability of subjects due to time constraints, and in part due to the length of English contact. Since they were chosen as monolingual samples, caution was taken in choosing subjects: Subjects were limited to those most recently arrived in Australia (maximum length of residence 12 months if possible), to minimize any possible influence of English on their Japanese development. Where there was no subject who could meet this criterion, the shorter length of residence in the grade group was applied. As a result, 4 subjects belong to the second criterion with a period of stay ranging from 16 months to 20 months.

While the chance of English transference on their Japanese may seem to be slim, the pupils learn English as a school subject from a native English speaker, and there could be opportunities for English contact outside the school. It was predicted that the possibility of transference would be small for children with a limited length of residence and limited social contact. Yet, if they showed any idiosyncratic features of English influence even after such a short period of stay in Australia, it would reveal the strong influence of the socio-cultural context on minority language maintenance and development. For this reason, the school in Japan was considered as a primary control group for Japanese ability. On the other hand, the Sydney Japanese school was used as a monolingual control to investigate the influence of the wider socio-cultural context on attitudes towards culture and group, as monolinguals in Japan have no contact with the Australian community. The monolingual data on Japanese language ability were compared with those of the bilingual sample, with respect to the age appropriateness of language development in terms of types and numbers of non-

standard forms in writing, thus clarifying both bilingual groups' degree of language development and maintenance, as well as the influence of English on Japanese.

Table 3.1 Number of Subjects by Grade and Age in Each Group

	Individual B			Community B		Contact M		Non-contact M	
	TA		IT/CAT	TA	IT/CAT	TA	IT/CAT	TA	IT/CAT
	96	97	98	98		98		98	
Year	96	97	98	98		98		98	
Grade									
1				13	4	10	4	15	28
2	9			7	5	6	4	10	31
3		7		11	4	5	4	10	34
4			7	8	4	10	4	10	31
5				5	4	5	4	10	37
6				12	5	5	4	11	33
Age									
6-7	1			3		10	4	15	28
7-8	2	1		10	5	6	4	10	31
8-9	2	1	1	10	4	5	4	10	34
9-10		1	1	9	4	10	4	10	31
10-11	3		2	8	5	5	4	10	37
11-12	1	3		3	3	5	4	11	33
12-13		1	3	10	4				
13-14				1	1				
14-15				2					
Total	9	7	7	56	26	41	24	66	194

B: Bilinguals; M: Monolinguals; TA: the Translanguage Analysis; IT: the Interview Test; CAT: Cultural Association Test *6 for the Translanguage Analysis

3.4 Data Collection

3.4.1 Summary

Three types of data were collected from the sample: 1) data on language ability, 2) data on attitudes towards culture and group, and 3) data on origin and language use. Details of each type of data are as follows:

1) Data on language ability

- a. The Translanguage Analysis of diary/essay (longitudinal data for the Individual bilingual group, cross-sectional data for other groups)
- b. The Interview Test to elicit proficiency on certain linguistic elements (interviews and oral recording for Individual bilinguals only)
- c. Translanguage and interlanguage comparison

2) Data on attitudes towards culture and group

- a. Cultural Association Test (CAT)

3) Data on origin and language use

- a. Questionnaires for parents: individual background (see Appendix C)

b. Interviews with parents

3.4.2 Language ability

All three measurements of language ability were used to assess the level or the nature of Japanese ability. While there is a possibility that when bilinguals' English ability is low, they would also have low Japanese ability, this is not the case with the bilingual sample of this study, because they have native or near-native command of English. For this reason, levels of English have not been taken into account in this study.

3.4.2.1 The Translanguage Analysis

The initial focus of this study was to discover how and to what extent Japanese-English bilingual children would develop literacy in Japanese. Underlying was the first major question: To what degree are they able to develop Japanese literacy in an English-speaking community over a period of time, compared to their monolingual counterparts in Japan? To answer these questions, it was necessary to observe the uncorrected writings of bilingual children at an early stage of literacy for an extended period of time. In addition, in order to observe the effect of living in a contact setting, 'Individual bilinguals' growing up outside the Japanese community were selected as subjects for the study. Accordingly, a teacher at the Sunday school was contacted for consultation regarding resources.

After observing the pupils' diary entries and confirming their unmodified quality and continuous nature, it was decided that the diary is the best data for the study. The advantage of the diary study is evident; not only does it provide the raw data for individual language development every week, it also supplies a valuable insight into a learner's language use and environment in daily life. The same teacher agreed to cooperate with the diary collection, and the school's permission was granted. Thus, collection of Individual bilinguals' diaries began in March 1996 and was continued every week until December 1997, and every two weeks until November 1998. The change of frequency in diary entry resulted from the change of a classroom teacher, who decided to give a diary/composition assignment every two weeks, instead of every week. Still, there were some subjects who wrote in their diary in other weeks. Entries were analyzed each week for any non-standard features and

sorted by types and by subjects. Also, details of each TRL form were recorded in the log with standard forms. After six weeks, they were classified into 29 TRL type categories, as no new TRL type had emerged. The TRL forms belong to either of the two major categories: grammar or acquisition. Table 3.2 summarizes details of the sub-categories. Further details of each TRL type are described in Chapter 4, with actual examples.

Table 3.2
Translanguage Analysis

1. Grammatical Analysis
Phonological
1.01. Lack/non-standard use of a voiced sound marker
1.02. Lack/non-standard use of the small <i>tsu</i> for a geminate obstruent consonant
Phonological + Orthographic
1.03. <i>Kana</i> non-standard spelling
1.03.a. <i>Kanji</i> non-standard spelling
1.04. Lack of one <i>kana</i> syllable (non-standard spelling)
Orthographic
1.05. <i>Katakana</i> and <i>hiragana</i> mixing
1.06. <i>Hiragana</i> non-standard spelling after <i>kanji</i>
1.07. Use of large letters instead of small letters
Grammatical + Morphological
1.08. Conjunctions
1.09. Lack/non-standard use of the topic marker <i>ha</i> /the subject marker <i>ga</i>
1.10. <i>de</i> (location of action, means)/ <i>ni</i> (location of existence, indirect object) and <i>O</i> (direct object) confusion: treatment of an indirect object as a direct object, or vice versa; treatment of an intransitive verb as a transitive verb
1.11. Use of the possessive marker <i>no</i> instead of the direct object marker <i>O</i>
1.12. <i>de</i> (means: with, <i>te</i> -form of the copula)/ <i>O</i> (direct object) and <i>to</i> (together with)/ <i>kara</i> (from) confusion
1.13. Subject marker <i>ga</i> /sentence topic marker <i>ha</i> (pronounced as <i>/wa/</i>) confusion
1.14. Adjective/ <i>na</i> -adjective confusion, adjective inflection
1.15. Counters
1.16. <i>ni</i> (1. location or target toward which the action or motion progresses: to; 2. location in/at which something exists, resides, etc.; 3. time: at, on, in, etc.) and <i>de</i> (1. location in/at which the action occurs or is done; 2. means) confusion
1.17. Verbal inflection
1.18. Tense confusion (present/past tense verb, present/present progressive tense verb)
1.19. Lack of directional verbs as auxiliaries
Morphological + Orthographic + Phonological
1.20. Homophonic confusion
A. <i>wa/ha</i> (pronounced as <i>/wa/</i>) confusion
B. <i>u/o</i> confusion
C. <i>he</i> (pronounced as <i>/e/</i>) <i>e, i/e, yu/i</i> confusion
D. <i>o/O, ho/O, yo/o</i> confusion
E. Voiced sound for <i>chi/shi, su/tsu</i> confusion
1.21. Other non-standard features
2. Language Acquisition Analysis
Language transfer (Phonological+Orthographical+Morphological+Syntactic)
2.1. Transference from English
2.2. Direct translation from English

The occurrence of each TRL type was fairly consistent, though there were some individual differences in the number of diary entries per week and complexity of the content as well. Their treatment will be discussed later in the data analysis

section of this chapter. In order to detect any change in these individual, as well as group patterns, it was necessary to keep a constant record of the focal bilinguals' Japanese literacy development or attrition. In the mean time, observation of seemingly large individual differences in terms of TRL types and frequencies raised some queries in interpretation: Are these TRL features and occurrence patterns common phenomena among a certain age group, or a sign of lower stages of development, or a special transference limited to a certain individual? This then evolved into the second major question: How or to what extent do the writing skills of Individual bilinguals differ from those of Community bilinguals and Japanese monolinguals at the same grade or age level? In other words, what are the influences of the socio-cultural context on minority language literacy? This, coupled with the initial focus of the Translanguage Analysis, led to the next step of comparing age/grade-norm Japanese development within the bilingual population, as well as between monolingual and bilingual groups.

Since the oldest subjects had turned 12 by the end of the study, the age range for comparison with the same age groups extended accordingly (age 6 to 12). This age range corresponds to grades 1 to 6 in the elementary school system in Japan, which is also used in the Saturday and Sydney Japanese Schools (some age differences exist for the Saturday school). In order to compare Japanese proficiency of each group at the same age level, uncorrected diaries or compositions of Community bilinguals in all grades (one class per grade), were collected at the end of November 1998. Subsequently, those of the monolinguals in Sydney were gathered at random from each grade at the beginning of December 1998. As for the monolinguals in Japan, 30 pieces of diary excerpts from all grades during the end of year school holiday (27/12/98 to 7/1/99) were randomly selected by the teachers of each grade and sent to the researcher. Six months later, some additional data from 36 subjects (6 from each grade) from this population were gathered in the same process as the initial collection for more concrete statistical validity. All the diaries and compositions were examined and codified under the same TRL categories used for the sample of individual bilinguals. Accordingly, the term TRL is used to describe any applicable idiosyncrasy for all sample groups.

It should also be noted that although the sample groups speak a variety of regional accents, these regional differences were not reflected in a written language. That is, no intervention of dialect was detected in the sample. This could be due to the

fact that dialects differ only in colloquial expressions and pitch accent, and that expatriate Japanese communities tend to use common Tokyo dialect (*kyôtsûgo*) for mutual communication. Also, *kyôtsûgo* is a form taught to bilinguals, using formal teaching materials, which is important for language maintenance (see Section 2.3.5). Thus, it was decided to exclude the analysis of dialect variations from the study.

As mentioned earlier, the Translanguage Analysis of Individual bilinguals was a continuous and long-term process. Eventually, with respect to the relationship between the subjects and the frequency of TRL by types, certain clearer individual patterns had emerged. For example, some TRL types only occurred within certain individuals, while others had been observed in all subjects. This prompted the following supposition: Could it be that certain TRL types did not occur in everyone because some subjects had avoided or had not mastered the structures that may result in these TRL varieties? On this basis, either case is due to a developmental factor. Another possibility is that these TRL features are the result of non-acquisition or transference from English. Some TRL types could be manifested in only certain types of individuals who are especially dominant in English.

To verify which alternative is supported, it was vital to conduct a standardized test not only on the Individual bilingual group, but also on all other sample groups. In this way, the TRL forms that may not appear in everyone's diary intentionally or unintentionally, could be tested on all subjects to confirm whether they were the result of developmental delay common to certain age groups, or the consequence of English transference specific to certain bilingual populations or individuals. If the former is the case, the same TRL types should be observed in a certain age group of both the bilingual and monolingual population. The latter case should result when only bilingual sample groups made the same types of TRL. Of course in this case, it should become clear whether a TRL form was specific to a certain individual or not, when it is produced by only one person out of a large sample.

3.4.2.2 The Interview Test

The Interview Test was designed specifically to elicit problematic aspects of grammar and other areas of the TRL system that had emerged from the Translanguage Analysis study of Individual bilinguals' writing. In particular, it aimed to discover whether the TRL forms are characteristic to a certain individual, the bilingual

population, or common to a certain age group. Despite its name, it is a writing test for the entire sample, excepting Individual bilinguals who were interviewed individually for the test, so that they could provide both oral and written answers. This was partly due to their possible inability to comprehend the task involved in the test, if conducted together as a whole class activity, but mainly to assess the degree of oral and written correspondence of non-standard TRL features. It was intended to test the following possibilities. The first is that the bilingual subjects would produce the same TRL forms regardless of the mode of expression (speaking or writing), while the second suppose that orthographic TRL forms are triggered by phonological ones. To test these suppositions, Individual bilinguals were asked to pronounce the answers as well as to write them down. In addition, short interviews took place with each Individual bilingual subject, just before the Interview Test. The purpose was to briefly investigate their conversational skills. Appendix A summarizes the contents of the interview, together with the Interview Test procedure.

The aspects of the TRL tested on all subjects correspond to the categories used in the Translanguage Analysis. Although only 14 out of 29 TRL types were intended for elicitation (as particular interests), 11 others had a possibility to be elicited in this measure. Accordingly, a wide range of TRL types was tested: phonological, orthographic, grammatical, morphological, and language transfer. Table 3.3 presents details of TRL aspects tested, and the sections of the test where these elicitations were attempted.

The test is a picture description task. It is divided into five sections that are designed as stimuli, aiming to bring out particularly problematic words, grammatical markers, or structures, which were actually used by Individual bilinguals in a non-standard way. The types of TRL features may overlap across the sections, whether their elicitation was targeted or not. All sections are composed of various stimulus pictures designed to be easily understood by children (the original copy of the Interview Test is attached as Appendix A).

Table 3.3
Interview Test

1. Grammatical Analysis	
Phonological	Section 1, 2, 3
1.01. Lack/non-standard use of a voiced sound marker	
1.02. Lack/non-standard use of the small <i>tsu</i> for a geminate obstruent consonant	
Phonological + Orthographic	Section 1, 2, 3
1.03. <i>Kana</i> non-standard spelling	
1.03.a. <i>Kanji</i> non-standard spelling	
1.04. Lack of one <i>kana</i> syllable (non-standard spelling)	
Orthographic	Section 1, 2
1.05. <i>Katakana</i> and <i>hiragana</i> mixing	
1.06. <i>Hiragana</i> non-standard spelling after <i>kanji</i>	
1.07. Use of large letters instead of small letters	
Grammatical + Morphological	Section 2, 4
1.09. Lack/non-standard use of the topic marker <i>ha</i> /the subject marker <i>ga</i>	
1.10. <i>de</i> (location of action, means)/ <i>ni</i> (location of existence, indirect object) and <i>O</i> (direct object) confusion: treatment of an indirect object as a direct object, or vice versa; treatment of an intransitive verb as a transitive verb	
1.11. Use of the possessive marker <i>no</i> instead of the direct object marker <i>O</i>	
1.12. <i>de</i> (means: with, <i>te</i> -form of the copula)/ <i>O</i> (direct object) and <i>to</i> (together with)/ <i>kara</i> (from) confusion	
1.14. Adjective/ <i>na</i> -adjective confusion, adjective inflection	
1.15. Counters	
1.16. <i>ni</i> (1. location or target toward which the action or motion progresses: to; 2. location in/at which something exists, resides, etc.; 3. time: at, on, in, etc.) and <i>de</i> (1. location in/at which the action occurs or is done; 2. means) confusion	
1.17. Verbal inflection	
1.18. Tense confusion (present/past tense verb, present/present progressive tense verb)	
Morphological + Orthographic + Phonological	Section 2
1.20. Homophonic confusion	
A. <i>wa/ha</i> (pronounced as /wa/) confusion	
B. <i>u/o</i> confusion	
C. <i>he</i> (pronounced as /e/) <i>e</i> , <i>i/e</i> , <i>yu/i</i> confusion	
D. <i>o/O</i> , <i>ho/O</i> , <i>yo/o</i> confusion	
E. Voiced sound for <i>chi/shi</i> , <i>su/tsu</i> confusion	
1.21. Other non-standard features	
2. Language Acquisition Analysis	
Language transfer (Phonological+Orthographic+Morphological+Syntactic)	Section 5
2.1. Transference from English	
2.2. Direct translation from English	

* TRL types in shading are not intended for elicitation but they could occur in the responses of a few subjects.

The first section deals with only nouns and thus the TRL forms expected are limited to phonological, orthographic, and language transference levels. All subjects were asked to write down the names of items shown in the pictures (ex. a soccer ball, a computer, etc). Simple sentences were elicited in the second section. These are noun-plus-verb sentences, which require a location marker and a direct or indirect object. Subjects were asked to state what the person or people are doing in the pictures and also to mention the locations; for example, playing soccer or swimming in a swimming pool. Section three was intended only to check for geminate obstruent (stops and fricatives) consonant spellings. For this reason, the task was fairly straightforward; the subjects were told to write down two specific words (adjectives) with geminate obstruent consonants that match each of the two pictures. The use of

classifiers, which is one of the most complex and marked systems in Japanese grammar, is assessed in the fourth section. As discussed earlier, there are numerous specific classifiers as well as two general classifiers. For the test, however, production of only the seven most commonly used classifiers was elicited. Subjects were instructed to count and answer how many items there were in each picture, using an appropriate classifier.

In the last section, aspects of language transfer were examined in the English to Japanese translation task. Subjects were asked to translate an exchange of simple utterances between two people in a picture: 'Come here' and 'I'm coming'. Both utterances include the same verb, 'come' in English, which is not the same when translated into Japanese. To be specific, while the Japanese verb for 'come' is used for 'Come here', 'I'm coming' is literally translated as 'I'm going' in Japanese. This mismatch of translation equivalents could lead to transference, which was found to be common among English-dominant Individual bilinguals as well as English speakers learning Japanese as a foreign language. As an experimental pre-test, only this part of the question was tested on 4 native English speakers with an intermediate level of Japanese. They were aged 16, 25 and the other 2 were in their 30's. The results showed similar English transference patterns to those found among Individual bilinguals.

The Interview Test was conducted in May 1998 for Individual bilinguals and in December 1998 for Community bilinguals and Contact monolinguals in Sydney. For the Individual bilingual group, tests were done individually and the entire session was tape-recorded. As mentioned earlier, this was needed mainly to test whether phonological TRL forms and orthographic TRL forms are related. Subjects were asked to first pronounce and then write the words or structures by looking at the stimuli pictures. Each session lasted an average of 15 minutes.

In the case of Community bilinguals and Contact monolinguals, subjects from all grades were gathered in one room and took the test together on each occasion. Test sessions were supervised together with teachers to answer any procedural questions and to make sure children would not copy answers from each other. The duration of each test was approximately 20 minutes. As for Non-contact monolinguals in Japan, one class from each grade took the test under the supervision of their respective classroom teachers. Upon completion, the original copy of the tests was sent to the researcher.

The results were marked, categorized, and totalled by TRL types for each sample to enable a comparison across the groups. These test results were also used as a measure of individual Japanese proficiency to examine its relationship with other factors such as linguistic environment and cultural identification. Together with the Translanguage Analysis data, the Interview Test data from the monolingual population were used as a standard for the age-appropriateness of developmental 'idiosyncrasy'. The monolingual data from Japan was also employed as a main criterion to decide which TRL types are truly due to English influence.

3.4.2.3 Translanguage and Interlanguage comparison

As a final confirmation of the English transference nature of non-developmental TRL types, which were not produced by Japanese monolinguals, the need for writing data from native English speakers learning Japanese as a foreign/second language arose. This is to test the possibility that bilingual's non-developmental TRL forms were caused by reasons other than transference. For instance, these TRL could be developmental and specific to Japanese-English bilingual children.

In order to investigate written language use comparable to the bilingual subjects, a relatively high level of IL Japanese proficiency was required for the monolingual English speakers. Ideally, a sample of the same age group with similar levels of proficiency would be more compatible. However, this is not feasible in reality; Japanese proficiency comparable to the bilingual sample is rarely obtained with the LOTE (Languages Other Than English) program at primary school, and there is no complete Japanese-English bilingual education in Australia that caters for children monolingual in English. For this reason, university students who have achieved reasonable competence in writing were considered to be suitable subjects for the data. Out of 75 students enrolled at one of the University of Sydney's Japanese courses, 24 students were selected on the basis of their background as native English speakers. Subsequently, their essay translation works from English to Japanese were collected with the permission of their lecturer.

The IL data was examined for any idiosyncrasies, and the characteristics of each were compared with the TRL category set to identify equivalents. At the same time, aspects of dissimilarity between IL and TRL were also examined. The incidence

of IL correspondence to TRL was recorded to observe its general trend across the types. As the data consists of essay translations, reference to IL Japanese studies was also made to verify the possibility of generalization to other IL cases. These analyses are discussed in Section 4.3.3, in relation to TRL and L1 features.

3.4.3 Attitudes towards culture and group

3.4.3.1 Cultural Association Test (CAT)

As described above, language proficiency data was collected to compare and describe both group and individual differences or similarities with regard to the pattern of TRL types and the rate of occurrence between and within respective groups. Consequently, these characteristics or trends that emerged led to the next question: What could cause such a variation in their literacy development or deterioration? One of the factors, which were predicted to be influential in contributing to such variety, is one's attitude towards culture and group. That is, considering the fact that attitudes towards the culture would reflect one's social group identification, and that language is a 'product' as well as a 'transmitter' of culture (Hamers & Blanc, 2000: 199), it was predicted that attitudes towards culture and group are likely to affect bilingual individuals' language development. For instance, positive attitudes towards Japanese culture facilitate the growth of Japanese command, whereas negative ones have a blocking influence. To be more specific, the prediction to be tested is that if children identify more strongly with a culture and a group, they would attain higher proficiency in the language associated with that culture and group. Hence, the Cultural Association Test (CAT) was developed to investigate the subjects' degree of identification with Japanese and Australian culture, respectively. In other words, it was meant to examine which culture bilingual children identify themselves with the most. Subsequently, the results were analyzed in relation to the language proficiency data.

The CAT consists of 24 pictures of culturally specific items, or 12 for each culture. The items used are listed in Table 3.4, and the instrument used is referred to on Appendix B.

Table 3.4 The cultural items used in the Cultural Association Test

Japanese	Australian	Japanese	Australian
1. Carp flag	Koala	7. Sushi	BBQ
2. Japanese breakfast	Australian breakfast	8. Kimono	Bikini
3. Winter Santa	Summer Santa	9. Baseball	Rugby
4. Japanese map	Australian map	10. Japanese flag	Australian flag
5. Doll festival	Easter festival	11. Sumo	Cricket
6. Mt Fuji	Opera House	12. Origami crane	Cockatoo

On each page, two culturally contrasting but categorically similar items are shown with five faces for a 5-point scale scoring on each picture. Depending on the perceived emotions about an individual item, a child would choose one of five faces with different expressions (big smile, slight smile, expressionless, frown, and big frown), each representing varied feelings about a particular item. The CAT was administered to all subjects in Australia.

The tests were carried out for each school around the same time as the Interview Test. On each occasion, subjects were instructed to color the face that matched their feelings about the item. Any question raised during the test regarding the material was answered immediately, to prevent an inaccurate response due to misunderstandings. Although the Individual bilingual group was able to spend enough time (half an hour) to finish filling out the CAT, some Community bilinguals and many of the monolingual contact group completed the task either at home or during the break in-between classes, due to lack of time. Accordingly, collection of materials took the following steps: straight after the session for all Individual bilinguals, most Community bilinguals, and some Contact monolinguals; individually by the researcher during the class recess after the session for some Community bilinguals; collectively by classroom teachers for most of the Contact monolinguals. Nevertheless, the collection rate was 100 per cent.

3.4.4 Origin and Language use

3.4.4.1 Questionnaire

The above-mentioned tests and their analysis provide a general picture of differences both between, and within groups. The gap between the monolingual and the bilingual populations may be expected, but it leads to the question: What could cause developmental differences in Japanese ability, and particularly in literacy, between the bilingual sample groups, as well as within-group bilingual individuals?

To solve this question, it is necessary to assess personal background factors that may result in variance within a group. This in turn would provide an overall portrait of a group trend and the contrast of each group trend in various aspects.

Such findings would also be important in examining the correlation between individual and socio-cultural factors, which would further clarify the group differences in language proficiency. For instance, children who grow up in an environment that promotes Japanese use and knowledge may have a stronger attachment to the language and a relatively stronger incentive to develop their literacy skills, compared to those who lack such socio-cultural support. To put it another way, those being raised in English-dominant surroundings may value English more than Japanese and have less motivation to develop their Japanese ability including its literacy.

Accordingly, a questionnaire was administered to parents to investigate the individual context of 'origin' and 'language use' of each subject from the Individual and Community bilingual samples. It aimed only to examine the bilingual population, since the monolingual population would use exclusively or mainly Japanese, as their daily lives are in a monolingual environment although the Sydney sample have some contact with English. For this reason, only bilingual families were sought for the questionnaire, while the information regarding the length of residence was collected from the teacher for the monolingual contact group.

The questionnaire consists of 16 items regarding demographic information and patterns of language usage that reflect the attitudes of the subject and the parents towards the maintenance and development of Japanese. Demographic questions asked for information regarding a child's birthplace, year of entry to Australia, parentage, and residency status. The language use inquiry attempted to capture a clearer picture of overall language use patterns, both private and public, examining both variety and frequency. Also, the questionnaire tried to find out parental attitudes towards a child's Japanese maintenance and development, and their attachment to a homeland. Appendix C provides details of the questionnaire and its transcript.

In order to lower the questionnaire rejection rate and a blank response to a question, it was designed mostly with multiple-choice questions to make it less time-consuming. In addition, it was conducted mostly face to face to maximize the response rate. This method has proved highly successful and the rejection rate was almost zero. The questionnaire was written in Japanese for the benefit of Japanese

parents, since it was assumed that they would be in the best position to know the Japanese usage and development of their children. All but two responses were collected from Japanese parents. When only Australian parents were available, the researcher interviewed them and asked translated questions in English. The importance of using the interviewee's native language for a high response rate has been evident in a number of studies (Lyon, 1996; Butcher, 1993; Döpke, 1992; Williamson, 1991). For this reason, parents were interviewed in their native language wherever possible.

The parents were contacted at the respective schools, after school hours for the Individual bilingual group, and on Open Day for the Community bilingual group. Some parents of older Community bilingual children did not come on this occasion or any other school days because the children usually come to school by themselves, or for other reasons. In these cases, questionnaires were handed to the children so that they could ask the parents to fill them out and bring them back to school. The parents were still cooperative but collection from three cases (two of which are siblings) was unsuccessful due to their long absence from school. One case per school had already returned to Japan, which severed contact for the questionnaire collection period. Over all, the response rate was good: 90 percent for Individual bilinguals and 85 percent for Community bilinguals.

3.4.4.2. Interviews

As a supplement to the questionnaire, interviews were carried out with the parents of particularly interesting bilingual subjects, who have either high or low literacy skills. These interviews were informal and the parents were very open concerning a range of issues, such as how they have overcome the reluctance of their children toward the use of the minority language and the children's experience with Japanese and its culture. Although only a few interviewees were available, they provided a clearer understanding of the varied individual context of language use among subjects.

3.5 Data Analysis: transformation and scoring methods

In this section, the procedures taken for composing variables for the data analysis are summarized. Of the data collected, the following were selected for statistical analysis: the Translanguage Analysis, the Interview Test, the Cultural Association Test (CAT), and the questionnaire. Mathematical transformations of the Translanguage Analysis and the scoring methods of the Interview Test are discussed first, followed by those of the CAT and Questionnaire. Conversion of these data into statistically comparable raw data is also described for each measurement.

3.5.1 Language ability

3.5.1.1 The Translanguage Analysis

Diary entries from all sample groups (monolinguals and bilinguals) were assessed using the same indices of 29 TRL categories by counting the occurrence of each TRL type per entry. Then, the total number of words was counted for each entry, separating noun, adjective, adverb, copula, verb, particles and grammatical markers; roots of verb/*na*-adjective when inflected were counted as separate items, as in the following sentence from the data:

1	2	3	4	5	6	7	8	9	10	11	12	13	14
<i>Watashi</i>	<i>wa</i>	<i>ookiku</i>	<i>nat-</i>	<i>tara</i>	<i>sekai</i>	<i>no</i>	<i>iroiro</i>	<i>na</i>	<i>tokoro</i>	<i>ni</i>	<i>iki</i>	<i>tai</i>	<i>desu.</i>
I	<i>top-m*</i>	older	get	when	world	in	various	Places	to	go	want	<i>cop**</i>	

=14 words [I want to go to various places in the world when I get older.]
 *topic marker **copula

The same principle was applied to all the diary entries, even if a phrase or a sentence was non-standard as underlined in the following phrase:

<Non-standard>				<Standard>	
1	2	3	4	1	2
<u><i>make</i></u>	<u><i>mashita</i></u>	<u><i>no</i></u>	<i>chiimu**</i>	<i>maketa</i>	<i>chiimu</i>
lost(polite past)	<i>pos-m*</i>		team	lost (plain past)	team

=4 words [the team that lost] =2 words
 * possessive marker ** *katakana* in Bold

Note: Polite speech forms (*desu/-masu*) were counted as separate items to record their use.

In the example, the verb for the 'plain' past tense should be used instead of the 'polite' past tense when it functions as a clause that modifies a noun. Also, the possessive marker 'no' is used in a non-standard way as a connector between verb and noun, though it is only needed for connecting nouns. If the non-standard usage in this example were limited to the choice of a correct verb form, it would be considered a developmental feature, as it could occur even among monolingual children. Yet, the unconventional use of the possessive marker after the verb is particularly unusual. This may be an attempt to render the English relative pronouns (which, that, etc.) into Japanese. Also, this non-standard use of 'no' was found only among subjects in Australia, which suggests that if it is indeed developmental, it must be a form acquired very early before the development of literacy. Thus, this was regarded as a transference feature and counted as one incidence of such TRL type.

The Counting of TRL types alone, however, is not reliable, for the occurrence of TRL may depend on the length of the written sample. Consequently, in order to make the frequency data comparable across subjects, the *Total TRL rate (per 100 words)* was computed for each individual per entry by the following formula:

$$\frac{\text{The total number of all TRL types per entry} \times 100}{\text{The total number of words per entry}}$$

The result is the *Total TRL rate (per 100 words)* per entry and per person. This could provide a rough picture of TRL in the degree of distance from the target norm, when compared between subjects or groups, and longitudinally within an individual. The *Total TRL rate*, however, may overlook the complexity of TRL, which consists of a range of simple to complex linguistic rules. A more comprehensive way to analyze the data is an examination of the *TRL rate (per 100 words) per TRL type and entry* which is calculated as follows:

$$\frac{\text{The total number of each TRL type per entry} \times 100}{\text{The total number of words per entry}}$$

This enables cross-sectional comparison of TRL type trends between groups, and within a group. In addition, where applicable, assessment of personal TRL type characteristics is made possible longitudinally within, and cross-sectionally between, individuals. These conversions were necessary for the statistical analysis, which will be discussed in Chapter 5 and 6.

As for the longitudinal data of the Individual bilingual group, additional procedures were adopted due to its size and complexity. Since there are data from 60 weeks in total, the *TRL rate average per 10 weeks* for each TRL type and subject was needed as a gauge, in order to make a comparison longitudinally within, and cross-sectionally between individuals. Computation of the average was not a simple task, however, as the number of diary entries per 10 weeks differed among subjects. Accordingly, the following formula was used for this computation:

$$\frac{\text{The total TRL rate per TRL type per 10 weeks}}{\text{The total number of entries per 10 weeks}}$$

This average not only provides a useful indication of the long-term trend of language development for every subject, but also functions as a yardstick for comparison across subjects and categories.

Moreover, the 10 week-average of the TRL rate was used to calculate an annual *Total TRL rate Average per TRL type* for each subject. This was done through the following steps. First, the number of weeks the data had been collected in each year was totalled: 20 weeks in 1996, 30 weeks in 1997, and 10 weeks in 1998. Then, the average TRL rate per year for every TRL type and individual was worked out using the average of 10 weeks for each period:

$$\frac{\text{The total of TRL rate average per 10 weeks of each TRL type per year}}{\text{The number of '10 weeks' per year}}$$

This also allowed a calculation of the annual *Total TRL rate Average* with all TRL types combined, using a similar formula:

$$\frac{\text{The total of TRL rate average per 10 weeks of all TRL types per year}}{\text{The number of '10 weeks' per year}}$$

These averages are the measurement of a larger trend for individuals and sample groups, as well as the standard for grade/age level comparison between the groups. Such a comparison was only possible cross-sectionally between the groups, except for the bilingual groups at the level of grade 4, and ages 9 to 10. Semi-longitudinal data obtained for this sub-group of bilinguals went through additional computations to obtain *TRL rate per TRL type and entry*, and *Average Number of Words per Week and per Entry*. This enabled more comprehensive analysis between the two bilingual groups, as it provides further information on the details.

Thus, the two types of TRL rate available for each individual in all sample groups are the *Total TRL rate per entry* and the *TRL rate per TRL type and entry*. For the cross-sectional analysis, however, only the latter is used. Whereas, the longitudinal within-group comparisons of Individual bilinguals are made by *Total TRL rate Average* and *Total Average TRL rate per TRL type*. These TRL rates are used as variables for statistical analysis, in order to examine the relationship with various factors of the individual and the socio-cultural contexts, which will be explained in later sections of this chapter.

3.5.1.2 The Interview Test

The Interview Test from all sample groups was rated by the researcher using the same scoring criteria for each section, in order to ensure consistency. The weighting of marks takes the degree of difficulty into account; for example, the section to test the use of noun plus verb including markers received a higher mark than the noun only section, and is rated for each component. The full score for the test is 48, and only the key words were marked in order to make a standardized comparison of the test results. That is, extra elements such as adjectives or additional nouns for the noun plus verb section were excluded from ratings. The scores obtained from the test were used as the variable, *Interview Test Score* (IntScore) for the statistical analysis.

Alongside the attainment of comparable scores across the groups, the objective of the Interview Test is to test the universality of TRL features on all samples, by eliciting specific linguistic elements found in the Translanguage Analysis of Individual bilinguals under the same production conditions. Thus, individual answers were analyzed and categorized into each TRL type. Then, they were totalled for all incidences of TRL features and subtalled for each TRL type. *Total TRL type occurrence* (TOTINT) was employed as a composite variable, while sub-totals were used for the TRL form occurrence trend comparison across the groups and as statistical variables for various data analyses.

As the focal sample of the current study, Individual bilinguals were examined for both oral and written answers in the Interview Test for further analysis. Specifically, the degree of correspondence between oral and written language was investigated, in addition to the standardized assessment of writing and general ability.

The procedure for assessing the spoken and written TRL correspondence was as follows:

First, the recorded responses were checked for appropriateness in terms of phonology, grammar, and morphology, where applicable. This was done using the same Translanguage Analysis measure as the written version of the Interview Test. Subsequently, they were categorized into TRL types and subtalled for each, in the same way as the written responses. These subtalls were then compared with the written ones, initially to observe whether they exist in both modes, and secondly to assess the feasibility of each TRL type occurring in the oral mode. Subsequently, *the oral and written TRL correspondence rate* was computed by dividing the spoken TRL feature count by the written count, for each subject and TRL type. The total average per TRL type was also calculated to obtain a general picture of the group trend. Note that this is the ratio of oral TRL forms to written TRL forms.

Accordingly, there is a rate higher than 1, or 100 per cent. In this way, it can be recognized whether TRL type counts are higher in oracy than in literacy. Moreover, this investigation examines the possibilities that transference is not the result of problems in orthography, but in acquisition, and the probability of TRL types to occur in the spoken mode. Since oral TRL forms are not interfered with by writing problems, it is more likely to represent the subjects' knowledge and acquisitional difficulties. For this reason, it is not the correspondence rate in a strict sense, but the ratio of oral TRL features against written TRL features. Details of TRL forms in both spoken and written modes are also recorded for further reference.

3.5.2 Attitudes towards culture and group

3.5.2.1 Cultural Association Test (CAT)

The Cultural Association Test (CAT) was conducted on three sample groups: Individual bilinguals, Community bilinguals, and Contact monolinguals. The principal aim of the CAT is to measure the degree of identification with each of the two cultures, Japanese and Australian, among these subjects. There are 12 questions, each consisting of a set of culturally contrasting items, as explained in 3.4.3.1. As each item requires a rating for affiliation on a 5-point scale, the degree of attitudes towards culture and group with each culture is comparable within each question, as

well as by a total score difference between the two cultures. This is especially useful to investigate the attitudinal difference for specific items, such as group membership, which is examined in questions 4 and 10.

The CAT for every sample group was analyzed in the following ways. First, each subject's scores for each item were entered separately for the two cultures. Then, these scores were totalled and averaged for each subject and for each item. The group's average scores obtained for Japanese and Australian items of each question were used to calculate the attitudinal balance by subtracting the Australian scores from the Japanese scores. The result is a group's *Average 'Japanese minus Australian scores' for each question*. This average was used for group comparison of attitudes towards culture and group. The respective average of the individual CAT score for Japanese and Australian items went through a similar process. The total average score of Australian items was subtracted from the Japanese one for each subject, producing **General Cultural and Group Identification Score** (AVCAT). This was used as a variable for within- and between-group comparison. In addition, individuals' *'Japanese minus Australian scores' for each question* was computed by deducting the scores for Australian items from the Japanese scores per question. This provides a comparable measure for each specific set of items. In particular, the *'Japanese minus Australian scores' for questions 4 and 10* are added to create a variable that shows the degree of **Ethnolinguistic Group Identification Score** (CAT4&10). The details of the data analysis are reported in Sections 6.3 and 6.4.2.

3.5.3 Origin and Language use

3.5.3.1 Questionnaire

The questionnaire was intended to obtain information on individual origin and language use patterns from the two bilingual groups. As the information was used for statistical analyses in Sections 6.3 and 6.4, the conversion of raw data to continuous variables was necessary. In this section, the methods used for quantification of variables are explained, along with the description of the variables themselves. The 'origin' and 'language use' variables are summarized in Table 3.5, together with their acronyms.

Table 3.5 Individual Origin and Language Use Variables

<i>Origin</i>	
JJORAJ	Parentage (endogamous or exogamous family)
*JP	Japanese permanent resident
*JT	Japanese temporary resident
*JF	Japanese father
*JM	Japanese mother
*BIRTHPLC	Birthplace
AOA	Age on arrival
LOR	Length of residence
NYS	Number of younger siblings
NOS	Number of older siblings
<i>Language Use</i>	
<i>Home</i>	
CLUWJP	Child language use with Japanese parent
CLUWEP	Child language use with English-speaking parent
JPLUWC	Japanese parent language use with child
EPLUWC	English-speaking parent language use with child
CLUWS	Child language use with siblings
JPLUWJP	Japanese parent language use with Japanese parent
JPLUWEP	Japanese parent language use with English-speaking parent
<i>Public (Social experience)</i>	
NOVTJ	Number of visits to Japan
<i>Literacy practice</i>	
FOJBR	Frequency of Japanese book reading
<i>Support for literacy development</i>	
FOPHWJL	Frequency of parental help with Japanese learning
NOSM	Number of study materials
<i>Leisure</i>	
VOJTV	Variety of Japanese TV programs watched
FOJTV	Frequency of watching Japanese TV programs
NOJEI	Number of Japanese entertainment items
FOUJEI	Frequency of using Japanese entertainment items
<i>Total</i>	
LANGUSE	Language use (total scores of language use variables)

* Variables not used in the statistical analysis due to little variance

Where applicable, the variables of origin shown in Table 3.5 were converted to numerical codes for the statistical analysis. For instance, a code of 2 was given for subjects from endogamous families and a code of 3 for those from exogamous families. These details are summarized by descriptive statistics in Appendix F.

As shown in Table 3.5, the language use variables are categorized in accordance with the domain or function of use. Language use data obtained was transformed to scores so that they are comparable. The value given for each variable was decided according to its supposed importance.

To illustrate, all variables in the *home* language use category, were rated in the following way: 'Japanese only' = 10, 'mostly Japanese' = 8, 'half Japanese, half English' = 5, 'mostly English' = 2, 'English only' = 0. Note that language use scores

for Japanese parent-child interactions were doubled when both parents are Japanese. *Number of visits to Japan* was ranked on a 6-point scale: 'three times or more per year' = 6, 'twice a year' = 5, 'once a year' = 4, 'once in two years' = 3, 'once in three years' = 2, 'once in four or five years' = 1. A similar method of rating was used for *frequency of book reading*, *frequency of parental help with Japanese learning*, *frequency of watching Japanese TV programs*, and *frequency of using Japanese entertainment items*. That is, a 5-point scale was used for rating the frequency; 5 for 'every day', 4 for 'every other day', 3 for 'two or three times a week', 2 for 'once a week', and 1 for 'once a month'. As for *number of study materials*, 2 points were given for each type of material, but one extra point was added to the Community bilinguals' scores, as they had more resources available than the Individual bilinguals. For every *variety of Japanese TV programs* and *number of Japanese entertainment items*, 1 point was counted for each figure within a category. These language use scores were totalled to compose a variable, *language use*, which represents the general pattern of individual language use.

The origin and language use variables produced through the above procedures were used for the statistical analyses to investigate the influence of the individual context on ability (see Section 6.3), as well as the influence of the socio-cultural context on the individual context of language use and attitudes (see Section 6.4).

CHAPTER 4

JAPANESE AS A TRANSLANGUAGE

4.1 Introduction

As the current study evolves around the longitudinal analysis of bilinguals' translanguage (TRL) Japanese, chapters for the results and discussions of the theoretical issues are organized in the order of conceptual development and framework. This chapter presents background information and the results of analysis on the nature of TRL Japanese. Initially, the structure of Japanese will be described in order to provide background knowledge on TRL. This will be followed by the explanation of TRL characteristics based on both a longitudinal and a cross-sectional analysis of bilinguals' TRL data. Then, the findings from the comparative analysis of TRL with other varieties of Japanese are discussed for a further examination of TRL features. Finally, the connection between oral and written modes of TRL is assessed to clarify the source of each TRL type.

4.2 Structure of Japanese

The following is a brief outline of Japanese grammar and orthography, which will assist understanding of the data on the Translanguage Analysis and the Interview Test. It is rather simplified, as it is aimed to be an introduction to the data analysis. Further details and specific examples will be discussed in the following sections. Also, for more comprehensive reference to Japanese grammar, see Martin (1988), Makino & Tsutsui (1989), Shibatani (1990), and Tsujimura (1996).

4.2.1 Orthography

In the Japanese writing system, three types of script are used: two kinds of graphically distinctive *kana* syllabaries, or syllabic alphabets (*hiragana* and *katakana*) and characters derived from Chinese (*kanji*), which are a semantic script but pronounced in several ways for historical reasons. Figure 4.1 shows the different types of script in Japanese. Romanized writing (*rômaji*) is employed to write Japanese

for non-Japanese with knowledge of Latin-based scripts, and it is not used in traditional, standard Japanese writing. In the current study, the Hepburn system of *rōmaji* is used for the Translanguage Analysis. In ordinary sentences for competent readers, most nouns and stems of verbs, adjectives, and adverbs, are written in *kanji* for historical and cognitive reasons. On the other hand, *hiragana* is used for inflectional affixes, function markers, auxiliary verbs, loanwords from Chinese with difficult or unusual characters, and to achieve certain graphic effects such as softer nuance than *kanji*. *Katakana*, on the other hand, is employed for onomatopoeic expressions and loanwords from foreign languages other than Chinese.

Figure 4.1 shows a phrase using the three different types of Japanese script. The scripts could be distinguished by the following visual clues: *hiragana* is rounded and *katakana* is angular, while *kanji* generally involves many strokes. *Rōmaji* under each letter shows its pronunciation and script type, which is distinguished by font types; *hiragana* is in regular, *katakana* in bold, and *kanji* in brackets (this convention is used throughout this chapter). Note that the homophones を /o/ and お /o/ are differentiated by the use of capital and small letters; capital is used for を /o/ as an object marker, while small is for the base vowel お /o/. Also shown is a phrase-level pronunciation transcribed into *rōmaji* sandwiched between oblique lines, and the English translation in brackets.

Figure 4.1

シャツを着る人

Shatsu O [ki] ru [hito]
 /Shatsu o kiru hito/
 [A person who wears a shirt]

According to Ienaga, (1960: 82-83), different people used *hiragana* and *katakana* as phonetic symbols, which evolved from *kanji* through the gradual processes of simplification from the 8th century onwards in different ways. They represent exactly the same sound despite the difference in letter shapes. Accordingly, both modern syllabaries consist of 46 letters, including: the 5 base vowels (V), 40 unvoiced consonant plus vowel combinations (CV), and 1 nasal coda (N). Also, by adding diacritics to the unvoiced CV, 20 voiced CV and 5 CV syllables with the initial ‘p’ consonant are created. To illustrate, the voiced CV ‘ba’ and CV ‘pa’ can be

formed with the addition of diacritics from the same unvoiced CV ‘ha’ (see Figure 4.2).

Figure 4.2

ぱ ← は → ば
/pa/ /ha/ /ba/

Other syllables are described by inserting a line or combining letters in particular ways. First, syllabic, or geminate obstruent (stops and fricatives) consonants (Q) in the coda of syllables (CVQ/VQ) are signified by a small つ ‘tsu’ letter, which is written as a double consonant in *rômaji*. For example, /kitte/ [stamp] is written as きつて ‘ki tsu te’. Second, palatalized consonants — a vowel with two preceding consonants (a consonant plus the semi-vowel ‘y’) (CSV) — are indicated by Ci *kana* plus one of the small yV *kana*, や ‘ya’, ゆ ‘yu’, よ ‘yo’. The first CV *kana* for this purpose is limited to that of the consonant-‘i’ vowel combination, such as き ‘ki’, し ‘si (shi)’, ち ‘ti (chi)’, etc. For instance, the sound /kya/ is written as きや ‘ki ya’ but never pronounced as /ki/ya/. Note that the ‘y’ consonant is not always shown as ‘y’ in the Hepburn style *rômaji*; ‘sha’ is used for しや ‘sya’ and ‘cha’ for ちゃ ‘tya’. Ci *kana* also include syllables already carrying a diacritic. That is, ひ ‘hi’, び ‘bi’, ぴ ‘pi’, blended with small や ‘ya’ generate the syllables, ひや /hya/, びや /bya/, ぴや /pya/. Third, the long syllables (CVR/VR) are written with the 5 vowels in *hiragana* but vowel length is indicated with a line in *katakana*. In *rômaji*, vowel length is indicated with a macron (¯) or a circumflex (^) above the vowel. In the following example, the long vowel /â/ is used in both types of *kana* as underlined (the line for length in *katakana* is twice as long as a hyphen): おかあさん ‘o ka a sa n’ /okâsan/ [mother] in *hiragana*, and カード ‘ka do’ /kâdo/ [card] in *katakana*. Fourth, the nasal coda, or mora nasal ん ‘n’ can come both before and after vowels or CV, such as: せんえん ‘se n e n’ /sen’en/ [one thousand yen]. Note in the romanized transliteration, the syllable boundary is shown with an apostrophe. Last, further syllables are made from any combinations of the four mentioned, as shown in the underlined parts: CSV plus (V)Q produces ちよつと ‘chi yo tsu to’ /chotto/ [a little]; CVQ plus CSV plus CVR makes こつきょう ‘ko tsu ki yo u’ /kokkyô/ [national boundary]; CVR plus CSV plus N generates おばあちゃん ‘o ba a chi ya n’ /obâchan/ [grandmother/casual]. These spelling rules are the same for both *kana* types, except that *katakana* indicates long vowels with a line written vertically in vertical script and horizontally in horizontal

script. Table 4.1 summarizes different types of syllable and their examples for comparison.

Table 4.1 Comparisons of Syllable Types

Types of Syllable		Examples	Number of Mora	Number of Syllables
1. V, CV	Ordinary syllables	い i [stomach] そら sora [sky]	1 2	1 2
2. VN, CVN	Syllables with nasal coda	うん un [fate] ほん hon [book]	2 2	1 1
3. VQ, CVQ	Syllables with geminate obstruent consonants	いっき ikki [riot] きって kitte [stamp]	3 3	2 2
4. CSV	Syllables with palatalized consonants	きょか kyoka [permission]	2	2
5. VR, CVR	Syllables with a long vowel	おおい ooi [many] ケーキ kēki [cake]	3 3	2 2
6. [C(S)V(R)]Q/N	Combinations of types 1-5	ちょっと chotto [a little] びょういん byōin [hospital]	3 4	2 2

R: vowel length phoneme, Q: geminate obstruent phoneme, N: mora nasal phoneme.

As mentioned earlier, although it is possible to use only *hiragana* in place of the other two scripts as in writing for, and by, young children, the standard use is a combination of the three scripts for practical and stylistic reasons. In particular, Japanese has a large number of homonyms, all of which become homographs if written in *kana*. Although confusion is unlikely in conversation, due to clues from context and pitch accent/intonation differences, this is not always the case in decontextualised *kana* only writing. In the written form of Figure 4.3, for example, if the verb ‘kuru’ is in *hiragana*, it can mean either ‘to cut’ or ‘to wear’ and there is no way of telling which meaning is being used without a context. That is, the phrase in Figure 4.1 can be misinterpreted as ‘a person who cuts a shirt’, without appropriate *kanji* use.

Figure 4.1

シャツを着る人
 Shatsu O [ki] ru [hito]
 /Shatsu o kuru hito/
 [A person who wears a shirt]

Figure 4.3

切る
[ki]ru
[to cut]

きる
kuru

着る
[ki]ru
[to wear]

Also, differentiation of the two types of *kana* by writing them in proper scripts is necessary, as there are words that become both homonyms and homographs if written only in *hiragana* or *katakana*, and they cannot be written in *kanji*. One such example is キー ‘**ki** —’ /kii/ [key], which could be written in *hiragana* as きい ‘ki i’ /kii/, and in *katakana* as キイ ‘**ki i**’ /kii/, but has no equivalent *kanji*. There are four other homonyms for ‘ki i’ /kii/, all of which can be written the same in *kana* as the word キー ‘**ki** —’ /kii/ [key]: 紀伊 [a regional name in Japan], 貴意 [your opinion], 奇異 ‘ki i’ /kii/ [strange], and 忌諱 ‘ki i’ /kii/ [taboo]. Although these four are distinguished by writing them in *kanji*, キー ‘**ki** —’ /kii/ [key] is differentiated by writing it in *katakana*.

Another reason to use proper scripts for each word is that it is extremely difficult and time-consuming to read only *hiragana* in writing, since standard Japanese is written without spaces between the words, unless punctuated. Even if sentence segments are separated as in writings for young children who have not yet mastered many *kanji*, only simple sentences are easily understood. Therefore, it is essential to use the appropriate scripts, not only to avoid misunderstandings, but also to ease word recognition considerably.

Kanji, or Chinese characters, were first introduced from China in the 5th century, along with other cultural and technological innovations, but their use was limited to a few privileged people until the spread of Buddhism and Chinese literature during the 6th and 7th centuries (Ienaga, 1960). The use of Chinese characters as phonetic symbols for writing Japanese started in the 7th century. The simplification of these phonetic characters led to the gradual development of *kana*. In particular, Japanese readings were attached to represent the meanings of *kanji*, while preserving Chinese readings modified to Japanese pronunciation. Thus, the main difference between the use of Chinese characters in China and Japan is that each character in Chinese represents a syllable and usually a morpheme, while a Japanese counterpart has several readings and meanings to stand for both native Japanese words and loanwords from Chinese (Coulmas, 1999). In Japan, by the age of 15 or 16, Japanese people have usually mastered the over 2,000 *kanji* necessary for daily use. Although about 20 percent are pictographs, symbols, and ideographs, the remaining 80 percent belong to the phono-ideograph group (Rowley, 1992). The first groups of *kanji* are relatively easy to learn, as image and association aid their memorization. This is not

the case for the second group. Phono-ideographs are combinations of a semantic element and a phonetic component that provide a clue to the meaning and the Chinese pronunciation of the *kanji*. In many cases, the phonetic component was applied to symbolize the pronunciation of the word. Although distinctive tones differentiated the characters in Chinese, these were lost in the historical processes of adapting the Chinese pronunciations to Japanese through phonetic simplification. Accordingly, *kanji* have many homophones and homonyms. Homophonic confusion arises where there is insufficient knowledge of all the *kanji* concerned. Difficulty also increases as the number of strokes and the level of abstraction in meaning increases. For this reason, *kanji* are learned in order of simple to complex, and after *hiragana* and *katakana*.

4.2.2 Phonology

a. Rhythm

Phonetic rhythm in Japanese relies on pitch-based mora, unlike English that employs a stress-based syllable. The mora is a sub-unit of the syllable and each mora is given the same length. Each *kana* represents a mora that carries the pitch, and it corresponds to a single, distinct pronunciation, with the exception of /o/, which is spelled in two ways: お and を. The latter is an historical remnant of a mora once pronounced /wo/, which remains in the orthography only to write the object particle. When *kana* are combined to make syllables other than CV or V, not every *kana* represents a single mora; rather, two *kana* characters combine to express a single mora. For example, ‘ki ya’ /kya/ is a single mora with two *kana* symbols. Even so, two is the maximum number of *kana* in combination for a mora. The mora consonant (Q) as in きって ‘ki_{tsu} te’ /kitte/ [stamp] constitutes a single mora. The word きって thus has three *kana* symbols and three moras. When the mora consonant is added to CSV, three symbols have two moras, as in ちよっと ‘chi_{yo}tsu to’ /chotto/ [a little].

The pitch accent is the typical accent used in Japanese, and it is expressed as a two-way contrast between low and high, and is phonemic in most Japanese dialects. It does not involve any changes in length, strength, or clarity of utterance. The knowledge and ability of marking where the accent falls in words are important for smooth communication and speech comprehension, and especially so in distinguishing homonyms. For example, あめ ‘a me’ /ame/ means ‘rain’ when the

accent is on the first syllable, but a ‘candy’ if there is no fall from high to low pitch. Although the use of *kanji* would solve such homonymic ambiguity, the distinction in pitch pattern does not appear in the orthography and there are numerous geographical variations. For example, it is significant if a word is accented or not in the Tokyo dialect, but not in some regions. Thus, in terms of mora and pitch accent based rhythm, the knowledge of correct pronunciation is essential for learning vocabulary, spelling words correctly, and using appropriate *kanji* for homonymic words.

b. Sounds and Syllables

Japanese has five vowels, /a, e, i, o, u/, which are the base of all CV, CSV, and VR/CVR. The close vowels /i/ and /u/ are often devoiced between voiceless consonants or after a voiceless consonant and a pause. These five vowels combine with consonants to form the mora(s) of the Japanese syllabary. The *kana* orthography arranges the vowels in the order of /a, i, u, e, o/, and the consonants in the order of /k, s, t, n, h, m, y, r, w/. CV are made by adding /k, s, t, n, h, m, y, r, w/ to the base vowels, such as /ka, ki, ku, ke, ko/. Only ‘y’ and ‘w’ do not combine with all five vowels; ‘y’ takes /a/u/o/ and ‘w’ only /a/. Originally, ‘w’ also combined with /i/e/o/ and had a distinctive pronunciation of its own. Of these, /wi/ and /we/ ceased to be used in pronunciation and in the modern orthography. On the other hand, the pronunciation of historic を/wo/ has changed to the point where it has become a homophone of お/o/. Both the direct object marker を and the vowel お are usually written in the same way as ‘o’ in *rōmaji*. However, in the current study, it is written as *rōmaji* ‘O’ in upper case, to distinguish the two homophones in the Translanguage Analysis. In relation to long vowels, correct pronunciation is quite important, as there are many words that are homophonic except for the length of a vowel, and it is likely to cause spelling mistakes. For example, mispronunciation or misspelling of おばさん ‘o ba sa n’ /obasan/ [aunt; married or middle-aged woman] and おばあさん ‘o ba a san’ /obâsan/ [grandmother; old woman] would cause some trouble. Devoicing of vowels is also a characteristic to note. The closed vowel /i/ and /u/ are often devoiced when preceded and followed by voiceless consonants, or before a pause; e.g. マスク ‘ma su ku’ /masuku/ [mask], すし ‘su shi’ /sushi/ [sushi], はしった ‘ha shi_{tsu} ta’ /hashitta/ [run (past)]

Each of the above described sounds and their combinations with geminate obstruent consonants /ts/ (Q) and the nasal coda /n/ (N), make a unique pronunciation

with one syllable. In general, a word is made of two or more syllables and each is pronounced by holding the sound for one beat. Such a combined unit, however, creates some homophonic pronunciations. To illustrate, えい 'ei' /ei/, おう 'ou' /ou/, いう 'iu' /iu/ as a sequence in a word are pronounced as ええ /ê/, おお /ô/, and ゆう /yû/, respectively. Also, there are *kana* letters of historical spelling other than を 'O, which become homophones when used as case particles. These are は 'ha' /ha/ and へ 'he' /he/, which are also used for the case particles /wa/ and /e/ as a topic marker and a directional marker, respectively. In writing, these homophones are distinguished by differences in spelling, the historical spelling being required for the grammatical particles. Although this may result in various homophonic errors in elementary writings, familiarity with written materials and sentence structures through literacy practices helps to overcome such confusion. Unlike ordinary *rômajî* conventions, the historical spellings are employed to describe such grammatical particles in the present study, to provide a more accurate description of orthography, especially the homophonic confusions regarding these particles.

4.2.3 Grammar

a. Syntax

Japanese sentences are usually formed in order of Topic/Subject-Object-Verb/Verbal (the copula, adjectives, and *na*-adjectives). Verbs and adjectives come at the end of the sentence, except when followed by sentence final particles, and when they are used attributively in non-final clauses. The grammatical functions of a word or a phrase are signified not by their positions, but by function markers affixed after them. For example, a sentence like 'I eat an apple.' is expressed as わたしはりんごをたべます。 'watashi ha ringo O tabemasu.' /watashi/wa/ringo/o/tabemasu/ [I apple eat.], in which は 'ha' /wa/ is the topic marker and を 'O' /o/ is the direct object marker. Note that は 'ha' is pronounced /wa/ only when it is used as the topic marker, as mentioned in Section 4.2.2 b. Whereas English does not differentiate between subject and topic, the Japanese sentence uses a topic marked with the particle /wa/. When strong emphasis is placed on the agent, the subject particle 'ga' is used instead. Some sentences have both topic and subject, as in: 'kyou ha tenki ga ii desu.' /kyô/wa/tenki/ga/ii/desu/ [As for today, weather is good.] and 'kanojo ha kami ga kirei desu' /kanojo/wa/kami/ga/kirê/desu/ [Speaking of her, (her) hair is beautiful.]

Other functional markers include: 'no' possessive, 'he'/e/ direction, and 'ni'/'de' location / time, details of which will be discussed in the description of the translanguage analysis.

Nouns do not have gender or number, though counters (classifiers) and certain adjectives can express their numbers or amount. The same is true for verbals. Tense, aspect, voice, and style are indicated by verbal conjugation, such as inflectional endings and auxiliary forms attached to the root. Although the tense form is limited to that of present and past, the present tense expresses future, habitual action, and general truth, while the past includes the simple past, the present perfect, and the past perfect. Differentiation of the tense is made solely from the context of speech or a sentence.

Another characteristic to note is the use of different speech modes, according to the types of addressee or referent, context, and setting. This is because of the socio-culturally rooted distinctions between, 'social superiors' and 'social inferiors', 'insiders' and 'outsiders'. 'Social superiors' include work colleagues of higher rank and the elderly, while 'social inferiors' are the opposite. 'Insiders' usually refer to one's immediate family, but this concept is often extended to include one's colleagues and superiors at one's place of work. In other words, 'outsiders' are unrelated people in terms of kinship and institutional connections. Such a relationship and other personal regards must be distinguished in social and personal interactions. For this reason, every verb in Japanese carries a marker indicating the degree of politeness to the addressee, and the degree of respect to the referent.

The degree of politeness in speech is classified into three types: plain, polite, and formal. The plain form is used in informal communication with family and friends, or when speaking to a younger person of lesser status. It is generally short, comprising the basic form of the verb, adjectives, and copula. The polite forms 'desu' for the copula [is, am, are] (the same as/equivalent to) and '-masu' for verbs are applied in semi-formal settings: in formal writing, or when addressing an elder person or a superior, and 'outsiders' of equal or higher status. In formal settings, formal honorifics, the most refined and intricate style of speech, are employed to show the highest degree of politeness to the addressee. In addition to these addressee honorifics, Japanese has levels indicating degrees of respect to the referent. There are two types in the referent honorific category: subject honorifics and object honorifics. The subject honorifics are applied to show respect directly to the subject of actions

described, by raising the status of the subject. On the other hand, the object honorifics are used to elevate the position of the person by honoring the direct or indirect object of the verb/verbal either when it is the person referred to, or an item belonging to a person. As they are expressed in a way that lowers the status of the addresser, they in turn raise the status of the person indicated. Since these speech styles are highly developed and marked in Japanese, they are also reflected in grammatical constructions. For instance, the negative form of verbs and adjectives in plain speech are formed by the addition of the auxiliary 'nai' to the roots or inflected roots, while the polite version is made in the same way with '-masen' for verbs, and with 'arimasen' for the copula and adjectives. Similarly, honorifics are expressed both in respectful and humble terms, by means of noun prefixes, adjective inflections, verbal prefixes and suffixes, or honorific verbs. Due to such formality and the complexity involved in the respect language, young children rarely use honorifics (Mackie, 1982) and their acquisition occurs gradually with age, while the polite forms appear early after entering school. In other words, the mastery of different speech modes depends very much on one's experiences with various types of social interaction. Just as the ability to control the speech level is essential for successful participation in Japanese society, so too is the role of socio-cultural environment vital in its fostering, and it should not be disregarded.

4.3 Bilinguals' Japanese as a Translanguage (TRL)

In Chapter 3, the definition of TRL was discussed and the method of the Translanguage Analysis was explained. In the subsequent sections, the analysis of TRL and its features will be first described with the actual examples. Then, the results of comparison between bilingual and monolingual population are discussed in relation to the developmental and transference nature of TRL, followed by the examination of TRL relationship with L1 and interlanguage (IL). Finally, the findings regarding the correspondence between the spoken and written forms of TRL will provide a further insight into the nature of TRL.

4.3.1 Description of translanguage

In this section, features of TRL are described in the order presented in Table 4.2, which was also presented in Chapter 3. Examples used are extracted from the

Translanguage Analysis and the Interview Test of both bilingual groups. Each TRL instance is underlined, accompanied by a standard form shown inside parentheses immediately after. This is shown both in *kana/kanji* scripts and *rômaj*i where appropriate. Where a syllable is missing, parentheses with an appropriate syllable are inserted, while an extra syllable is underlined and sandwiched by parentheses. The pronunciation of *kanji* and Arabic numerals is given in brackets. The case of homophonic confusion of *kanji* is shown with the reading and meaning of each *kanji* in brackets and single quotation marks, respectively. These are followed by an assumed literal translation of original writing in single quotation marks, the inferred intended meaning in single quotation marks within parentheses (where applicable), and a subject code in parentheses. This could be rather arbitrary, but it is an attempt to convey an impression of the Japanese by indicating non-standard forms in English, which is underlined where appropriate. Although much caution was taken for such interpretation, there is a certain amount of subjectivity involved. *Katakana* in *rômaj*i is shown in bold, and pronunciation of long vowels, syllables with palatalized sounds or geminate obstruent consonants are provided between diagonals. Repeated words per entry are described with a multiplication symbol (x) and a number of repetitions after the subject code, which is shown in parentheses at the end of examples. Note that a number attached to the subject code shows the grade to which the subject belong at each community school. The examples are presented separately for two bilingual groups for each TRL type; the Individual bilinguals are categorized under 'IndB', and the Community bilinguals under 'ComB'. While TRL features of both groups and individuals are often similar and sometimes exactly the same, there is also diversity to some extent. For this reason, examples are selected to represent a variety. Further details are presented in the Appendix D, which shows the entire record of the Translanguage Analysis. The conventions of translanguage description mentioned above are summarized in the Table 4.3.

Table 4.2
Translanguage-Analysis

1. Grammatical Analysis
Phonological
1.01. Lack/non-standard use of a voiced sound marker
1.02. Lack/non-standard use of the small <i>tsu</i> for a geminate obstruent consonant
Phonological + Orthographic
1.03. <i>kana</i> non-standard spelling
1.03.a. <i>kanji</i> non-standard spelling
1.04. Lack of one <i>kana</i> syllable (non-standard spelling)
Orthographic
1.05. <i>katakana</i> and <i>hiragana</i> mixing
1.06. <i>hiragana</i> non-standard spelling after <i>kanji</i> (<i>okurigana</i>)
1.07. Use of large letter instead of small letter
Grammatical + Morphological
1.08. Conjunctions
1.09. Lack/non-standard use of the topic marker <i>ha</i> /the subject marker <i>ga</i>
1.10. <i>de</i> (location of action, means)/ <i>ni</i> (location of existence, indirect object) and <i>O</i> (direct object) confusion: treatment of an indirect object as a direct object, or vice versa; treatment of an intransitive verb as a transitive verb
1.11. Use of the possessive marker <i>no</i> instead of the direct object marker <i>O</i>
1.12. <i>de</i> (means: with, <i>te</i> -form of the copula)/ <i>O</i> (direct object) and <i>to</i> (together with)/ <i>kara</i> (from) confusion
1.13. Subject marker <i>ga</i> /sentence topic marker <i>ha</i> (pronounce as <i>/wa/</i>) confusion
1.14. Adjective/ <i>na</i> -adjective confusion, adjective inflection
1.15. Counters
1.16. <i>ni</i> (1. location or target toward which the action or motion progresses: to 2. location in/at which something exists, resides, etc. 3. time: at, on, in, etc.) and <i>de</i> (1. location in/at which the action occurs or is done; 2. means) confusion
1.17. Verbal inflection
1.18. Tense confusion (present/past tense verb, present/present progressive tense verb)
1.19. Lack of directional verbs as auxiliaries
Morphological + Orthographic + Phonological
1.20. Homophonic confusion
A. <i>wa/ha</i> (pronounced as <i>/wa/</i>) confusion
B. <i>u/o</i> confusion
C. <i>he</i> (pronounced as <i>/e/</i>) <i>e</i> , <i>i/e</i> , <i>yu/i</i> confusion
D. <i>o/O</i> , <i>ho/O</i> , <i>yo/o</i> confusion
E. Voiced sound for <i>chi/shi</i> , <i>su/tsu</i> confusion
1.21. Other non-standard features
2. Language Acquisition Analysis
Language transfer (Phonological+Orthographical+Morphological+Syntactic)
2.1. Transference from English
2.2. Direct translation from English

Table 4.3 The conventions of translanguage description

IndB	Individual bilinguals	(syllable)	Missing syllables
ComB	Community bilinguals	B bold	<i>Katakana in rōmaji</i>
<u>U underline</u>	Non-standard TRL forms	— in <i>rōmaji</i>	Long vowels in <i>katakata</i>
() after <u>U</u>	Standard forms	/pronunciation/	Pronunciation of special syllables excepting nasal coda
(‘translation’)	Translation of the assumed intended meaning	{pronunciation}	Pronunciation of <i>kanji</i> /Arabic numerals
(‘[translation]’)	Supplement of the translation of the intended meaning	‘translation’	Translation of <i>kanji</i> /the original sentence or word
(subject code + number) at the end of examples*	Subject code with grade	(syllable)	Extra syllables
		x number	Number of repetition per entry

*Note: In addition, Individual bilinguals’ examples for each TRL type (ex. 1.01) are cross-referenced with ‘week numbers’ in Appendix D (ex. YU2/2: Subject YU, Grade 2, Week 2).

4.3.1.1 Grammatical Analysis

Phonological

1.01. Lack/non-standard use of a voiced sound marker

IndB. ほ(ぼ)く *ho(bo)ku* (‘I [for boys]’) (YU2/2)
 ともた(だ)ち *tomot(d)achi* (‘friend’) (KA2/1&9, KO2/8, SE2/5)

ComB. ほ(ぼ)ぐ(く) *ho(bo)gu(ku)* (‘I [for boys]’) (KE-D2)
 ちいさいの(で)ず(す) *chiisai no dezu(su)* (‘[he] is small’) (E1)

Voiced sounds are expressed with the addition of diacritics, as shown in the above examples.

1.02. Lack/non-standard use of the small *tsu* ‘っ’ for a geminate obstruent consonant

IndB. い(っ)ぱい *i(p)pai* (‘many’) (KE2/1)
 こ(っ)ち *ko(c)chi* (‘here’) (FU2/19)

ComB. かえ(っ)た *kae(t)ta* (‘went back’) (PE1)
 が(っ)っこう *ga(k)kou* (‘school’) (MA-D1)

Phonological + Orthographic

1.03. *Kana* non-standard spelling

IndB. さいごう(ご) *saigou(go)* (‘last’) (KO2/10)
 かい(か)ようび *kai(ka)yoobi* (‘Tuesday’) (KE2/10)

- ComB. ぶう(プー^ル) buu(*pu - ru/pûrû*) ('swimming pool') (RT2)
 モノプオ(ホ^ス)リ - monopuo(*po*)ri -/i/ ('monopoly') (HA3)x2

There are some examples of influence of English pronunciation on Japanese orthography.

1.03.a. *Kanji* non-standard spelling

- IndB. 多 [oo] 'many' (大 [oo] 'big') きくなっても [oo] kikunattemo
 'even when I grow up' (A2/4)

This is caused by the homophonic confusion of two *kanji*, which are both pronounced 'oo', but have different meanings.

- 金(金)ようび [kin] you bi ('Friday') (RI2/1, 4, 9)

The *kanji* for 'kin' is misspelled with the addition of extra strokes.

- ComB. 生先 [seisen](先生)[sensei] ('teacher') (MI-D3)

The two *kanji* for a compound word are in reverse order.

- 小 [shou] 'little (in age and size)' (少)[shou] ('little [in age and amount]') 年 [nen] = 少年 [shou nen] 'boy' (TA5)

The two *kanji* for 'shou' are both homophones and partial homonyms, yet not interchangeable for the word, 'shounen'.

1.04. Lack of one *kana* syllable (non-standard spelling)

- IndB. ありま(し)た arima(shi)ta ('there was') (A2/2)
 きよ(う)しつ kyo(u)shitsu ('classroom') (YU3/49)

- ComB. ひるごはん hirugoha(n) ('lunch') (TO3)
 ハ(-)バ- ha (-) ba -/hâbâ/ ('harbor') (KO-D6)

Syllables that contain devoiced vowels, such as 'shi' and the nasal coda 'n' tend to be omitted. The failure to indicate the length of long vowels is even more common. These less marked features seem to receive less attention.

Orthographic

1.05. *Katakana* and *hiragana* mixing

- IndB. おもしろ(ろ)かつた omoshiro(ro)katta ('[it] was fun') (TE3)
 ラア(-)メん(ン) raa(-/a/)men(n) ('noodle') (MI2)
- ComB. あかちヤ(や)ん akachiya(ya)n /akachan/ ('baby') (SA1)x3

しんで(シンデ ィ) *shinde(shindei)* /shindii/ ('Cindy') (MIH5)

There is a general tendency to prefer easier characters with fewer strokes or distinctive outlines as shown in the examples (e.g. ヤ for や, ロ for ろ) or available types of *kana*, even within a word or phrase.

1.06. *Hiragana* non-standard spelling after *kanji* (*okurigana*)

IndB. 行(き)ました [*i*](*ki*)*mashita* ('went') (A2/5)

食(べ)ました [*ta*](*be*)*mashita* ('ate') (RI2/9)

ComB. 妹(う)と(妹) [*imouto*]*uto* ('sister') (MIN5)

友(も)も(友)だち [*tomo*]*modachi* ('friend') (FI4)

Since Individual bilinguals' *kanji* use was very limited, they had very few incidences of this TRL. On the other hand, Community bilinguals had larger *kanji* vocabulary and more use of *kanji* at the same grade/age levels.

1.07. Use of large letter instead of small letter

IndB. さいしよ(よ) *saishiyo(yo)* /saisho/ ('first') (SE4/55)

びよ(よ)ういん *biyo(yo)uin* /byôin/ ('hospital') (KO2/9)

ComB. ちよつ(つ)と *chotsu(tsu)to* /chotto/ ('a little') (FI4)

ラツ(ツ)シュ *ratsu(tsu)shu* /rasshu/ ('rush') (TO3)x2

As explained in 4.2, syllables with palatalized sounds are formed by a CV *kana* plus a small CV *kana*, and geminate obstruent consonants are expressed with a small つ '*tsu*' letter. There are individual differences in mastering these linguistic rules.

Grammatical + Morphological

1.08. Conjunctions

IndB. *ressun ga owatta toki(owatte) puuru kara orita toki(agatte) sugu kaeru toki cho(tsu)to dake asobitakatta* 'When the lesson has finished, when [we] got down from the swimming pool [and] when we were going back home soon, I wanted to play just a bit.' ('It was when after the lesson has finished, and we got out of the swimming pool and we were going straight back home that I wanted to play just a bit [more].') (FU2/24)

Underlined translation is the assumed literal meaning of the original sentence, while the assumed intended meaning is in parentheses. Insufficient knowledge of

conjunctive use of the 'te-form' verb seems to have induced overuse of the 'past tense verb plus *toki*' expression. In fact, there was no such 'te-form' verb used by this subject prior to this diary entry. Also to note is the nuance of the word '*orita*'; unlike its English equivalent, it is used only to express downward movement, as in 'getting out of the bus' etc.

Doushite dakara(ka to iu to) 'Why because'('It's because')
(YU2/29)

Although the conjunction '*dakara*' stands for 'because' at the end of a sentence, it does not have the same meaning at the beginning of a sentence; it only means one of the following: 'that's why/ as I said/therefore'. While this overextension of usage could be the cause, another possibility is a transfer of the English sentence initial 'Because...'

ComB. [*era*]*ndemo(dakedo) hazuremashita* 'even if I chose [I chose, so I should have won, but], I didn't win.' ('I chose, but I didn't win.')

(MA-D4)

'*Demo*' means 'but' by itself, yet when it is combined with verbs and when talking about the past, its nuance changes. That is, the connotation of 'even' is emphasized in the latter case. When '*demo*' is used to describe a past event, it is placed after something or some action that should have led to the expected result, but did not.

[*kane*] *motten no ka(to) motte nai no to ite* 'There are those who have money or not (and) those who don't have.' (TA-D5)

The question marker '*ka*' is used instead of a conjunction '*to*'. It could be a result of the subject's reflection on his project, which investigates the amount of his classmates' pocket money.

1.09. Lack/non-standard use of the topic marker *ha*/the subject marker *ga*

IndB. *watashi no yume ha watashi ha(ni) ji— ni— /jiiii/ ga ite* 'My dream is as for me, there is Genie (the magic slave).' ('My dream is to have Genie [that belongs to me].') (FU4/54)

The topic marker '*ha*' is substituted or misplaced for the location marker '*ni*'. Unlike English, which marks grammatical functions by word order and prepositions, Japanese indicates them by particles and suffixes.

maruchi—zu /maruchiizu/ *ga(O) motte(katte) imasu*. ‘The Maltese has [something].’ (‘[I] have a Maltese.’) (RI4/57)

With the subject marker ‘*ga*’, the Maltese dog becomes the subject of the action or state, which was not meant by the writer (ri4). Instead, the direct object marker ‘*O*’ is required to make the dog the direct object. The choice of verb shows some cross-linguistic influence; ‘*motte imasu*’ means to possess for inanimate objects, while ‘*katte imasu*’ means to keep an animal, though both meanings are expressed with ‘have’ in English.

ComB. *furu—to* /frûto// *fue(fue) O(ga) dekiru hito* ‘those who can [play] the flute/pipe’ (‘those who are good at [playing] the flute/pipe’) (SH15)x5

There are two possible reasons for the inconsistency of this sentence. One is the overgeneralization of the direct object marker ‘*O*’ for the word ‘*dekiru*’ [can]. ‘*Dekiru*’ usually takes the subject marker ‘*ga*’ to mark the object, unless it is used as an auxiliary verb in combination with a Sino-Japanese noun (e.g. *untên* [driving]), as in ‘*kuruma O untên dekiru*’ [can drive a car]. Yet, this is not the case in the above example; the subjects of the sentence, *furu—to/ fue(fue)*, have to be marked with ‘*ga*’. The other cause could be a substitution of the potential verb ‘*fukeru*’ [can play] with ‘*dekiru*’ [can], due to the lack of knowledge of the appropriate potential auxiliary verbs for various musical instruments. Unlike the verb ‘play’ in English, which can be employed for any musical instrument, there are different verbs in Japanese, according to the type of musical instrument (e.g. ‘*fuku*’ [blow], ‘*hiku*’ [pluck], ‘*tataku*’ [beat] etc...) In fact, the informant used ‘*dekiru*’ for all types of musical instruments in his writing.

ti—bo—ru /tiibôru/ (*ha*) *yakyuu mitai na supô—tsu* /supôtsu/ *desu*. (‘Speaking of tee ball, [it] is a sport like baseball.’) (AK4)

The topic of a sentence has to be marked by ‘*ha*’, which in this case is ‘*ti—bo—ru*’. The effect of omitting ‘*ha*’ is similar to inappropriate use of the definite article in English.

1.10. *De* (location of action, means)/*ni* (location of existence, indirect object) and *O* (direct object) confusion: treatment of an indirect object as a direct object; treatment of an intransitive verb as a transitive verb

IndB. *shippo ni(O) hipparimashita* ‘pulled on the tail’ (‘pulled the [dog’s] tail’) (RI2/5)

While English can express the situation in two ways by changing word order and adding prepositions, this is not possible in Japanese. Perhaps the use of the indirect object marker ‘*ni*’ here has arisen from confusion with verbs like ‘*sawaru*’ [touch], which can mark the object with either *ni* or *O*, whereas the verb ‘*hipparu*’ [pull] can mark its object only with *O*.

monopori Q(de/O shite) asobu ‘play monopoly’ (‘enjoy myself with monopoly’) (A2/18)

Although the verb ‘*asobu*’ means ‘play’, it does not take a direct object like ‘play’ does in English. Thus, it is used in combination with the means marker ‘*de*’ [by/by means of] or the verb ‘*shite*’ [doing]. The use of the direct object marker with ‘*asobu*’ is one of the common TRL features among bilinguals.

ComB. *wasurete itta no Q(ni) ki ga tsukimashita* ‘[I] noticed that they have left [the toy] behind’ (MA-D4)

The verb ‘*ki ga tsukimasu*’ [notice] is an intransitive verb, which takes an indirect object marker ‘*ni*’. Accordingly, ‘*ni*’ should be used instead of the direct object marker ‘*O*’.

saisho no setto(setto) Q(de) maketa (‘[I] lost the first set/ [I] was defeated in the first set’) (YU-D4)

In Japanese, ‘*makeru*’ [be defeated] or ‘*katsu*’ [win] are intransitive verbs, so they do not mark a direct object with ‘*O*’. The location/situation in which the action occurs is indicated by ‘*de*’. Thus, in the above example, the situation ‘*saisho no setto(setto)*’ [the first set] should be marked with ‘*de*’. Since this situation of action is expressed as a direct object in English, it is likely to be the result of transference. Also, *setto* should be written in *katakana*, as it is a loan word from English.

1.11. Use of the possessive marker *no* instead of the direct object marker *O*

IndB. *su—pa—nintendo—[sûpânintendô] no(O) shita koto* ‘The things super nintendo did’ (‘[My] playing of Super Nintendo’) (YU2/1)

The above is the title of an entry in the subject’s diary. An essay title often includes the nominalizer ‘*koto*’ [things, event, matter, etc.], usually to convert a verbal phrase into a noun. While the verb for ‘do’, ‘*suru*’ (past-tense ‘*shita*’) is used appropriately for this purpose, the marker for the direct object ‘*O*’ is confused with the possessive marker ‘*no*’. While the possessive marker can sometimes replace the subject marker ‘*ga*’ in a relative clause, this is not the case in the above example, as Super Nintendo is not the subject of the sentence. Thus, the cause of this confusion is uncertain. Yet, since no further instances of this TRL feature were found with the subject YU, it could be assumed that it was caused by the overgeneralization of the essay title pattern, or the similarity of ‘*no*’ and ‘*O*’ in pronunciation.

e no(O) kakimasu (‘draw a picture’) (TE2/29)

This is also a case of using the possessive marker ‘*no*’ instead of the direct object marker ‘*O*’. In the same entry, the subject is also using the topic marker ‘*ha*’ in place of ‘*O*’. Yet, ‘*O*’ is used appropriately for some other verbs in the other entries. Thus, it is possible that the use of the marker ‘*O*’ is learned in combination with each verb. In fact, the subject has not used the verb ‘*kakimasu*’ [draw] in the previous entries. However, this was the only incidence of this TRL type found with this subject TE. Interestingly, there were no examples of the opposite case (the use of ‘*O*’ instead of ‘*no*’) found in the sample.

ComB. No instance of TRL found.

1.12. *De* (means-with, *te*-form of the copula)/*O* (direct object) and *to* (together with)/*kara* (from) confusion

IndB. *tomodachi de(to) asonda* (‘played with my friend’) (SE2/1)

Although ‘means of action’ (usually inanimate objects) or ‘people who do things together’ are both expressed using ‘with’ in English, this is not so in Japanese. For the former, the marker for means ‘*de*’ is used, and the marker for co-actors ‘*to*’ is used for the latter. Thus, ‘*tomodachi*’ [friend] in the example should be marked with ‘*to*’, not ‘*de*’. Interestingly, 6 months later, this subject confused the two markers the other way around as well; ‘*to*’ is used instead of ‘*de*’.

kuruma kara(de) ikimashita ‘[we] went from the car’ (‘[we] went by car’) (RI2/19)

The postposition ‘*kara*’ [from] is used in place of ‘*de*’ [by/by means of] in the above example. It could be caused by the synonymy of the English prepositions ‘from’ and ‘by’ when translated into Japanese; for example, ‘*kara*’ is a translation equivalent of ‘by’ and ‘from’ in the following sentences: ‘the gift was given *by* them’ and ‘the gift is *from* them’.

ComB. *hitotsu ha soto to(de) hitotsu ha ie no naka ni arimasu* (‘one is outside and the other one is inside the house’) (A-D4)

When connecting two sentences that end with the be-verb ‘*desu*’ [is, am, are], the first has to be changed to its *te*-form ‘*de*’, meaning ‘is/am/are [something] and’. In the example, this be-verb connective form ‘*de*’ is replaced by the conjunction ‘*to*’ [and], which corresponds word by word to the English translation.

koara(koara) to(de) asobimashita ‘played with a [real] Koala’
(‘played with a [toy] Koala’) (SA1)x2

As mentioned before for the example of the subject SE2, ‘with’ is expressed differently for means and co-actors. The koala in the above example is a toy, so it is not a co-actor, but a means of action. Thus, the means marker ‘*de*’ is more appropriate than ‘*to*’ [together with (for animate things)] in such a case.

1.13. Subject marker *ga* /sentence topic marker *ha* confusion

IndB. *boku ha(ga) toratsuku /torakku/ no naka ho(O) mitara(ra)* (‘when I looked inside the truck’) (A2/2)

In the subordinate clause, the topic marker ‘*ha*’ is usually not used. Also, the person doing the action has to be clarified with the subject marker ‘*ga*’. Thus, ‘*boku*’ [I (for boys)] should be marked with ‘*ga*’, not the topic marker ‘*ha*’ as in the example.

mini(i)feito ha(ga) arimasu ‘As for mini fete, there is’ (‘there is a mini fete’) (KO2/16)

The subject of a sentence, ‘*mini(i)feito*’ [mini fete], should be distinguished as such with ‘*ga*’, as it is the focus of the sentence.

ComB. *otouto ga(ha) chiisai no dezu(su)* ‘it is [my] younger brother who is small’ (‘speaking of [my] younger brother, [he] is small’) (E2)

As 'otouto' [younger brother] is introduced as a topic, the topic marker 'ha' is the appropriate marker for the word. The use of 'ga', on the other hand, emphasizes 'otouto' as the subject of the sentence, which is not intended by the writer.

kanashimi ha ~ iyaseru(iyasu) koto ha(ga) dekimasen ('As for sadness...healing of [it] cannot be done/[it] cannot be healed')
(RE6)

In this sentence, 'kanashimi' [sadness] is the topic, and the nominalized verb 'iyasu koto' [healing] is the subject, as it is information on the topic. Also, the subject of the stative verb 'dekimasen' [cannot] should be marked with 'ga'. Accordingly, 'ga' should be used to mark the subject 'iyasu koto'.

1.14. Adjective/*na*-adjective confusion, adjective inflection

IndB. *sugoi(ku) haya(i)katta* ('[it] was incredibly fast') (RI2/8)

When using adjectives as adverbials, the 'i' ending has to be changed to 'ku', so the adjective 'sugoi' [incredible] should become an adverbial 'sugoku' [incredibly]. Although the use of 'sugoi' as an adverbial has become popular in colloquial conversation, it is still regarded as unacceptable in the written language. Another inconsistency is the adjective inflection for the past tense. As the adjective past form 'katta' is to be attached to the root, the 'i' ending of plain non-past form should be dropped. In the example, 'i' is still attached to the root in addition to 'katta', but the standard form is 'hayakatta' [was fast].

dekkaina(dekkai) suberidai ('huge slide') (RI2/1)

Adjectives and *na*-adjectives are generally distinguished by their plain non-past ending in qualifying nouns; 'i' for true adjectives and 'na' for *na*-adjectives. Yet, adjectives such as 'ookii' [big] and 'chiisai' [small] have alternative forms for the same function, 'ookina' and 'chiisana', respectively. For this reason, the use of 'na' for the true adjective 'dekkai' could have been triggered by the synonymy of 'dekkai' and 'ookii'.

ComB. *omoshiroi (da) to omoimashita* ('[I] thought [it is] interesting')
(WA3)

The adjective 'omoshiroi' [interesting] is used as if it is a *na*-adjective; *na*-adjectives have 'da' ending before the quotation marker 'to', while true adjectives do not.

rippa no(na) hito ('noble person') (RE6)

In qualifying noun A with another noun B, B is placed in front of A, and the two are connected with the particle 'no'. In the example, the *na*-adjective root '*rippa*' is treated as a noun, which in fact is a *na*-adjective that should end with '*na*' in qualifying the noun '*hito*' [person].

1.15. Counters

IndB. 1 いぬ (いぬ 1 ぴき) [*ichi inu*(*inu ippiki*) ('a dog') (SE2/1)

Counters, or classifiers are necessary in a noun phrase that includes numerals. As they signify the physical or functional attributes of the noun referred to, there are many specific counters corresponding to various categories of noun. For small to medium sized four-legged animals like dogs, the counter *hiki* (*piki/biki*) is used depending on the number. That is, the use of allomorphs *piki/biki* is determined by the phonetic structure of the preceding syllable. In the above example, the counter for dogs is missing. In addition, the order of the noun and its counter is reversed; the noun should be followed by its counter.

12 から (12 じから) [*juuni kara*(*[juuni] ji kara*) 'from twelve' ('from twelve o'clock') (KE2/3)

For time (hours), the counter '*ji*' should be used, and cannot be abbreviated as in English. There are also variants of the counter for minutes, determined by the final syllables of the number to which the counter is attached.

ComB. *mo(u) hitotsu(hitori) no hito* ('the other person') (SA1)

The counter for one person is '*hitori*', which is slightly similar to '*hitotsu*', the general classifier for single inanimate objects. The confusion of the two could be due to an overgeneralization of the general classifier used for animate nouns.

tori ga nanbiki(wa) ('how many birds') (HI3)

Counters are also used as a part of the question word 'how many', where they are placed after '*nan*' [how/what]. In the example, instead of '*wa*', the counter for birds or rabbits, the counter for the small to medium sized four-legged animals, '*biki*', is used.

- 1.16. Confusion between *ni* (1. location or target toward which the action or motion progresses: to; 2. location in/at which something exists, resides, etc.; 3. time: at, on, in, etc.) and *de* (1. location in/at which the action occurs or is done)

IndB. しちがつ9で (9日に) *shichigatsu* [*ku/kyū*] *de(kokonoka ni)*
(‘on July 9’) (SE2/6)

For time, the particle ‘*ni*’ should be attached after the time. The subject marked the date with the particle ‘*de*’, the marker for the place of action. Also note that ‘day’ is written with an Arabic numeral as it is in English writing. In Japanese formal writing, the day should not be written with an Arabic numeral, and when using an Arabic numeral for the date in casual writing, it should be combined with the counter for days, written either in *kanji* (日) ‘*nichi/ka*’ or *hiragana* (にち) ‘*nichi*’. Note that unlike the other days of the month that take ‘*nichi*’, the days from 2nd to 10th as well as 14th, 20th and 24th take ‘*ka*’, which cannot be written in *hiragana* after an Arabic numeral, while ‘*nichi*’ can. In other words, in *hiragana* there is no choice but to write ‘*kokonoka*’ in full.

sunā no naka ni(de) asobimashita (‘played in the sand’) (FU3/37)

The location marker for existence or residence ‘*ni*’ is used instead of the marker for the place of action ‘*de*’. As this distinction does not exist in the English equivalent ‘in’, this may have triggered the transference.

ComB. *minshuku de(ni) tomarimashita* (‘[we] stayed at a guesthouse’)
(FI4)

As the verb ‘*tomaru*’ [stay] is a state of residence, its past tense form ‘*tomarimashita*’ should be marked with the location marker for residence ‘*ni*’. As it is not the particle itself, but the nature of the verbs that determines the type of marker, the use of markers needs to be mastered in combination with verbs. This would require a variety of experience with various types of verb use.

taki no shita ni(de)mo arukimashita (‘[we] walked under the falls
as well’) (FI4)

In this sentence, ‘*taki no shita*’ [under the falls] is not the end point of action, but the place of action. It thus requires the marker for the place of action ‘*de*’, not the marker for the target of action ‘*ni*’. This confusion could be the overextension of ‘*ni*’ use, to

mark the target location of action or motion, as there were many sentences using ‘~ *ni ikimashita*’ [went to (somewhere)] in the same entry.

1.17. Verbal inflection

IndB. *ashi O kanshita(da)* (‘bit the leg’) (RI2/5)

The plain past tense form of the verb ‘*kamu*’ [bite] is ‘*kanda*’, which is not used in the above example. A possible reason may be a misunderstanding of ‘*kan*’ as an onomatopoeic expression of biting motions, as in ‘*kamikami*’ [chewing motions]. Onomatopoeic expressions are verbalized by adding the irregular verb ‘*suru*’ to the ending, such as ‘*kamikami suru*’ [chew] and its past tense form ‘*kamikami shita*’ [chewed]. If these rules were applied to ‘*kan*’, its plain present form would be ‘*kan suru*’ and the past ‘*kan shita*’, which is not applicable in reality.

mikare(mitsukerare [mikkerare] / mitsukara [mikkara]) nakatta
(‘[I] could not be found’) (RI2/12)

While English has only three pairs of verbs that have transitive and intransitive verb forms, such as ‘rise’ and ‘raise’, Japanese has many such verbs. The transitive verbs are those that require a subject and a direct object, to represent the situation where the subject acts on the direct object. Intransitive verbs, on the other hand, do not entail a direct object, as they express the subject’s action or undergoing process of action on its own. The verb to ‘find’ is one such example; the passive form of the transitive verb ‘*mitsukeru*’ [to find] is ‘*mitsukerareru*’ [to be found] and the intransitive form is ‘*mitsukaru*’ [to be found]. The negative past tense forms are ‘*mitsuke-rare-nakatta*’ and ‘*mitsukara-nakatta*’, respectively. It seems the TRL example is a result of mixing these two verb forms, and the dropping of the devoiced sound ‘*tsu*’. Another possibility is the mixing of these verbs in colloquial past tense forms: ‘*mikkerare-nakatta*’ and ‘*mikkara-nakatta*’.

ComB. *ae(re)te* (‘to be able to meet’) (FI4)

The potential form of the verb ‘*au*’ [to meet] is ‘*aeru*’ [to be able to meet]. When ‘*aeru*’ is changed to the *te*-form, it becomes ‘*aete*’. In the example, it seems the potential form ‘*aeru*’ was equated with the verb group that ends with ‘*ru*’, such as ‘*kaeru*’ [to return home], ‘*noru*’ [ride], etc. These produce their potential forms with ‘*re*’, as in ‘*kaereru*’ and ‘*noreru*’, and they are inflected to ‘*kaerete*’ and ‘*norete*’ in their *te*-forms. The example is thus caused by a confusion of conjugation of the

potential verb with that of the 'ru'-verb, making the potential form out of an already potential verb.

okaasan ga ki(te), kaerimashita ('[my friend's] mother came and [they all] went back home') (MA-D4)

The polite non-past form of a verb without the *masu*-ending has the similar conjunctive functions as the *te*-form. The slight difference is the degree of formality; the former is more formal than the latter. To illustrate, 'ki' [come and] is a conjunctive form of the polite non-past form 'kimasu' [come], which has the same meaning as 'kite'. Although 'ki' and 'kite' are virtually synonymous, the formal tone of 'ki' does not match the rest of the sentence or the diary. It is more natural to use 'kite' which is neutral in nuance. It seems that the subject has learned the use of the conjunctive form recently, as it was not used before, and it appeared several times in the same diary entry for different verbs, such as 'ge-mu O shi' [played game and].

1.18. Tense confusion (present/past tense verb, present/present progressive tense verb)

IndB. [ta](be)ta(te) kara 'because [they] ate' ('after [they] ate') (MI2/9)

The particle 'kara' means 'because' after the present or past tense form of a verb, but means 'after', when following the *te*-form. From the context of the sentence, it was meant to be the latter case. The use of the past tense 'tabeta' [ate] instead of the *te*-form 'tabete' could be a result of transference from English, or the lack of knowledge about the use of the *te*-form.

sagasu(shi)ta ('looked for') (KE2/1)

The plain past tense form of the verb 'sagasu' [look for] is 'sagashita'. The use of 'su' in place of 'shi' in the example may be in part due to the lack of clarity in their pronunciation. Since both are devoiced sounds, it could be difficult to distinguish them when sandwiched between voiceless consonants. Also, a lack of knowledge of the conjugation of the plain past form may be a part of the inconsistency.

ComB. *A ga ie ni kimashita(su) ~ totemo tanoshisou(tanoshimi/tanoshiku narisou) desu* 'A came to my house... [it] looks a great fun' ('A is coming to my house...[it] is going to be a great fun') (BE1)

As the subject is talking about the near future, this has to be expressed in the non-past verb form 'kimasu' [is/am/are coming], rather than its past tense form 'kimashita'. It

is uncertain why the past tense was used, but it could be induced by the general habit of writing a diary in past tense. Another confusion is the use of the phrase ‘*tanoshisou*’ [(it) looks/appears fun], which has a present connotation, to express situations of the future events. In this case, ‘*tanoshimi*’ [to look forward] or ‘*tanoshiku narisou*’ [(it) is going to be fun] will better express the future connotation.

No other TRL type 18 was found among the Community bilinguals.

1.19. Lack of directional verbs as auxiliaries

IndB. *tanjoobi no purezento ni yooyoo O katta(katte moratta)* ‘[I] bought a yoyo for my birthday [present]’ (‘[I] had [my mum] buy me a yoyo for my birthday [present]’) (KE2/17)

The giving and receiving of actions are expressed by the *te*-form of the action plus an appropriate directional verb, depending on the status relationship between the ‘giver’ and the ‘receiver’, and the direction of the action. In the example, the past-tense form of the directional verb ‘*morau*’ [receive (literally)] for close or equal relationship should be attached to the *te*-form of the verb ‘*kau*’ [buy], as the subject receives an action (buying a yoyo) from his mother. It is of note that Japanese does not convey causative meaning by this directional verb use.

hon no yomi yatte(hon O yonde) yari(kure)mashita ‘[I] did a book reading for my mother (condescending)’ (‘[my mother] did a book reading for me’) (TE2/31)

The directional verb ‘*kureru*’ [give (literally)] is used to denote others’ actions towards oneself, while ‘*yaru*’ [give/do (literally)] is used to describe one’s actions for others. In the example, the subject of the sentence is his mother, the ‘giver’ of the action. As it is the subject’s mother who performed the action for the subject, and not the other way around, ‘*kuremashita*’ (the polite past-tense form of ‘*kureru*’) should be used in this case, not ‘*yarimashita*’ (the polite past-tense form of ‘*yaru*’). The sentence itself is also unusual, seemingly translated from the English equivalent.

ComB. *sensei ga a(o)hanashi shi(te kure/kudasai)mashita* (‘[my] teacher told [us] a story’) (FI4)

When someone does something for someone else, a directional verb ‘*kureru*’ is generally used. In this case since the teacher’s status is higher, ‘*kudasaru*’ (‘*kudasaimashita*’ in the past-tense form) is appropriate. However, in the language of

children and particularly in context in which the respected person (e.g. teacher) is not present, '*kureru*' ('*kuremashita*' in the past-tense form) is nowadays also regarded as acceptable. Without such directional verbs, the sentence sounds unnatural. Also of note is that it would be difficult to learn the use of directional verbs from a limited linguistic model.

No other TRL type 19 was found among the Community bilinguals.

Morphological + Orthographic + Phonological

1.20. Homophonic confusion

1.20.A. *wa/ha* (pronounced as /*wa*/) confusion

- IndB. へやわ(は) *heya wa(ha)* ('As for the room') (SE2/2)
わたしたちわ(は) *watashi tachi wa(ha)* ('As for us') (SE4/52)
x2

Because the syllable '*wa*' /*wa*/ and the topic marker '*ha*' /*wa*/ are homophones, the use of the topic marker '*wa*' for '*ha*' could occur at an early stage of literacy development in Japanese monolinguals (Akita & Hatano, 1999). Among bilingual subjects in the current study, this tends to be common among certain individuals. The subject who produced the examples above did not cease this habit after almost three years. In all cases, the confusion was in one direction: use of the script '*wa*' instead of '*ha*'.

ComB. No instance of TRL found.

1.20.B. *u/o* confusion

- IndB. こう(お)って *kou(o)tte* ('frozen') (A2), (SE2/6)

The verb '*kooru*' [freeze] is one of the typical words in which '*o*' is likely to be confused with '*u*' in writing. Interestingly, the subjects are siblings and they are making the same TRL.

- きのお(う) *kinoo(u)* ('yesterday') (SE2/1)

This is also due to the sound-script mismatch; it is pronounced as /*o*/, but should be written as '*u*'.

ComB. No instance of TRL found.

1.20.C. *he* (pronounced as /e/)*e* , *ie*, *yui* confusion

IndB. きゅうけえ(い) *kyuukee(i)* ('rest') (RI2/2)

The word is pronounced as /kyuukee/, but the last /e/ has to be written as 'i'.

かへ(え)ってきたら *kahe(e)ttekitara* ('when [I] come back')
(SE2/5)

This example is the confusion of え 'e' with a direction marker へ 'he', which is written with the historical spelling but articulated as /e/. As such, the /e/ sound of the verb 'kaeru' ('kaette' in *te*-form) should be written with 'e' and not 'he'. It is of note that the subject was writing the vowel /e/ in the same verb using い 'i' previously, then with 'he' as in the example. Then, 'e' was used appropriately since, until about two years later the use of 'i' came back again.

ComB. つかまい(え)ました *tsukamai(e)mashita* ('caught') (DA1)

The pronunciation of this verb is /tsukamaemashita/. Although 'i' is uttered as /e/ when it is placed after 'e'/e/ within a word, and homophonic confusion usually occurs in such a case, misusing 'e' instead of 'i', the example is the opposite; 'i' is used in place of 'e'. It could be that the subject learned the verb as 'tsukamairu' (plain non-past form) or 'tsukaimashita' (polite non-past form) in speech, or was confused with the intransitive form 'tsukamarimashita' [be caught], which has a syllable with an 'i' vowel.

— とゆ(い)う大金... *to yu(i)u [taikin]* ('a large sum of money such as...') (TA5)

When 'i' is followed by 'u', it sounds similar to 'yu' /yu/. This occurs only for the verb 'iu' [say], and the example is a result of this sound-script mismatch and the lack of knowledge of written language rules. In fact, 'yuu' was used for the entire use of the verb 'iu' in the same entry.

1.20.D. *o/O* , *ho/O*, *yolo* confusion

IndB. ふやの(ピアノ)お(を)くれました *puyano(piano) o(O)*
kuremashita ('gave me a piano') (SE2/2)

As mentioned in Section 4.2, the direct object marker を 'O' and the vowel お 'o' are both pronounced as /o/. The example would be a result of such homophonic

confusion, but could be possibly related to the difficulty of writing を, compared to お.

トラックのなかほ(を)みたら(ら) *toratsuku /trakku/ no naka*
ho(O) mitara(ra) ('when [I] looked inside the truck') (A2/2)

This is a unique TRL, as it was not found among other bilinguals. The distinction of ほ 'ho' and を 'O' are relatively clear in sound and they are apparently distinct in writing. A possible cause could be the subject's knowledge of Spanish, in which he was immersed until the age of 5. In Spanish, 'ho' and 'o' are homophones, both pronounced as /o/.

ComB. いきよ(お)い *ikiyo(o)i* ('power') (KO-D4)

This was the only instance of Type 1.20D among Community bilinguals. Since 'ikioi' tends to sound like 'ikiyo*i*' in speech, the word may have been learned only from this homophonic speech form.

1.20.E. Voiced sound for *chi/shi* (ち/じ/ji/), *su/tsu* (ず/づ/zu/) confusion

IndB. No instance of TRL found.

ComB. ちかず(づ)いて *chikazu"/zu/(tsu"/zu)ite* ('[it] comes near and')
(KE-D2)

While ず and づ are both articulated as /zu/, they are differentiated according to the word origin, or the nature of each constituent of a compound word. In the case of the verb 'chikazuku' ('chikazuite' in *te*-form), it is a combination of words 'chikaku' and 'tsuku', meaning 'near' and 'stick to', respectively. The change of pronunciation from 'tsuku' to 'zuku' is a result of 'sequential voicing' (*rendaku*) for compound words. Since the original word is つく 'tsuku', づ /zu/, the voiced version of つ /tsu/ should be used.

おこず(づ)かい *oko su"/zu/(tsu"/zu)kai* ('pocket money')
(TA5)

This is also a homophonic confusion of ず and づ. In this case, 'okozukai' is a compound word, consisting of the polite prefix 'o' plus 'ko' [small] and 'tsukai' [expense], whose pronunciation changed to 'zukai' as a result of a phenomenon known as 'sequential voicing' (*rendaku*). Accordingly, づ 'tsu' should be used, as the original word uses つ.

1.21. Other non-standard features

IndB. *aisukuri* — *mu/aisukuriimu/ O tabete iru tokoro(toki) wa omoshirokatta* ‘[it] was fun how [somebody] was eating an ice cream’ (‘[it] was fun when [I]* was eating an ice cream/ eating an ice cream was fun’) (MI2/2) *MI is having an ice cream in this context.

In this sentence, ‘... *tokoro*’ [the situation of...] is used instead of the conjunction ‘... *toki*’ [when...]. This could have resulted from the application of the present progressive phrase that consists of the *te*-form of the verb plus ‘*iru tokoro*’, as in ‘*tabete iru tokoro*’ [be in the process of eating]. Although the phrase is appropriate to describe the state of progressive actions regarding self or others in a simple sentence, it is unnatural to use it as a clause to express one’s emotions or situations; instead, ‘... *toki*’ as a conjunction is more appropriate in such cases. In English, the present progressive can be used to talk about oneself or others. Therefore, the example could be a transfer from the present progressive use of English, as in ‘Eating an ice cream was fun’.

me O shimete(tsumutte/tsubutte/tojite) (‘with my eyes closed’)
(RI2/9)

The transitive form of the verb ‘*shimeru*’ (‘*shimete*’ in *te*-form) denotes the action of closing something that is one-sided, generally from one side, or by squeezing with a string. This is not the case for eyes, which have both ends that close from both sides (to some extent) and join together when closed. Such a closing motion is described with ‘*tojiru*’ (‘*tojite*’ in *te*-form), and there is also a specific verb for closing eyes: ‘*tsumuru*’ (‘*tsumutte*’ in *te*-form) or ‘*tsuburu*’ (‘*tsubutte*’ in *te*-form). These distinctions do not exist in English, so there is no exact translation equivalent for the nuance of each verb.

ComB. *K ga, kakurete iru no O mitsukatte(kete)* (‘when K found [H] hiding’) (TA2)

As mentioned in TRL type 17 description, ‘*mitsukaru*’ [be found] (‘*mitsukatte*’ in *te*-form) is an intransitive verb that does not require a direct object, unlike the transitive verb ‘*mitsukeru*’ [find] (‘*mitsukete*’ in *te*-form). As ‘K’ is the ‘doer’ of the action, and not the direct object, the *te*-form of the transitive verb ‘*mitsukete*’ should be used in this case.

saisho ni mita koto ha densha O mimashita (saisho ni mita no/mono ha densha desu/saisho ni densha O mimashita) 'the first thing [we] saw is [we] saw a train' ('the first thing we saw is a train'/'first, we saw a train') (SHO3)

There are two kinds of idiosyncrasy in this sentence: redundancy of the verb, and the use of '*koto*' that differs in nuance from the intended meaning. First, the past-tense form of the verb '*miru*' [to see/look at] is used twice in its plain form and polite form. The plain form '*mita*' is used as a part of a clause, '*saisho ni mita koto*' [the first thing [we] saw], which should be followed by a noun/noun phrase plus a be-verb. Instead, another sentence with the verb '*miru*' comes after, in its polite past-tense form. If this is supposed to be the main sentence, it does not need a clause; it just requires the adverbial '*saisho ni*' [first]. In either case, the verb needs to be used only once. Second, the word '*koto*' does not exactly suit the context of the sentence, as it denotes 'event' or 'matter' with a theme, not just an 'item' or 'object', which is expressed by '*mono*'. The word '*koto*' is more abstract than '*mono*', frequently used as a nominalizer, whereas '*mono*' is used for concrete things. Accordingly, '*mono*' or the pronominal copula '*no*' is more appropriate to the context. It is of note that the different nuances of '*koto*' and '*mono*' are both included in the English word 'thing'. Also, the nominalization of a verb by modifying it to a past tense form and adding '*koto*' is commonly used in essays and composition writing styles. Thus, the TRL example could have been the result of either transference or overgeneralization of writing style, or both.

4.3.1.2 Language Acquisition Analysis

Language transfer (Phonological+Orthographical+Morphological+Syntactic)

2.1. Transference from English

IndB. *watashi ha kuru(iku) to omou to iimashita* ('I said, [I] think [I] will come') (SE2/1)

The verb '*iku*' [go] and '*kuru*' [come] do not exactly correspond to the English translation equivalents. When the subject of a sentence (the speaker or others) is moving from his/her position to a target point in reality or viewpoint, '*iku*' is used. While, '*kuru*' describes the situation in which the subject approaches where the

speaker is, or where the speaker's viewpoint stands. The example is the answer to an invitation of the subject's friend to come to her house. The subject, or the speaker is thus thinking of moving from her house to her friend's house, which is the target point. In such a case, 'iku' is suitable, not 'kuru'.

ei(ga) he ikimashita to(soshite) maikuru O mimashita ('we went to the movie and saw Michael') (TE2/24)

The conjunction 'to' [and] is used only to connect nouns, so it cannot be used to combine sentences, unlike its English equivalent 'and'. It seems the example sentence is influenced by its English counterpart to some extent, particularly in the equating of the conjunction 'to' with the use of 'and' in English.

ComB. *ishou(ni) A to B to C to D de ikimashita* (A to B to C to D to *issho ni ikimashita*) ('[I] went together with A, B, C, and D') (MI-D3)

In this sentence, the part before the verb 'ikimashita' [went] seems to be syntactically influenced from English. The phrase 'together with...' is expressed as '...to issho ni' in Japanese, in which 'to' is 'with' and 'issho' or 'issho ni' is 'together' literally. The order of each word is reversed when it is in Japanese. However, this is not so in the above example; 'issho' is before 'to' as in the English equivalent, though the nouns are in front of 'to'. Also, 'ni' that should follow 'issho' to make it adverbial, is omitted, leaving the sentence fragmentary.

go pointo totte tanoshi(ureshi)katta ('[I] was happy scoring 5 points') (FI4)

Although 'happy' in English stands for both 'enjoy oneself' and 'pleased', the two nuances are described differently in Japanese; 'tanoshii' represents enjoyable or fun, while 'ureshii' means pleased and delighted. For this reason, 'ureshii' is more appropriate than 'tanoshii' in the context of the above sentence.

2.2. Direct translation from English

IndB. *boku no umu(chiimu) ni(de) hidari no ushiro ni asonderu(hidari no kouei/hidari no bakku/hidari ushiro no mamori O shiteiru)* ('I play left back in my team') (KE2/35)

While there are several idiosyncrasies in this sentence, the part that is most likely influenced by English is the last part, 'hidari no ushiro ni asonderu'. It seems this is a

word-by-word translation of an English equivalent, '[I] am playing left back', though the word order is that of Japanese. The word 'left back' is a position name in soccer, but its literal translation '*hidari no ushiro*' is not; it just means the direction. The proper word of corresponding meaning would be '*hidari no kouei/bakku*' or '*hidari ushiro no mamori*'. The verb 'asobu' ('asonderu' in the plain present progressive form) [amuse oneself/have fun] does not function in the same way as the English verb 'to play', though it shares some of its meaning. In order to express the intended meaning, it is the verb '*suru*' [do/perform] ('*shiteiru*' in the plain present progressive form) that suits the context, not '*asonderu*'. It is of interest that most bilinguals equate '*asobu*' with 'play', which has many functions and meanings.

*san nin(biki) kara(no uchi) futari(ni-hiki) dake, mada
ikiteru(ikinokotte iru/ru)* ('only two out of three [puppy dogs]
have been still alive') (YU4/50)

There are several interesting overgeneralizations and examples of transference in this sentence. Firstly, the subject is talking about puppy dogs, so the counters for four-legged animals (*piki/hiki/biki*) should be used, not as in the case here, the counter for people. Secondly, the use of '*kara*' as 'out of' in the sense of 'two out of three' seems to be an overgeneralization of the '*kara*' and 'out of' correspondence in meaning, as in 'the cat out of the bag'. As '*kara*' shares only this meaning with 'out of', it cannot be generalized to assume the other meanings of 'out of'. In the context of 'two out of three', the word '*no uchi*' [among] expresses the same meaning. Lastly, the final part of the sentence, '*mada ikiteru*' appears to be a direct translation of 'still alive'. This phrase is not overtly idiosyncratic, but not truly idiomatic. It sounds more natural to write '*ikinokotte iru/ru*' in this case.

ComB. *konbikuto(zainin)* ('convict') (AK4)
bomusukea(bakudan O tsukatta kyohaku) ('bomb scare') (KO-
D6)

Although some English words have been adapted to Japanese as loanwords, and Japanese people overseas may use more loanwords than those in Japan, it is not the case with the word 'convict' or 'bomb scare'. These are not used as common words in Japanese communities in Australia. As such, their translation equivalents in Japanese should be used. Among the Community bilinguals, direct translation is mainly at the lexical level, in a structurally Japanese sentence.

4.3.1 Developmental and transference aspects of TRL

In order to see whether the various types of translanguage described in the previous section could be categorized as either developmental or transference types, the TRL data of the bilingual population were compared with those of the monolingual population. The main control group is the monolinguals without contact, and the data on the monolinguals with contact were examined for the possible effects of contact. This was based on the supposition that the monolinguals in Japan would only produce developmental idiosyncrasies, as they have no contact with English in their daily lives, excepting the English loanwords adapted to Japanese pronunciation and grammatical rules. On the other hand, it is predicted that if Contact monolinguals show some different pattern of non-standard features from that of Non-contact monolinguals, this could be considered to be the result of contact. Accordingly, the data on each monolingual population were investigated for any TRL features that are not shared by bilinguals. The data used are those of the Translanguage Analysis and the Interview Test, collected from 261 monolinguals without contact and 65 monolinguals with contact. In this section, TRL types that are non-existent in monolingual L1 development from the age of 6 are identified first for both groups of monolinguals, followed by a discussion of similarities and differences between the two groups, and a further analysis as to the nature of these TRL types. TRL types produced by non-contact monolinguals were compared with those of bilinguals, in order to identify unshared TRL categories. The result of this analysis is summarized in the Table 4.4.

Table 4.4 TRL types not found in Non-contact monolinguals

Orthographic
1.07. Use of large letters instead of small letters
Grammatical + Morphological
1.10. <i>de</i> (location of action, means)/ <i>ni</i> (location of existence, indirect object) and <i>O</i> (direct object) confusion; treatment of an indirect object as a direct object, or vice versa
1.11. Use of the possessive marker <i>no</i> instead of the direct object marker <i>O</i>
1.12. <i>de</i> (means: with, <i>te</i> -form of the copula), <i>O</i> (direct object) and <i>to</i> (together with)/ <i>kara</i> (from) confusion
1.13. Subject marker <i>ga</i> /sentence topic marker <i>ha</i> pronounced as <i>/wa</i> /confusion
1.16. <i>ni</i> (1. location or target toward which the action or motion progresses: to; 2. location in/at which something exists, resides, etc.; 3. time: at, on, in, etc.) and <i>de</i> (1. location in/at which the action occurs or is done; 2. means) confusion
1.19. Lack of directional verbs as auxiliaries
Language transfer (Phonological+Orthographical+Morphological+Syntactic)
2.1. Transference from English
2.2. Direct translation from English

The findings show that most of the TRL types are developmental in nature, shared by both monolinguals and bilinguals. This is especially evident for phonological and orthographic TRL categories, and their combination with morphological elements. The difficulties of orthography and homophonic differentiation are common to both populations as expected. Similarly, the non-existence of transference from English is a predicted result, but it supports the authenticity of this population as truly monolingual. In comparison, the monolinguals with contact showed a somewhat different sharing pattern of TRL categories with bilinguals, compared to the non-contact monolinguals. This is shown in Table 4.5.

Table 4.5 TRL types not found in Contact monolinguals

<i>Grammatical + Morphological</i>
1.10. <i>de</i> (location of action, means)/ <i>ni</i> (location of existence, indirect object) and <i>O</i> (direct object) confusion; treatment of an indirect object as a direct object, or vice versa
1.11. Use of the possessive marker <i>no</i> instead of the direct object marker <i>O</i>
1.12. <i>de</i> (means: with, <i>te</i> -form of the copula), <i>O</i> (direct object) and <i>to</i> (together with)/ <i>kara</i> (from) confusion
1.19. Lack of directional verbs as auxiliaries

Unlike non-contact monolinguals, Contact monolinguals revealed TRL uses that are of the transference type (TRL types 2.1 and 2.2). A further analysis showed that these were found among those who spent more than a year and a half in Australia or other English speaking countries. There were 3 cases in the Translanguage Analysis (7.3 per cent), and 4 cases in the Interview Test (16.7 per cent), and they were all at the lexical level. Although the incidence of transference was low, it still provides evidence of the effects of contact, and the transference nature of these TRL types.

Another difference among Contact monolinguals is the presence of the orthographic TRL type 1.07 and Type 1.16 in the 'grammatical and morphological' category. Type 1.07 is the inaccurate description of palatalized consonants, or the combination of palatalized consonants and a long vowel. This was found only in one subject in grade 1, who had written the syllable /kyô/ three times without using a small letter. While this TRL type was not found among monolinguals without contact, it is more likely a developmental idiosyncrasy, rather than transference. This is because studies of pre-school monolingual Japanese children (ages 4 to 6) suggest the difficulty of learning such special syllables, especially the combined sequence of palatalized consonants and a long vowel (Akita & Hatano, 1999). However, it is

reported that the reading and writing of special syllables are taught during the first term of grade 1, and that most first graders master the reading of them (Akita & Hatano, 1999), and acquisition of *kana* orthography is completed 'in the lower grades of elementary school at the latest' (Hatano, 1995: 252-53). Lack of research on the acquisition of *kana* writing in school children in Japan may be due to the fact that it is easily mastered and its entire acquisition by pre-school children is not extraordinary (Hatano, 1995). Yet, it is claimed that a mastery of literacy in special syllables requires enhanced phonological awareness that develops interdependently from the ability to read *kana* (Akita & Hatano, 1999). As such, Type 1.07 in Contact monolinguals could be developmental, rather than transfer features. It could be in part due to the lack of socio-cultural support necessary for acquisition of literacy (Akita & Hatano, 1999), as a consequence of living outside Japan.

As for the TRL type 1.16, confusion of the location/means markers, absence of this TRL type among monolinguals without contact proves that it is not developmental. Also, such confusion is not reported in Ito's (1996) study on Japanese monolinguals' language acquisition in early childhood. Furthermore, although Contact monolinguals showed type 1.16 TRL, it is of note that it was merely a single instance found in the analysis of essay writing. There is also a possibility that this incidence was a 'slip' (see Chapter 3, P. 86), rather than a systematic feature for the following reasons. Firstly, '*ni*' and '*de*' are used properly elsewhere in the same entry. Secondly, further analysis revealed that as the informant was illustrating examples of recycling activities that also exist at school, this connotation of 'existence' might have led to the use of '*ni*', the location marker for existence, in place of the marker '*de*' for the location of action—thus, the phrase '*gakkou ni mo*' [also at school, we have...], instead of '*gakkou de mo*' [also at school, we do...] Lastly, there was no instance of this TRL type in the Interview Test in which Type 1.16 was specifically tested. This shows that even among Contact monolinguals, the type 1.16 rarely occurs. Therefore, there is a clear indication that 1.16 is not developmental, but is the result of transference.

In general, except for the existence of TRL transference, there are more similarities than differences between the two monolingual groups. Neither group produced TRL types 1.10, 1.11, 1.12, and 1.19. In addition, there was only a single case of TRL types 1.13 and 1.16, which were not found at all among non-contact monolinguals. These all belong to the 'grammatical and morphological' category, and

a further assessment of these TRL types reveals that the aspects that are soundly established in monolingual L1 development are the distinctions of particles that are dissimilar in meaning and function. In turn, this could indicate the difficulty of learning the use and function of particles and markers on the part of bilinguals. The fact that there are no exact translation equivalents in English for these grammatical markers may contribute to such difficulty of acquisition. As the types 1.10, 1.11, 1.12 and 1.19 do not occur in either monolingual groups, and 1.16 is absent in non-contact monolinguals, the results suggest that these TRL types resulted from transference.

With regard to Type 1.13, the confusion of the topic marker '*ha*' and the subject marker '*ga*', this was found to be a developmental inconsistency in early childhood; Ito's (1996) study on monolingual Japanese children reports the same non-standard use during the acquisition process. However, it seems uncommon to produce this type of confusion after entry to school, according to the current study. The delay and difficulty of mastering the use of the two markers in bilinguals could be partly due to the lack of use of, and experience with, these markers, but partly due to the lack of English equivalents for the two markers. In fact, the use of '*ha*' and '*ga*' is not specifically or systematically taught in Japanese schools (Yoshikawa, 1997), but generally learned through experience and use. The same is true for other TRL types that did not occur in non-contact monolinguals' writing, except for Type 1.07. Accordingly, there is an implication that TRL types such as 1.10, 1.11, 1.12, 1.13, 1.16, and 1.19, which do not occur in writing by Non-contact monolinguals, and which are soundly established aspects that do not require systematic teaching, are not developmental; rather, they are a consequence of transference.

In summary, the aspects of TRL that are shared by both monolingual and bilingual population outnumber unshared ones. Those that are most likely the result of transference are Types 1.10, 1.11, 1.12, 1.13, 1.16, and 1.19, under 'grammatical and morphological' category, and clearly 2.1 and 2.2 in the 'language transfer' category. On the other hand, variance between the two monolingual groups is small, with the exception of a few transference features. These results show that the developmental patterns of bilinguals and monolinguals show many similarities, but differ in some. Also revealed is that the influence of contact on monolinguals is mainly found in transference at the lexical level transference, and their Japanese development is generally similar to monolinguals in Japan. The question of whether the occurrence of transference in Contact monolinguals is statistically significant will be examined in

Section 6.2.3. Similarly, detailed comparisons of each TRL type occurrence between the two populations, and subgroups of each, will be made in Chapter 6, statistically and descriptively. In the following section, the interlanguage (IL) of native English-speakers learning Japanese as a foreign language will be compared with L1 and TRL of monolinguals and bilinguals, respectively. This is to investigate the transference nature of the TRL types found in a comparison between monolinguals' L1 and bilinguals' TRL in this section.

4.3.2 Comparison between TRL, L1, and IL

As discussed in the previous section, the comparison of non-standard features in monolinguals' L1 and bilinguals' TRL writing revealed unshared aspects between the two populations. Although these unshared features are most likely the result of transference, they could be developmental features unique to bilinguals, as the result of acquiring Japanese with limited use and support. To clarify the nature of these TRL types, native-English speakers' Japanese as an IL was analyzed for comparison. It is possible that if the same non-developmental TRL types occur in IL, this would suggest that these TRL forms are the result of transference from English, as it proves their consistency despite the difference in background, excepting the stronger command of English. Furthermore, other studies of native English speakers' IL Japanese were consulted for comparison, to validate the possibility of generalizing the results.

The results of analysis revealed the occurrence of the same non-developmental TRL types in IL data. Moreover, all developmental TRL categories excepting 1.07, 1.20B, 1.20D, and 1.20E, were equally found in the data. For the non-developmental TRL, correspondence was found for all except one: Type 1.19. The reason why TRL type 1.19 did not occur is simply because there was no sentence that required directional verbs as auxiliaries in the original material for translation. However, there is a study on IL Japanese use by native English speakers, reporting the same idiosyncratic character as TRL type 1.19. Mizutani (1994, 1997) reports that the non-use of directional verbs as auxiliaries is more common than the misuse of inappropriate directional verbs among this population. This is consistent with the case of bilinguals in the current study. In order to understand their difficulty in mastering this grammatical structure, one needs to consider the fact that the conceptual context

of this speech style is very different from that of English. That is, it requires describing action from the viewpoint of a speaker, not of a 'doer' of the action, which contradicts the logic of the English speech pattern. To be more specific, others' action has to be expressed as 'the speaker receiving the action'. For this reason, there is a strong case that Type 1.19 is caused by transference. Other focal TRL types, 1.10, 1.11, 1.12, 1.13, 1.16, 2.1 and 2.2, were all observed in IL writing.

The following is a typical example of these TRL types that emerged from the data, which is accompanied by the discussion on each. Conventions for the IL data description are the same as those used in the Translanguage Analysis in Section 4.3.1.

1.10

1. *inaka ni(O) ryokou suru* ('travel around the countryside')
2. *daigaku de(O) dete kara* ('after graduating from university')

For the TRL type 1.10, both types of confusion were detected; that is, substitution of the particle 'de' with 'O', and 'ni' with 'O', respectively. Both cases are also reported in Mizutani's (1994) study. Interestingly, 4 subjects misused the particle in exactly the same way as the first case. It is very likely that 'ni' is used as an equivalent of 'around'. There could be more of such case if everyone used the same verb 'ryokou suru' [travel], but many used the verb for 'go' instead, to substitute the term. The second case may be due to the uncertainty of translation equivalent for 'from' and the use of appropriate particles and markers.

1.11

1. *chuugoku(go) no(O) shidonie(shidoni—) dae(i)gaku O(de) benkyou shimasu(shite imasu)* ('[I] am studying Chinese')

Only a single instance of the TRL type 1.11 was found. It seems this is not very common among students with higher proficiency. In fact, this TRL type was also uncommon among bilinguals, which was found in only two subjects. The subject who made this TRL type was able to write only one sentence, while most subjects wrote around 9 to 10 relatively complex sentences. The subject used 'no' instead of 'O' as in the example, and this could be resulted from lack of knowledge about the use of particles. Instead of the direct object marker 'O', the possessive marker 'no' is used, while 'O' is substituted for the location marker 'de'. In general, studies on IL Japanese use by native English speakers report that this type of non-standard use occur when nasal coda 'n' comes directly before the object marker 'O'. Hongô (1994)

and Ikeda (1997) attribute this to phonological difference between Japanese 'n' and English 'n'. They state that since 'n' is pronounced in the same way as English 'n', it tends to be mixed with the vowel /o/, resulting in the sound /no/ that sounds similar to the possessive marker 'no'. The present study found that this is not a single situation that produces 'no' use in place of 'O'. Moreover, such varied non-standard use was observed both in bilinguals' TRL and monolingual English speakers' IL.

1.12

1. [*daigaku*] *kara*(*O*) *sotsugyou shite kara* ('after graduating from university')

TRL type 1.12 was identified for one combination in two cases; the use of 'kara' [from] instead of the direct object marker 'O', as shown above. The other grouping, the use of the location or means marker 'de' [in/at, with] in place of 'to' [with] or 'kara' was not observed, due to the fact that the original material for translation did not have the structure including 'with'. Mizutani (1994) and Yoshikawa (1997) report the first case, but it seems the second case is not common, as it is reported by neither of them. It could be that the confusion of 'de' and 'to' is less likely in the case of foreign/second language learning, as their difference is taught specifically.

1.13

1. [*watashi*] *ga*(*ha*) [*hana*]*su no ha* [*yomu*] (*no*) *yoru muzukashii* ('As for me, speaking is more difficult than reading')

TRL type 1.13, the confusion of 'ha' and 'ga', was found in seven cases in total. It seems this is relatively common among IL speakers. Lack of exact cross-lingual equivalents could be a source of difficulty in mastering the use of each marker. It is of interest that this problem is not limited to English-speaking learners, but is common to many Japanese learners of various backgrounds (Yoshikawa, 1997). In fact, TRL type 1.13 was also observed among East and South-East Asian background students who did the same essay translation task as the focal native English speakers. Yoshikawa (1997) states that such similarity of problem areas as the 'ha' and 'ga' distinction is because of the dissimilarity of Japanese from any of the other native languages of learners. This certainly includes English.

1.16

1. [*chuugoku*] *ni(de)* *tomodachi O takusan* *suru(tsukuru)* ('make lots of friends in China')

Type 1.16 was found in abundance, as most subjects used the location marker in the sentence. They were mainly the non-standard use of '*ni*' instead of '*de*'. Since '*ni*' is for the place of existence and '*de*' is for the location in which an action occurs, they have to be differentiated. It is apparent that this distinction, which is conceptually absent in English, is not easy to acquire for learners of Japanese as a foreign language; the same type of TRL as in the example was observed in 8 subjects. That is, they all made the identical non-standard use of location markers in translating the same sentence. Moreover, this type of confusion was present in other parts where the location markers are required. Such abundance of TRL type 1.16 is similar to bilinguals' TRL, confirming that this TRL type is transference.

2.1

1. [*watashi*] *no* [*chuu*]*kotoba(goku go)* *ha* [*jouzu*] (*ni*) *naru hazu desu(yoku naru/joutatsu suru deshou/to omoimasu)* ('my Chinese would get better')
2. [*watashi*] *ha owarimasu* [*daigaku*] *kara(daigaku O sotsugyou shite)* ('... I graduate from university')
3. *mae ni kaerimasu(kaeru mae ni)* ('before going back')

There are various kinds of transference features. The ones described above are some of the most common types observed in the IL data. In the first case, it seems '*hazu*' [should, must be, be supposed to] was used in the sense that, in English, its literal translation 'should' is sometimes a synonym of 'would'. However, it is not exactly the same in the degree of certainty for future prediction. This covertly idiosyncratic structure was found in 4 cases. Hongô (1994) also reports a similar type of non-standard use with '*hazu*'. The second type of transference was made by 2 subjects. The transference is at the structural level. It is translated word-by-word, though 'graduate' is mistranslated: '*watashi ha*' [I] '*owarimasu*' [graduate] *daigaku kara* [from university]. The third case is also structural; it is translated literally in the same order as in English. This was found in 4 cases. It appears that IL Japanese has more syntactic transference than TRL Japanese.

2.2

1. kontorisai—do(*inaka*) ('countryside')
2. guratsu"eto/gurazueto/(sotsugyou) ('graduate')
3. sin—puru(*kantan na*) [*hon*] ('a simple book')

The instances of TRL type 2.2, direct translation from English, were identified all at a lexical level. They are mainly nouns written in *katakana* as if they were used as loan words. It is most likely that they were described in such ways, so that they would compensate for a lack of vocabulary. Direct translation of the words 'countryside' and 'graduate' was found in two cases respectively, and only in one case for 'simple'. While an attempt was made to express the English words like those of Japanese, this seems to be a difficult task for native English speakers. This is consistent with an example of writing shown in Mizutani's study (1994). On the other hand, it is reported that *katakana* transcription of loanwords is generally problematic in IL Japanese, regardless of the learners' native language (Yoshikawa, 1997).

In summary, the results of analysis revealed that IL of native-English speakers shares all TRL types that were unshared between bilinguals' TRL and Non-contact monolinguals' L1. These TRL types have also been observed in other IL Japanese studies, testifying that they are not limited to the current investigation. This shows that these TRL categories are of the transference type, that is, due to cross-linguistic influence between Japanese and English. Moreover, the occurrence of many developmental TRL types in IL illustrates that they are shared between TRL, L1, and IL. Non-occurrence of developmental TRL types 1.5, 1.07, 1.20B, 1.20D, and 1.20E, in IL data could be related to age factors, such as the degree of cognitive development. This is because they are uncommon in older monolingual Japanese children in general, and those of the current study (see Section 6.2.3.1.3). This would be fairly reasonable, considering the fact that Type 1.07 is related to the degree of phonological awareness as mentioned earlier, and the rest is homophonic confusion in *kana*. Hence, there are sufficient indications that TRL, L1, and IL are to some extent similar in their developmental characteristics, while TRL and IL have comparable transference features. Table 4.6 summarizes the comparisons of TRL, L1, and IL. Where TRL types appear, columns for each group are shown in shading. Note that L1 features include only those of Non-contact monolinguals.

Table 4.6 Comparisons of TRL, L1, and IL

	TRL	L1	IL
Phonological			
1.01. Lack/non-standard use of a voiced sound marker			
1.02. Lack/non-standard use of the small <i>tsu</i> for a geminate obstruent consonant			
Phonological + Orthographic			
1.03. <i>kana</i> non-standard spelling			
1.03a. <i>kanji</i> non-standard spelling			
1.04. Lack of one syllable			
Orthographic			
1.05. <i>katakana</i> and <i>hiragana</i> mixing			
1.06. <i>hiragana</i> non-standard spelling after <i>kanji</i> (<i>okurigana</i>)			
1.07. Use of large letter instead of small letter			
Grammatical + Morphological			
1.08. Conjunctions			
1.09. Lack/non-standard use of the topic marker <i>ha</i> /the subject marker <i>ga</i>			
1.10. <i>de</i> (location of action, means) / <i>ni</i> (location of existence, indirect object) and <i>O</i> (direct object) confusion			
1.11. Use of the possessive marker <i>no</i> instead of the direct object marker <i>O</i>			
1.12. <i>de</i> (means: with, <i>te</i> -form of the copula)/ <i>O</i> (direct object) and <i>to</i> (together with)/ <i>kara</i> (from) confusion			
1.13. Subject marker <i>ga</i> /sentence topic marker <i>ha</i> confusion			
1.14. Adjective/ <i>na</i> -adjective confusion, adjective inflection			
1.15. Counters			
1.16. <i>ni</i> (1. location of existence; 2. time) and <i>de</i> (1. location of action; 2. means) confusion			
1.17. Verbal inflection			
1.18. Tense confusion			
1.19. Lack of directional verbs as auxiliaries			
Morphological +Orthographic+ Phonological			
1.20. Homophonic confusion			
A. <i>wa/ha</i> (pronounced as / <i>wa/</i>) confusion			
B. <i>w/o</i> confusion			
C. <i>he</i> (pronounced as / <i>e/</i>) <i>e, i/e, yu/i</i> confusion			
D. <i>o/O, ho/O, yo/o</i> confusion			
E. Voiced sound for <i>chi/shi, su/tsu</i> confusion			
1.21. Other non-standard features			
Language transfer			
2.1. Transference from English			
2.2. Direct translation from English			

The comparison of these three groups also provided further insights into the nature of TRL. While IL shares transference characteristic of TRL, it has its own features not observed in TRL. These are mostly in syntax and wording, which make interpretation difficult. Although IL has generally more formal register use than TRL, it has more unnatural use of words compared to TRL. In this sense, bilinguals' TRL is superior to foreign language learners' IL in terms of communicative ability in everyday register. Such a difference would be closely related to each group's language model and use; IL use is usually limited to classroom practices that involve formal language, while TRL is mostly based on a colloquial language model, which is the main register used. Compared to IL, TRL is much closer to monolinguals' L1 Japanese, especially in the early stages of development, and it is more systematic. Lack of literacy practices, especially in writing, would be a likely cause for this delay in the developmental aspects of language. As for transference, it is worthy of note that many cases of the transference examples in the 'grammatical and morphological' category are in the use of particles. This cannot be explained simply by a lack of literacy training; rather, it could be related to the abbreviation of particle use in colloquial Japanese, compared to its formal or written form. The resulting shortage of particle use in bilinguals' language activity would mean that particles are difficult to acquire, unless supplemented by formal speech and literacy activities that involve the formal/academic register. The same could be true with other transference TRL types; their use could be limited to everyday conversation. However, in order to confirm these suppositions, it is necessary to investigate whether these features of TRL are due to the difficulty of mastering them, or merely the problem of writing them. This could be resolved by analyzing the correspondence of spoken and written language. For this reason, the connection between oracy and literacy of bilinguals was examined, and this will be dealt with in the following section.

4.3.3 The relationship between oracy and literacy

In order to investigate whether TRL features exist in both spoken and written modes, the focal subjects of the present study, Individual bilinguals, were assessed for *oral and written TRL correspondence* in the Interview Test. This analysis was done to check that transference is not due to the problem of writing, but of acquisition, together with the possibility of each TRL type to occur in oral mode. TRL types that

surface only in orthography are excluded from this comparison. Assumptions regarding the potential areas of correspondence between oral and written TRL forms are set out in Table 4.7.

Table 4.7

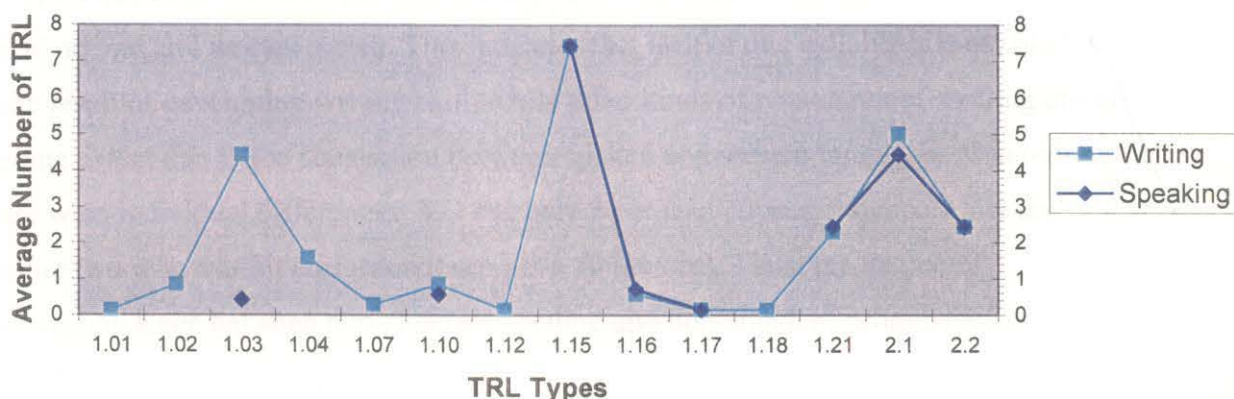
Potential TRL types with oral & written correspondence elicited in the Interview Test

1. Grammatical Analysis
Phonological
1.01. Lack/non-standard use of a voiced sound marker
1.02. Lack/non-standard use of the small <i>tsu</i> for a geminate obstruent consonant
Phonological + Orthographic
1.03. <i>kana</i> non-standard spelling
1.04. Lack of one <i>kana</i> syllable (non-standard spelling)
Grammatical + Morphological
1.09. Lack/non-standard use of the topic marker <i>ha</i> /the subject marker <i>ga</i>
1.10. <i>de</i> (location of action, means)/ <i>ni</i> (location of existence, indirect object) and <i>O</i> (direct object) confusion: treatment of an indirect object as a direct object, or vice versa; treatment of an intransitive verb as a transitive verb
1.11. Use of the possessive marker <i>no</i> instead of the direct object marker <i>O</i>
1.12. <i>de</i> (means: with, <i>te</i> -form of the copula)/ <i>O</i> (direct object) and <i>to</i> (together with)/ <i>kara</i> (from) confusion
1.14. Adjective/ <i>na</i> -adjective confusion, adjective inflection
1.15. Counters
1.16. <i>ni</i> (1. location or target toward which the action or motion progresses: to; 2. location in/at which something exists, resides, etc.; 3. time: at, on, in, etc.) and <i>de</i> (1. location in/at which the action occurs or is done; 2. means) confusion
1.17. Verbal inflection
1.18. Tense confusion (present/past tense verb, present/present progressive tense verb)
1.21. Other non-standard features
2. Language Acquisition Analysis
Language transfer (Phonological+Orthographic+Morphological+Syntactic)
2.1. Transference from English
2.2. Direct translation from English

* TRL types in shading are not intended for elicitation but they could occur in the responses of a few subjects.

While it was assumed that TRL types mentioned in Table 4.6 might occur in both oracy and literacy, the result of analysis revealed that not all occur in both modes. This is illustrated in Figure 4.4, which shows the degree of correspondence in the group's average number of TRL type occurrence in writing and speaking.

Figure 4.4 Oral & Written TRL Correspondence



For further details of correspondence patterns, Table 4.8 presents *oral and written TRL correspondence rate* per subject and TRL type, and total average for each TRL type that shows a general group trend. *Oral and written TRL correspondence rate* was calculated for each subject and TRL type, by dividing the number of TRL types in speaking by the number of TRL types in writing. As explained in 3.5.1.2 in the previous chapter, this is the ratio of oral TRL to written TRL in a strict sense. Accordingly, when the rate is higher than 1, it indicates TRL occurrence more in oracy than in literacy. This method was used to clarify the nature of each TRL type; if the ratio of oral TRL were high, it would be the result of problems in acquisition, while a low ratio would suggest an orthographic cause.

Table 4.8 Oral & Written TRL Correspondence Rate Among Individual Bilinguals

TRL types	Subjects							Total.Av.
	FU	KO	MI	RI	SE	TE	YU	
1.01	N/A	N/A	N/A	N/A	N/A	N/A	0	0
1.02	0	0	N/A	N/A	N/A	N/A	N/A	0
1.03	0	0.08	0.5	0	0.5	0	0	0.15
1.04	N/A	0	N/A	0	N/A	0	0	0
1.10	0	1	1	N/A	1	1	0	0.67
1.12	N/A	0	N/A	N/A	N/A	N/A	N/A	0
1.15	1	1	1	1	1	1	1	1
1.16	0.5	N/A	1	2	N/A	0	N/A	0.88
1.17	N/A	1	N/A	N/A	N/A	N/A	N/A	1
1.18	N/A	N/A	N/A	0	N/A	N/A	N/A	0
1.21	1.25	1	1	N/A	1.33	0.86	N/A	1.36
2.1	0.5	0.67	1.25	0.83	0.8	1.14	0.8	0.86
2.2	1	1	1	1	1	0.67	1	0.95

*N/A: absence of TRL features in either mode; 0: TRL features in speech or written mode, but no correspondence between the two; Total.Av.: the total average for each TRL type

It is clear from Figure 4.4 and Table 4.8 that there is no correspondence for 'phonological' TRL types 1.01 and 1.02. This suggests that they occur due to problems in orthographic ability. As for the 'phonological and orthographic' TRL Type 1.03, there was a 15 per cent correspondence, while 1.4 in the same category had no oral and written match. This indicates that lack of one syllable is most likely the result of developing writing skill, while other kinds of non-standard spelling are to some extent due to the connection between spoken and written language. Also to note are wide individual differences; KO has only 8 per cent correspondence while the other two who exhibit correspondence have 50 per cent. Thus, the degree of correspondence between non-standard spelling and non-standard pronunciation

depends on individuals. It also provides some support for the notion that when language is learned mainly through speech, this can lead to inaccurate knowledge of some aspects of vocabulary and its orthography. On the other hand, it is worth mentioning that contrary to expectation no oral and written TRL match was found for the 'orthographic' group. This confirms the truly orthographic nature of this category; that is, the problems are in writing, not in general language acquisition.

In the 'grammatical and morphological' category, there are developmental and transference features, as discussed in the previous section. Of these, the transference types that emerged in the Interview Test are 1.10 and 1.12, 1.16, while the developmental ones are 1.15, 1.17, and 1.18. The results reveal different general patterns of oral and written TRL correspondence for each TRL type. The developmental TRL group showed generally high oral and written TRL correspondence, in contrast to transference features that generally had a large individual variance for the correspondence, from 100 per cent to 0 per cent in many cases.

Of the transference group, Type 1.10, confusion of particles *de/ni* and the direct object marker *O*, had a 67 per cent match on average. However, whether there is a match at all depends on individuals; FU and YU had no TRL in speech, whilst KO, MI, SE, and TE, all showed 100 per cent correspondence of spoken and written TRL. It seems this difference is related to the subjects' proficiency; FU and YU scored the highest and the second highest in the Interview Test, respectively. The fact that TRL in speech and writing fully correspond indicates that this aspect is not mastered sufficiently in both modes.

TRL type 1.12, confusion of the means marker and other markers, occurred only in writing of one subject, KO. This was rather surprising, as the subject did not produce this TRL previously in the Translanguage Analysis, while the other 5 subjects did. The data that shows previous absence of Type 1.12 in KO, however, is only until grade 4, as he submitted no diary in grade 4. Thus, it could be that KO has developed Type 1.12 features during the grade 4 period. KO's lack of particle use in speech could be interpreted as avoidance, as its use is optional, unlike in the written form. Further investigation of individual answers found that non-occurrence of Type 1.12 in other subjects could be accounted for by the lack of the means marker in their responses. As this was a picture description task, it was possible to do the task in different ways; only FU and KO described the picture as 'playing with a soccer ball',

while others used expressions such as 'playing soccer' or 'kicking a ball'. This means that the instrumental marker *de*, which is the equivalent of 'with', does not appear in the latter cases. For this reason, the possibility of correspondence cannot be denied entirely for Type 1.12.

The general pattern of Type 1.16, confusion of the marker '*de*' and '*ni*', showed that it has an 88 per cent match between oral and written forms, and it is more likely to appear in speaking than in writing. Yet again, there is individual variance in this pattern. Subjects KO, SE, and YU did not produce this TRL type, and it occurred only in speaking for TE. Type 1.16 was not observed in writing of KO, and in the last year of SE's writing in the Translanguage Analysis. On the other hand, an interesting finding was made through assessment of the subject YU's case. All instances of 1.16 in YU's writing in the Translanguage Analysis were cases of using '*de*' instead of '*ni*' for 'time', but the location marker use, tested in the Interview Test, was 'place'. This explains why YU did not produce this TRL type in the test. Therefore, the trend for these three subjects is consistent across the two investigations.

The non-occurrence of Type 1.16 in writing, by the subject TE, could be interpreted either as coincidental or a more cautious approach in writing regarding particle use. Also, it could be the result of increased awareness, since this TRL type of place marking was absent in writing after the Interview Test, although the markers were previously used in a non-standard way for different purposes, including place marking. Other subjects, FU, MI, and RI, showed varying degrees of correspondence. The subject FU had the lowest correspondence rate of 0.5, or 50 per cent of oral and written TRL match; that is, more TRL in writing than in speaking. In one instance, the appropriate marker '*de*' was used in speech, but it was changed to '*ni*' in writing. This indicates that it resulted from uncertainty of the particle use and consequential overcorrection. A 100 per cent match occurred in the case of MI, showing that the cause of this TRL feature is due to the level of mastery of the use of the location/means marker, not writing skill. Type 1.16 in speaking appeared twice more than in writing in RI's case. This is due to the fact that the verb was changed in writing to one that goes with the particle '*ni*'. It could have been a strategy to avoid use of the unfamiliar particle '*de*'. In fact, RI consistently used '*ni*' instead of '*de*' (Type 1.16 feature) during three years of Translanguage Analysis. These consistent results strongly suggest RI's lack of '*de*' particle mastery. It is of interest that this is also the predominant pattern in IL Japanese. While these findings show that individual

cases need to be considered for the degree of oral and written TRL connection, even within the same TRL type, the findings suggest that there is generally a high TRL correspondence of oracy and literacy.

Turning to the developmental TRL group, a perfect match was found for the oral and written TRL type 1.15, non-standard use of counters. All subjects had this TRL with a 100 per cent correspondence between spoken and written forms. Such a complete correspondence in every subject was found only in this TRL type. This suggests that the aspect of counters has a strong connection between oracy and literacy, knowledge and the representation of knowledge. It also confirmed the existence of Type 1.15 in both modes in everyone, including those who did not show this TRL in the Translanguage Analysis.

TRL type 1.17, inadequate verbal inflection, was found only in the subject KO. This could be attributable to the fact that only simple and familiar verbs were used in the test, though the transitive verb 'okosu' [wake up a person] could be more problematic. Subjects MI and TE actually did not know this verb and they paraphrased the sentence using the intransitive verb as: 'telling a person to wake up'. KO, on the other hand, attempted to produce the transitive form of the verb, resulting in an idiosyncratic verb form, both in speech and writing. In a sense, this shows KO's more developed creative ability compared to the others. As Type 1.17 was observed in all subjects in the Translanguage Analysis, its non-occurrence in most subjects in the Interview Test cannot deny its existence. Although the case is small, the results show that Type 1.17 has its roots in acquisition, not in writing itself.

Only one instance of Type 1.18, tense confusion, occurred in the test. This appeared in the writing of RI, but not in the speaking part, mainly because a noun was used instead of a verb in speech. Although the answer was supposed to be in the present progressive, RI wrote the answer using the past tense form. It could be that she could not remember or did not know the appropriate verb for 'to do shopping'; so she had to express the situation as 'went shopping'. In speech, she just used the noun for the answer, as she might have hesitated to answer the investigator's question by using the past tense form; the question was 'What are they doing?' in a present progressive form. Another possibility is that RI fell into the habit of expressing things in the past tense, especially for the 'shopping' related phrases. For this reason, there is a possibility that Type 1.18 is not entirely the result of a writing problem. Also noteworthy is that non-occurrence of this TRL type in other subjects seems to be a

consistent pattern in comparison with the Translanguage Analysis. This is except for RI, Type 1.18 has not been observed in the last year of investigation, and RI has the highest number of Type 1.18 incidence.

TRL type 1.21, classified as 'other', includes some TRL that could belong to a specific category, but they are special cases that do not belong to any of the subcategories. The results of the analysis showed that there is generally high correspondence in oral and written form of this TRL type. While subjects KO, MI, FU, and SE produced TRL forms at the same rate or more in oracy than in literacy, TE showed TRL more in literacy than in oracy with a relatively high 86 per cent correspondence. To be more specific, FU and SE showed TRL more in speaking than in writing, whereas KO and MI had a 100 per cent TRL match in oracy and literacy. This indicates that the cause of this TRL type is not so much orthographic, but developmental and a result of transference.

Both TRL types in the language transfer category were tested for the oral and written correspondence. As a general group trend, Type 2.1, transference from English, showed a relatively high correspondence of the two modes: 86 per cent. This suggests a fairly close connection between the knowledge and its representations. That is, it confirms the transference nature of this TRL type; it is a result of utilizing the knowledge of the stronger language to supplement the weaker language. Another thing to note is that there are individual differences in the degree of oral and written correspondence. In most cases, more TRL was found in writing than in speaking. This could be attributed to the lack of particle use and simplification of sentences in speech, which would not reveal many of the transference features. In addition, some appear only in writing. On the other hand, there are features that could appear just in speech. To illustrate this, individual cases need to be examined. Subject FU had the lowest correspondence of 50 per cent, as transference did not appear in speech but in writing. YU and SE did not have a total correspondence for the same reason. Similarly, KO had only a 67 per cent correspondence, as the particles are often omitted in his speech, which concealed the possible existence of transference features. In the case of the subject RI, the word that was pronounced in an English way did not appear in written form, which contributed to the disparity between the oral and written TRL form. Two cases had more TRL in speaking than in writing. In the case of the subject MI, the word pronounced appropriately emerged in the written form influenced by English spelling. As for TE, a somewhat perplexing situation occurred;

the direct object marker was used as the location marker in speech, but the standard location marker was used in writing. However, both of the subjects overall showed high TRL correspondence between oracy and literacy. On the whole, all subjects except for FU had several transference TRL features both in oral and written modes.

A perfect match in oracy and literacy was found for transference TRL type 2.2, a direct translation from English. This was observed in all subjects with a 100 per cent TRL correspondence in speaking and writing. The evidence suggests that this type of cross-lingual influence is conceptually derived, rather than simply being a consequence of surface level linguistic skills. Moreover, these aspects are related; conceptual representation is made through speaking and writing. This means that when there are no interfering factors such as phonological or orthographic problems, conceptual representation in the two linguistic modes would be similar. In other words, when an attempt to express the same idea in the two modes leads to inconsistency between the two, there would be a problem in speaking or writing that interferes with such an objective. This would explain why some TRL types have high oral and written TRL correspondence while others do not. Therefore, the high correspondence rate of Type 2.2 suggests that there are few factors that impede consistency of the two modes, and that this TRL feature is not a consequence of writing or speaking problems, but of transference.

To summarize the results, it was found that 'phonological', 'phonological and orthographic', and 'orthographic' categories have little TRL correspondence between spoken and written forms. In fact, their TRL correspondence rate on average was merely 3 per cent. The result can be accounted for mainly by problems in writing skills, and partly by the inadequate acquisition of words through speech. In the 'grammatical and morphological' category, transference TRL types did not show a particularly high oral and written correspondence as a whole, though it was more than 50 per cent. As their TRL features are the use of particles and grammatical markers, the lack of particle or marker use in speech would affect the correspondence rate. As discussed earlier, it was discovered that this was actually the case, after examining the individual TRL instances. On the other hand, the relatively high oral and written correspondence of TRL type 1.16 would be explained by the fact that it concerns the use of location markers, which are usually not omitted in speech, unlike other particles and markers. In fact, lack of correspondence resulted from the use of different markers in speaking and writing. In the case of developmental TRL types in

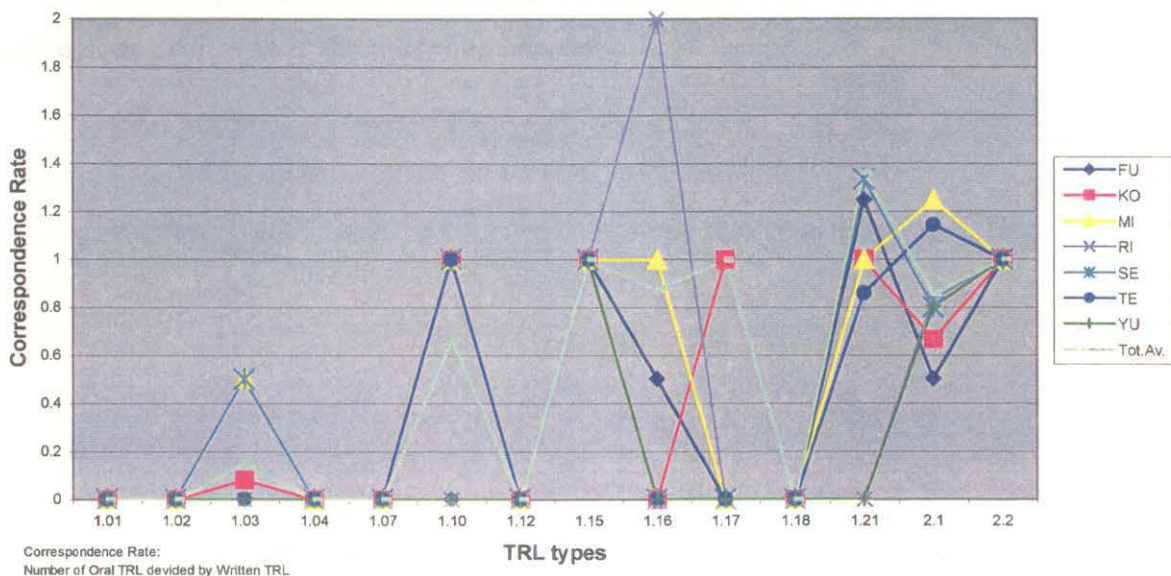
the 'grammatical and morphological' group, 1.15 and 1.17 showed a complete TRL correspondence, while 1.18 did not. This pattern can be explained for the following reasons. First, it is unlikely that the TRL features of Type 1.15 and 1.17 are abbreviated in speech, as they are necessary for comprehension of the sentence or word. Next, non-correspondence of the spoken and written form of Type 1.18 is due to the use of a noun (*kaimono* [shopping]) in speech, instead of a noun verb (*kaimono suru* [do shopping]), which concealed the possible TRL feature regarding tense. Lastly, as this TRL category relates to grammar and morphology, it is unlikely that it is just a consequence of orthographic difficulty. This may explain the somewhat high average correspondence rate of 67 per cent. In Type 1.21, the 'other' TRL category, there was a strong correlation between oral and written aspects of TRL. This can be attributed to the general characteristic of Type 1.21, which is grammatical and morphological, often related to transference.

The 'language transfer' category showed an exceptionally high TRL correspondence between oracy and literacy, which amounts to 93 per cent. This strongly confirms the conceptual nature of this TRL types. Although transference in phonology and particle use did not always have equivalence in both modes, this is due to the fact that phonological transference tends to appear more in orthography, and the particles and markers are likely to be abbreviated in speech. In other cases, there was a strong TRL correlation between the two modes. On average by category, transference TRL correspondence in oracy and literacy was higher in the 'language transfer' category than in the 'grammatical and morphological' one. As a whole, transference TRL had an average of 68 per cent oral and written correspondence. As for developmental TRL types, there was much more oral and written TRL correspondence on average in the 'grammatical and morphological' category than in other categories. These thus reflect the reasons discussed above. It is noteworthy that developmental TRL showed a lower oral and written TRL correspondence than transference TRL; it was 39 per cent, in contrast to 68 per cent in transference TRL.

In short, the analysis confirmed the view that the source of transference is not orthographic, but acquisition. It also verified the probability as to which TRL type would occur in speech. Another finding of interest is the individual differences in the degree of oral and written TRL correspondence for some TRL types. As the individual variance that emerged in the analysis may relate to proficiency, its connection will be discussed in relation to the case study analysis in the following

chapter. As a summary, the result of analysis of the individual variance is shown in Figure 4.5, which illustrates the *oral and written TRL correspondence* rate for each subject and TRL types. As it is the ratio of oral TRL to written TRL, the rate of 1 equals 100 per cent correspondence, and the rate above 1 indicates more TRL occurrence in speaking than in writing.

Figure4.5 Oral & Written TRL Correspondence by Subjects



4.4 Conclusion

In this chapter, the structure of Japanese was first explained so as to facilitate understanding of Japanese as a TRL. The subsequent explanation of TRL characteristics was made in relation to TRL literacy data on Individual bilinguals and Community bilinguals. In addition, the nature of these TRL features was further examined through the comparisons between TRL, L1, and IL. They revealed that most developmental TRL characteristics are shared among the three groups, and that transference features of TRL are common to those of IL. Thus, the findings substantiated the developmental and transference nature of TRL, respectively. Lastly, the relationship between TRL oracy and literacy was investigated in order to elucidate the cause of each TRL type: problems in writing or acquisition. In particular, the causal link between transference and acquisition was confirmed, together with the largely orthographic nature of phonological and orthographic TRL types.

The analysis of the nature of TRL, on the other hand, revealed the variance within the bilingual populations, and also between the monolingual and bilingual populations. In addition, there are individual differences within each group to be considered. As these differences are likely to be related to the individual and the socio-cultural contexts of language development, these factors need to be examined in detail. Furthermore, a longitudinal comparison of TRL variance within a group, and a cross-sectional comparison between groups, would elucidate further issues surrounding development of literacy and general language ability. These issues of ability will be dealt with in the following chapters.

CHAPTER 5

LONGITUDINAL DEVELOPMENT AND MAINTENANCE OF TRL LITERACY

5.1 Introduction

As discussed in the previous chapter, Translanguage (TRL) consists of developmental as well as transference language elements. While the overall divergence of Japanese–English bilinguals' TRL Japanese from Japanese monolinguals' L1 was clarified in the descriptive analyses of literacy, the major questions still remain: How and to what extent could minority language literacy be developed in the absence of an ethnolinguistic community and bilingual education, and to what extent could the distance between the two populations be reduced? To answer these questions, it is first necessary to study Individual bilinguals' longitudinal development in Japanese literacy, which will provide data to investigate how the two populations compare in their degree of literacy development. Secondly, the factors that promote or undermine TRL literacy development must be identified. For this reason, this chapter will examine bilinguals' TRL literacy development in detail, through a longitudinal group study. Initially, the longitudinal group trend in the inter-grade shift in the occurrence of non-standard TRL forms and the within-group variance in the occurrence of each TRL type will be examined. Then, analyses will be made regarding the factors that may contribute to individual variance in the degree of literacy development. In particular, along with the findings from the descriptive analysis, the results of statistical analyses will be discussed in relation to TRL literacy development, and the longitudinal influence of literacy practice.

5.2 TRL literacy development in Individual bilinguals

As discussed in the previous chapters, the Translanguage Analysis was made longitudinally on the focal sample, Individual bilinguals. Their TRL development in writing was studied every week for the first two years and every other week for the third year. As the characteristic of each TRL type was described in Chapter 4, and the details of the 60 weeks' Translanguage Analysis are presented in Appendix D, this

section will quantitatively examine the general and the individual trend of TRL development by examining the occurrence of non-standard written forms. First of all, it will analyze general group tendencies during the three years, as to the increase and decrease in the TRL rate (the total average of non-standard TRL features per 100 words) for each TRL sub-category as well as in Total TRL rate Average. In addition, the degree of within-group variance in each TRL type and sub-category will be assessed for further analysis of the group trend of TRL development. This will also identify the degree of individual variance in each TRL aspect. Subsequently, the individual variation in the degree of developmental and transference TRL form occurrence will be further examined to identify contributing factors. In particular, the effect of writing practices will be examined in relation to the shift in TRL rate, Total TRL rate Average, and the results of the Interview Test.

The TRL rate for each TRL type and subject was used as a measure of the general group pattern in the degree of literacy development. For a comprehensive statistical analysis, this TRL rate was combined to make 8 sub-categories: *Phonology*, *Phonology and Orthography*, *Kana Orthography*, *Kanji Orthography*, *Grammatical and Morphological Development*, *Homophone*, *Grammatical and Morphological Acquisition*, and *English Transference*. This was necessary due to the large numbers of TRL types involved, in addition to the fact that the consistent variables are necessary for the statistical analysis; the main analysis was made by the multiple regression method, which would allow a maximum of 8 variables. The classification of non-standard TRL forms is provided in Table 5.1.

Table 5.1
TRL Sub-categories for TRL Rate Analysis

<p>Phonology (PHONO)</p> <p>1. 01. Lack/non-standard use of a voiced sound marker</p> <p>1. 02. Lack/non-standard use of the small <i>tsu</i> for a geminate obstruent consonant</p>
<p>Phonology and Orthography (PHONORTH)</p> <p>1. 03. <i>Kana</i> non-standard spelling</p> <p>1. 04. Lack of one <i>kana</i> syllable (non-standard spelling)</p>
<p>Kana Orthography (ORTHHRKT)</p> <p>1. 05. <i>Katakana</i> and <i>hiragana</i> mixing</p> <p>1. 07. Use of large letters instead of small letters</p>
<p>Kanji Orthography (ORTHKANJ)</p> <p>1. 03a. <i>Kanji</i> non-standard spelling</p> <p>1. 06. <i>Hiragana</i> non-standard spelling after <i>kanji</i></p>
<p>Grammatical and Morphological Development (GRMMRPDV)</p> <p>1. 08. Conjunctions</p> <p>1. 09. Lack/non-standard use of the topic marker <i>ha</i>/the subject marker <i>ga</i></p> <p>1. 14. Adjective/<i>na</i> -adjective confusion, adjective inflection</p> <p>1. 15. Counters</p> <p>1. 17. Verbal inflection</p> <p>1. 18. Tense confusion (present/past tense verb, present/present progressive tense verb)</p> <p>1. 21. Other non-standard features</p>
<p>Homophone (HOMPHON)</p> <p>1. 20 Homophonic confusion</p> <p style="padding-left: 20px;">A. <i>wa/ha</i> (pronounced as /<i>wal</i>) confusion</p> <p style="padding-left: 20px;">B. <i>u/o</i> confusion</p> <p style="padding-left: 20px;">C. <i>he</i> (pronounced as /<i>e/</i>)<i>e</i> , <i>i/e</i> , <i>yu/i</i> confusion</p> <p style="padding-left: 20px;">D. <i>o/O</i> , <i>ho/O</i> , <i>yo/o</i> confusion</p> <p style="padding-left: 20px;">E. Voiced sound for <i>chi/shi</i> , <i>su/tsu</i> confusion</p>
<p>Grammatical and Morphological Acquisition (GRMMRPAC)</p> <p>1. 10. <i>de</i> (location of action, means) /<i>ni</i> (location of existence, indirect object) and <i>O</i> (direct object) confusion: treatment of an indirect object as a direct object, or vice versa; treatment of an intransitive verb as a transitive verb</p> <p>1. 11. Use of the possessive marker <i>no</i> instead of the direct object marker <i>O</i></p> <p>1. 12. <i>de</i> (means: with, <i>te</i>-form of the copula)/<i>O</i> (direct object) and <i>to</i> (together with)/<i>kara</i> (from) confusion</p> <p>1. 13. Subject marker <i>ga</i> /sentence topic marker <i>ha</i> (pronounced as /<i>wal</i>) confusion</p> <p>1. 16. <i>ni</i> (1. location or target toward which the action or motion progresses: to; 2. location in/at which something exists, resides, etc.; 3. time: at, on, in, etc.) and <i>de</i> (1. location in/at which the action occurs or is done; 2. means) confusion</p> <p>1. 19. Lack of directional verbs as auxiliaries</p>
<p>English Transference (ENGTRF)</p> <p>2. 1. Transference from English</p> <p>2. 2. Direct translation from English</p>

In the sub-categories described above, *Grammatical and Morphological Acquisition* is placed before *English Transference*, as these TRL categories appear to be influenced by transference from English (see Section 4.3.2 in the previous chapter). All the other categories consist of the developmental TRL types. This ordering was used to clarify the findings of the analyses. Also, the same TRL sub-categories were used for further investigations in the following chapter.

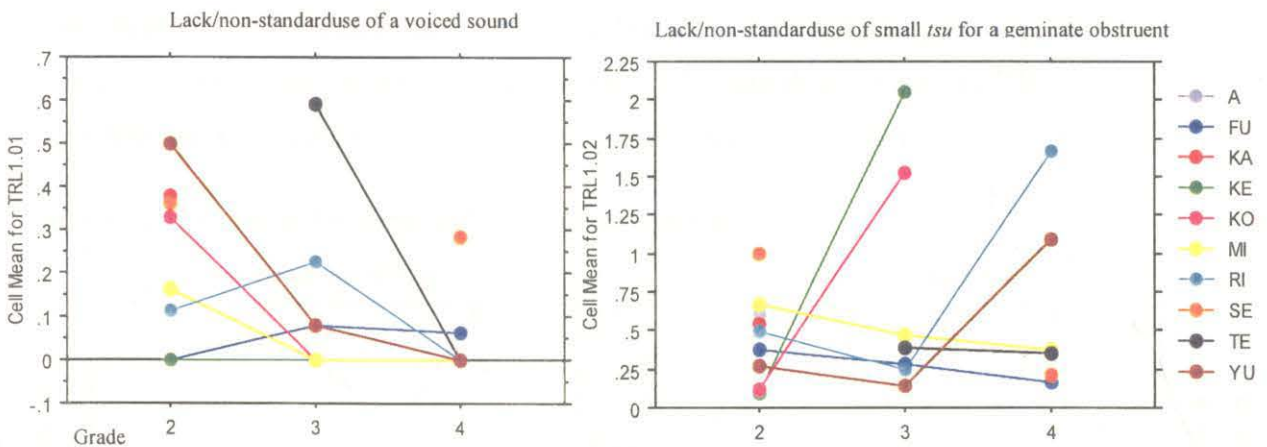
5.2.1 The longitudinal group trend and the within-group variance

Firstly, the findings on the longitudinal group trend will be discussed regarding the increase and decrease of TRL rate in each TRL sub-category, based on a difference of means test (a two-tailed paired *t*-test). This will illuminate which aspects have developed or regressed in the course of three years. Descriptive observation of component TRL types is also incorporated in the analysis to assess within-group variance. The assessment will clarify whether the shift observed in the *t*-test is a common group trend or specific to certain individuals. These analyses will be followed by an assessment of general shifting in Total TRL rate Average using the same method.

5.2.1.1 Phonology (PHONO)

Using a *t*-test, there was no significant statistical difference found between Phonological TRL rates at different grade levels. Only a minor increase was observed in a comparison of *Phonology* at grade 2 and grade 3. Yet, no substantial change existed between grade 2 and grade 4. Upon examining each component TRL type descriptively, however, it was found that this could be due to differences between Types 1.01 and 1.02. This is clear in the chart for each TRL type (see Section 4.3.1.1 *Phonological* for examples of each TRL type).

Figure 5.1 TRL rate in *Phonology* at each grade



TRL rates in Type 1.01 generally decreased during the three years. Although at grade 3, the TRL rate increased with subjects FU and RI and the new subject TE had an outstandingly high TRL rate, all subjects' TRL rates decreased in the

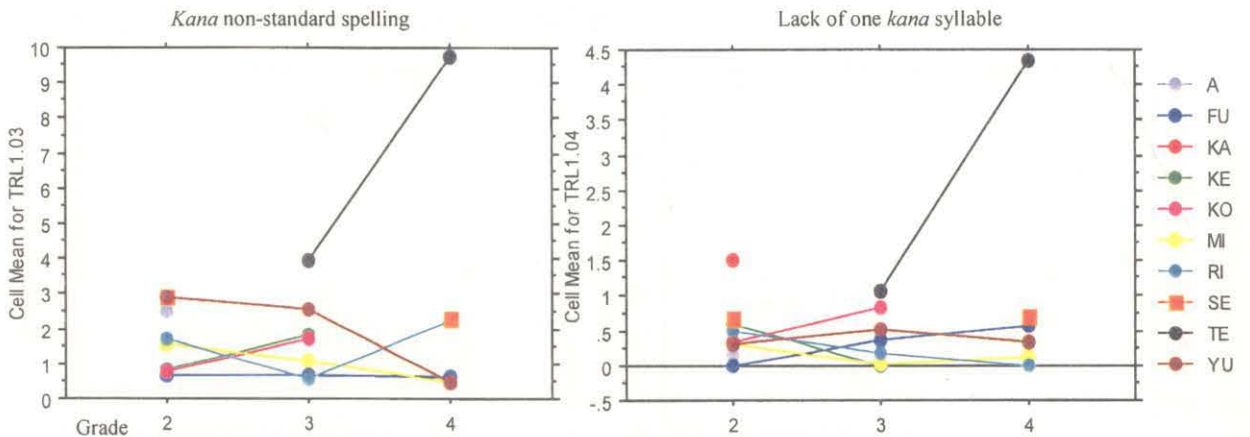
following year. While SE still produced more non-standard features at grade 4, the overall trend shows that the standard use of the voicing marker seems to have been learned by most subjects. Type 1.02, lack/non-standard use of the small *tsu* for a geminate obstruent consonant, appeared in all subjects at all grades. Note that the number of subjects at each grade is different: 9 at grade 2, 7 at grade 3, and 6 at grade 4. The chart for Type 1.02 shows that TRL rate was generally small at grade 2, but increased in some subjects in the subsequent years.

In comparing the two TRL types, it is clear that Type 1.02 occurred more frequently than Type 1.01 at all grades. The different TRL rate shift of Type 1.01 and 1.02 seems to indicate that orthographic rules concerning voiced sounds are acquired earlier and more easily than those of geminate obstruent consonants. This is consistent with the findings on monolingual children’s Japanese acquisition reported in Akita and Hatano (1999). The increase in Type 1.02 observed among some subjects after grade 2 could be related to the increase in vocabulary use that includes geminate obstruent consonants, or the decrease in writing practice.

5.2.1.2 Phonology and Orthography (PHONORTH)

The results of a *t*-test regarding TRL rates of *Phonology and Orthography* showed that no significant inter-grade difference was found for both component TRL types 1.03 and 1.04, appearing to indicate no change in this area. Still, a further examination of the two component TRL types found some differences between the two. In addition, it revealed large individual variance in both TRL types at grade 4. Figure 5.2 shows the pattern of between-grade TRL rate shift for the two TRL types (see Section 4.3.1.1 *Phonological + Orthographic* for examples of each TRL type).

Figure 5.2 TRL rate in *Phonology and Orthography* at each grade



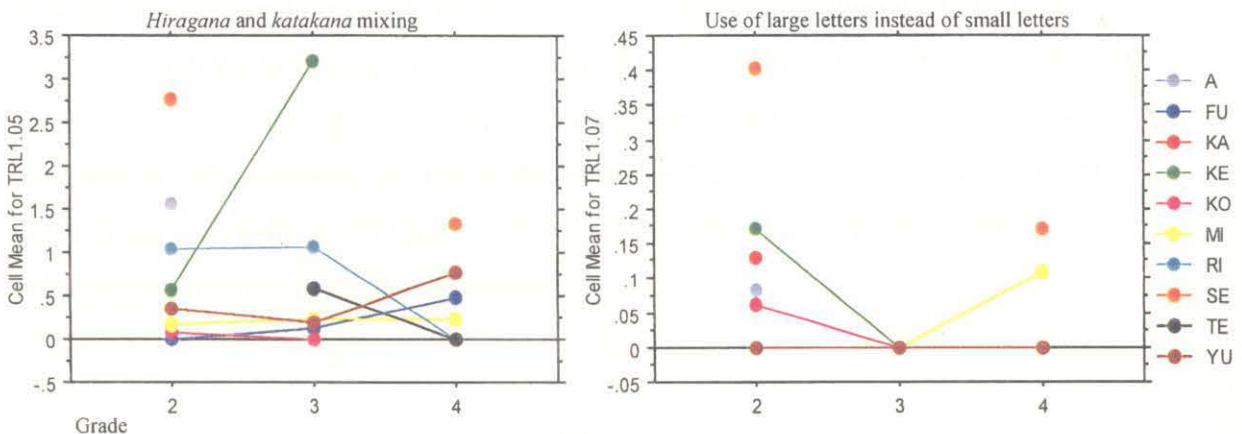
It is clear from Figure 5.2 that TRL rates of Type 1.03 (*kana* non-standard spelling) were generally much higher than those of Type 1.04 (lack of one *kana* syllable). Also, there were some individual differences in the direction of inter-grade shift in TRL rates, which explains the lack of a common pattern for the TRL rate change. On the other hand, the increase in variance at grade 4 was found to be mainly due to a significantly high TRL rate of a single subject, TE, and this was the case for both TRL types. The increase of Type 1.03 with time for some subjects could be interpreted as a result of an attempt to write words learned with a limited exposure, especially those learned just from conversation. High TRL rate in Type 1.04 may also share such a causal factor, but it would also be related to their levels of orthographic knowledge.

In considering the cause of such individual differences, the following is also of note: the non-standard features of the *Phonology and Orthography* category were often found in words related to English. In other words, it is likely that the within-group variance is related to the individual differences in the degree of transference. The apparent individual variance thus requires a further examination, and this will be dealt with in Section 5.2.2.

5.2.1.3 Kana Orthography (ORTHRKT)

Although this TRL sub-category is developmental and deals only with *Kana Orthography*, not much statistical evidence was found in the *t*-test for the between-grade differences in TRL rate. Nonetheless, further examinations revealed that there are actually some noteworthy differences. As *Kana Orthography* is a combination of TRL types 1.05 and 1.07, they were individually investigated both descriptively and quantitatively (see Section 4.3.1.1 *Orthographic* for examples of each TRL type).

Figure 5.3 TRL rate in *Kana Orthography* at each grade



The chart for Type 1.07 (use of large letters instead of small letters) in Figure 5.3 shows that nobody produced this TRL feature at grade 3. While the mean was relatively low at grade 2, non-existence of this TRL form during grade 3 is a change to be noted. At grade 4, Type 1.07 was observed again, though the mean was a little less than the initial one at grade 2. In the *t*-test, however, these differences were not significant.

As can be seen in Figure 5.3, most subjects acquired the standard use of small letters to write special syllables, but subjects MI and SE were still unable to master it after two years. Interestingly, MI did not produce the Type 1.07 feature until grade 4, indicating some kind of decline in orthographic ability. On the other hand, SE's TRL rate is halved compared to grade 2 (SE was absent from the community school during grade 3), showing some improvement despite the absence. Since phonological awareness is necessary for the distinction between large and small letters (Akita & Hatano, 1999), the learning difficulty of this TRL feature could be related to the stages of development or deterioration of such ability.

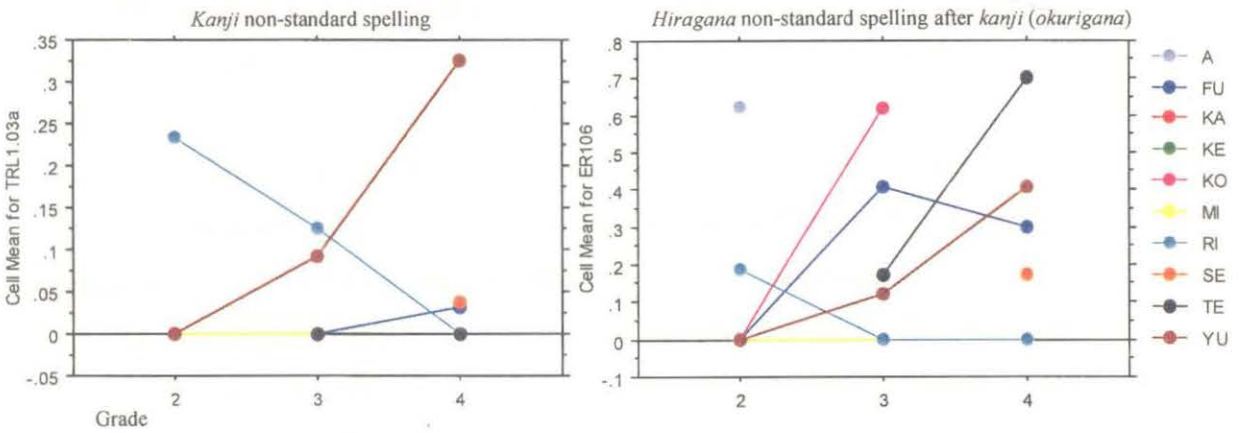
Compared to the small variance and the relatively low TRL rate of Type 1.07, Type 1.05 (*hiragana* and *katakana* mixing) showed larger variance and higher TRL rate in general. Yet, in the case of Type 1.07, TRL rates as a whole did not show much change in the three-year period. Although the variance slightly increased at grade 3 due to the outlier KE, it decreased at grade 4 as no subject showed an outstandingly high TRL rate. The fact that the within-group variance is smallest at grade 2 shows that the subjects are at about the same level in their ability to appropriately use two types of *kana*.

In short, the overall TRL rate of Type 1.05 was higher and appeared in more subjects than the case of Type 1.07. This suggests that the differentiation of the two homophonic *kana* varieties in writing is generally mastered later than the orthographic rules for describing syllables with palatalized consonants. It is notable that this order of acquisition is consistent with the data on Non-contact monolinguals. In fact, no Type 1.07 was found among this group, while Type 1.05 was observed at all grades in the Interview Test, though the number was extremely small. Considering the existence of older subjects than the grade-norm, the findings indicate developmental delay in some Individual bilinguals with respect to orthographic ability. Such individual variance will be discussed later.

5.2.1.4 Kanji Orthography (ORTKANJ)

No significant statistical difference was found between annual TRL rates of *Kanji Orthography* category. The result of a *t*-test, however, indicated the minor inter-grade increase throughout the three years. For further analyses, this compound variable was broken down into the original TRL types, 1.03a and 1.06. Figure 5.4 presents TRL rate shift of each TRL type in the grade 2-4 period (see Section 4.3.1.1 *Orthographic* for examples of each TRL type).

Figure 5.4 TRL rate in *Kanji Orthography* at each grade



Type 1.03a, *kanji* non-standard spelling, revealed no yearly change in the *t*-test. This could be due to the extremely small number of *kanji* used, as well as the fact that these few *kanji* are only simple ones. Also, not every subject used *kanji* in each year, and some used none during the three years. For this reason, it would be more desirable to study a case-by-case trend rather than a group trend to detect any change in TRL rates of Type 1.03a. For instance, it can be seen from Figure 5.4 that the frequency of *kanji* non-standard spelling decreased in RI, but increased in YU.

In the case of Type 1.06, *hiragana* non-standard spelling after *kanji*, there were more between-grade differences than in Type 1.03a. The insignificant *t*-test results regarding the inter-grade TRL rate shift are most likely due to individual variance. To illustrate, while the increase in the TRL rate between grade 2 and grade 3 is observed in three subjects, the TRL rate decreased in Subject RI and no change was found in the other two subjects due to their lack of *kanji* use.

In both TRL types, TRL rates are relatively small. This was especially so for Type 1.03a, and only a few individuals produced this TRL feature throughout the three years. Accordingly, it is more likely that a small variance in the TRL rate of

Type 1.03a is the result of the non-occurrence of this TRL type in most subjects, in addition to the minor TRL rates, if any. As for Type 1.06, TRL rates were equally small, though they increased slightly with grade. Also of note is that this TRL feature occurred in more subjects at grade 4 than at grade 2. This seems to be related to the general increase in *kanji* use, though it is minor. These results thus suggest that the development of *Kanji Orthography* was generally minor, mainly due to the lack of *kanji* use in general and partly due to individual differences.

5.2.1.5 Grammatical and Morphological Development (GRMMRPDV)

The result of a paired *t*-test analysis on *Grammatical and Morphological Development* found little statistical evidence regarding the inter-grade difference in the TRL rate as a whole. However, a further examination of the original data revealed that a major change took place with certain subjects, and that the variance increased from grade 2 onward. As this category consists of many different TRL types, a separate analysis of each type was needed for further investigation of such patterns.

As described in Table 5.1, *Grammatical and Morphological Development* consists of Types 1.08, 1.09, 1.14, 1.15, 1.17, 1.18, and 1.21 (see Section 4.3.1.1 *Grammatical + Morphological* for examples of each TRL type). Contrary to the insignificant inter-grade difference as a compound variable, the analyses of individual component TRL types by a paired *t*-test revealed significant between-grade changes in certain TRL types. These are Type 1.09, lack/non-standard use of the topic marker *ha*/the subject marker *ga*, and Type 1.17, non-standard verbal inflection. Presented below are the results for each of the two TRL types. The between-grade changes in the TRL rate are also apparent in Figure 5.5 shown on the next page.

Paired t-test
Hypothesized Difference = 0

	Mean Diff.	DF	t-Value	P-Value
TRL 1.09 G2, TRL 1.09 G3	.102	5	.548	.6073
TRL 1.09 G2, TRL 1.09 G4	-.219	4	-1.087	.3380
TRL 1.09 G3, TRL 1.09 G4	-.425	4	-4.367	.0120

Paired t-test
Hypothesized Difference = 0

	Mean Diff.	DF	t-Value	P-Value
TRL 1.17 G2, TRL 1.17 G3	-.115	5	-2.588	.0480
TRL 1.17 G2, TRL 1.17 G4	-.283	4	-2.649	.0571
TRL 1.17 G3, TRL 1.17 G4	-.086	4	-.343	.7480

Lack/non-standard use of the topic marker *ha*/the subject marker *ga* Non-standard verbal inflection

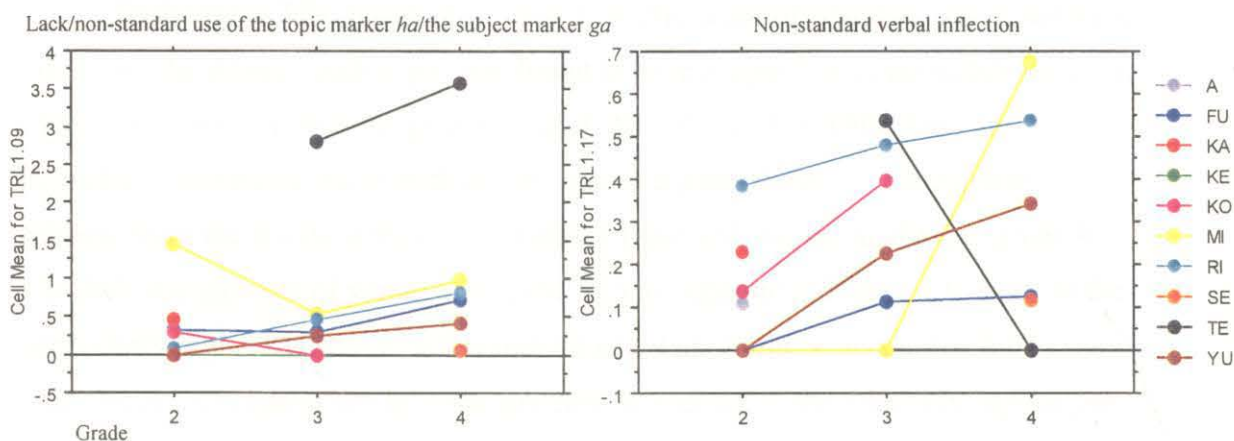
*G: Grade

In the case of Type 1.09, TRL rates changed significantly when grades 3 and 4 are compared; the TRL rate mean at grade 4 for different levels of subjects was

considerably higher than those at grade 3. Upon examining the result in conjunction with the descriptive data, it was found that this increase could be interpreted in part as a consequence of increased use of more complex sentence structures or phrases that would involve more advanced uses of topic or subject markers. Also observed is that it is in part due to the increased substitution of the direct object marker *O* with the subject marker *ga*. It should be noted that the latter case is more likely a form of transference, as it is common to interlanguage (IL) Japanese but uncommon to Japanese monolinguals' L1. In this light, it is possible that Type 1.09 increased to some extent as a result of transference, which increased during the grade 4 period.

On the other hand, Type 1.17 showed a notable change between grades 2 and 3, and an almost significant change when grade 2 is compared with grade 4. No major difference was found between grades 3 and 4. The differences between grades 2 and 3, and between grade 3 and 4 were both due to the general inter-grade TRL rate increase. Thus, the result indicates that verbal use is still developing at grade 4. In addition, the rise in the TRL rate is likely to be related to the increased use of more complex verbal structures. However, it is noteworthy that non-standard verbal use was found among Non-contact monolinguals only at grade 2, which indicates that the acquisition of standard verbal use is mainly complete after grade 2 among monolingual Japanese children.

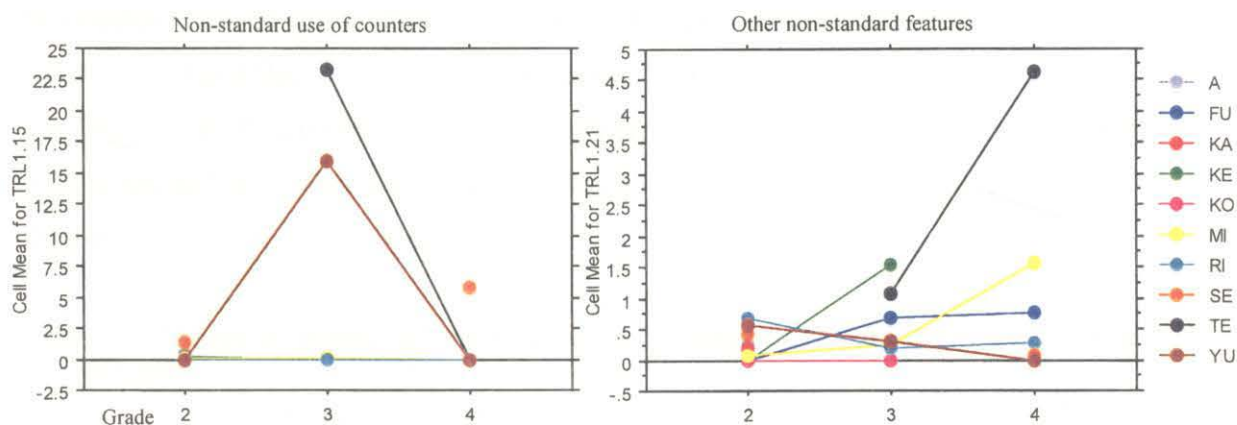
Figure 5.5 TRL rate in *Grammatical and Morphological Development* (Type 1.09 and Type 1.17) at each grade



Examinations of variance for other component TRL types found small variance at different grade levels in general. Exceptions were Types 1.09, 1.15, and 1.21 at grades 3 and 4. The variance grew larger with grade, in the case of Types 1.09

(see Figure 5.5) and 1.21. On the other hand, the variance in Type 1.15 reached its peak at grade 3, which slightly decreased at grade 4. The shift in the TRL rate for Types 1.15 and 1.21 are shown in Figure 5.6.

Figure 5.6 TRL rate in *Grammatical and Morphological Development* (Type 1.15 and Type 1.21) at each grade

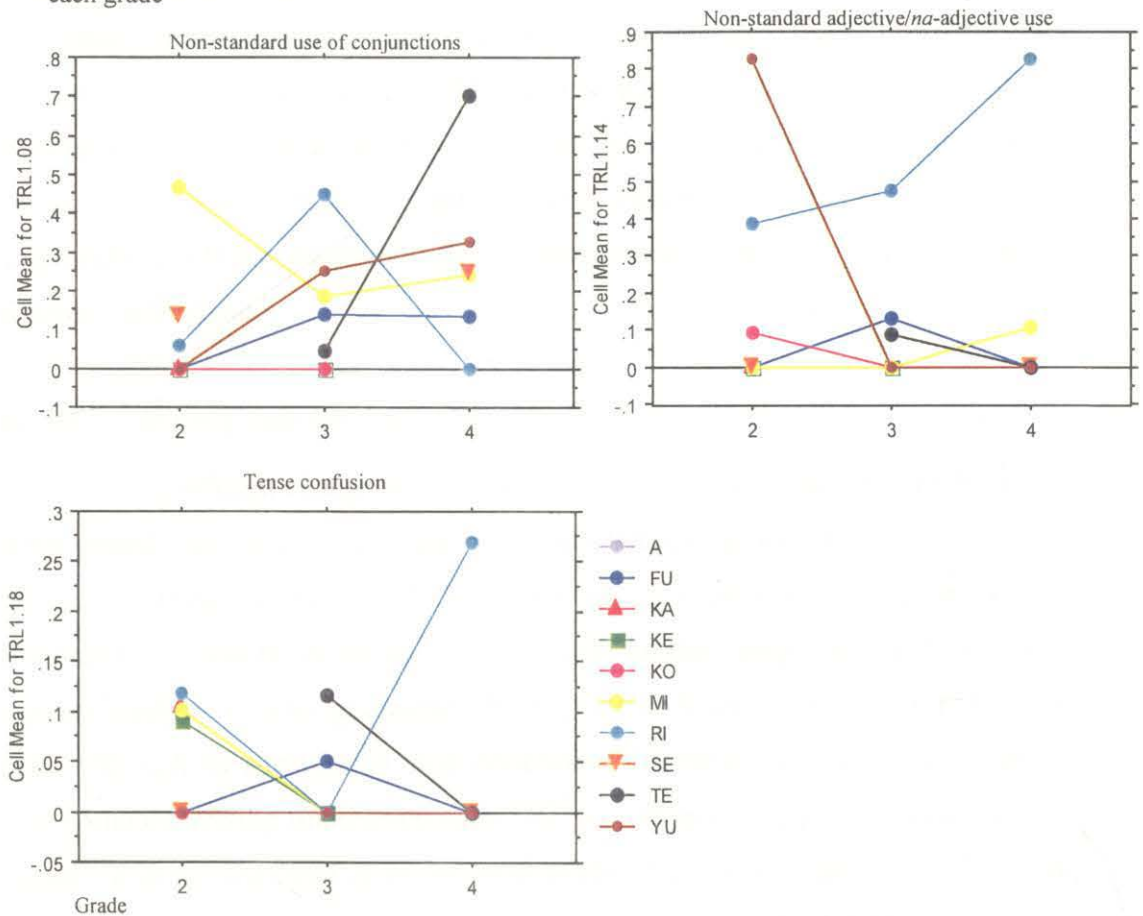


As apparent from Figure 5.5 and Figure 5.6, the variance and TRL rates at grade 2 were small in all three TRL types, 1.09, 1.15, and 1.21. This was especially so in Type 1.21. Such small variance suggests that the individual differences in the use of topic and subject markers, counters, and uncommon non-standard features are minor at an early stage of grammatical and morphological development. Yet, the variance in later grades is mainly due to an exceptionally high TRL rate in a few subjects.

Of the three TRL types, only Type 1.09 (the lack/non-standard use of the topic marker *ha*/the subject marker *ga*) was found to have a significant inter-grade increase, which was observed between grades 3 and 4. This shows that while there are individual differences, the growth of TRL rate is a general trend. That is, most subjects learn the standard use of the sentence topic and subject markers at grade 4. The dramatic increase of variance in Type 1.15 as apparent in Figure 5.6 is due to the particularly high TRL rates of a few individuals. This could be accounted for by the total absence of counter use in some subjects, in contrast to the relatively regular use in a few subjects. In order to clarify this point, a further assessment of counter use was made in the Interview Test, by providing subjects the same opportunities to use counters (see Section 5.2.2.3). As for Type 1.21, the variance at grade 4 is largely because of the outlier TE, but the increased variance with grade is notable; it could be the result of individually unique TRL rule development that causes such an increase.

As mentioned earlier, all the other TRL types included in the *Grammatical and Morphological Development* category showed a relatively small variance and TRL rate at each grade level. This indicates a generally similar degree of development in these TRL types at the same grade level. In particular, the within-group variance was small and TRL rates were low in the TRL types that have the following features: non-standard use of conjunctions, non-standard adjective/*na*-adjective use, non-standard verbal inflection, and tense confusion. Still, some patterns were observed in the TRL rate shift of these TRL types, which are shown in Figure 5.7. Note that Type 1.17 is not included, since this TRL type was already examined in the discussion of the *t*-test result earlier in this section.

Figure 5.7 TRL rate in *Grammatical and Morphological Development* (Types 1.08, 1.14, and 1.18) at each grade



It can be seen from Figure 5.7 that Type 1.08, non-standard conjunction use, occurred in more subjects in later grades. That is, this feature appeared in only 3 out of 9 subjects at grade 2, but in 5 out of 6 subjects at grade 4. Moreover, only RI seems to have acquired the standard use of conjunctions at grade 4. While TRL rates are

generally small, this suggests that most subjects have yet not learned the standard conjunction use at grade 4.

As for Type 1.14, non-standard adjective/*na*-adjective use, TRL rates were extremely low in general, and not much change occurred in most subjects. Only YU and RI had a somewhat higher occurrence of non-standard adjective use than others did. Yet, YU ceased to produce non-standard features after grade 2, while TRL rates increased with RI in the following years.

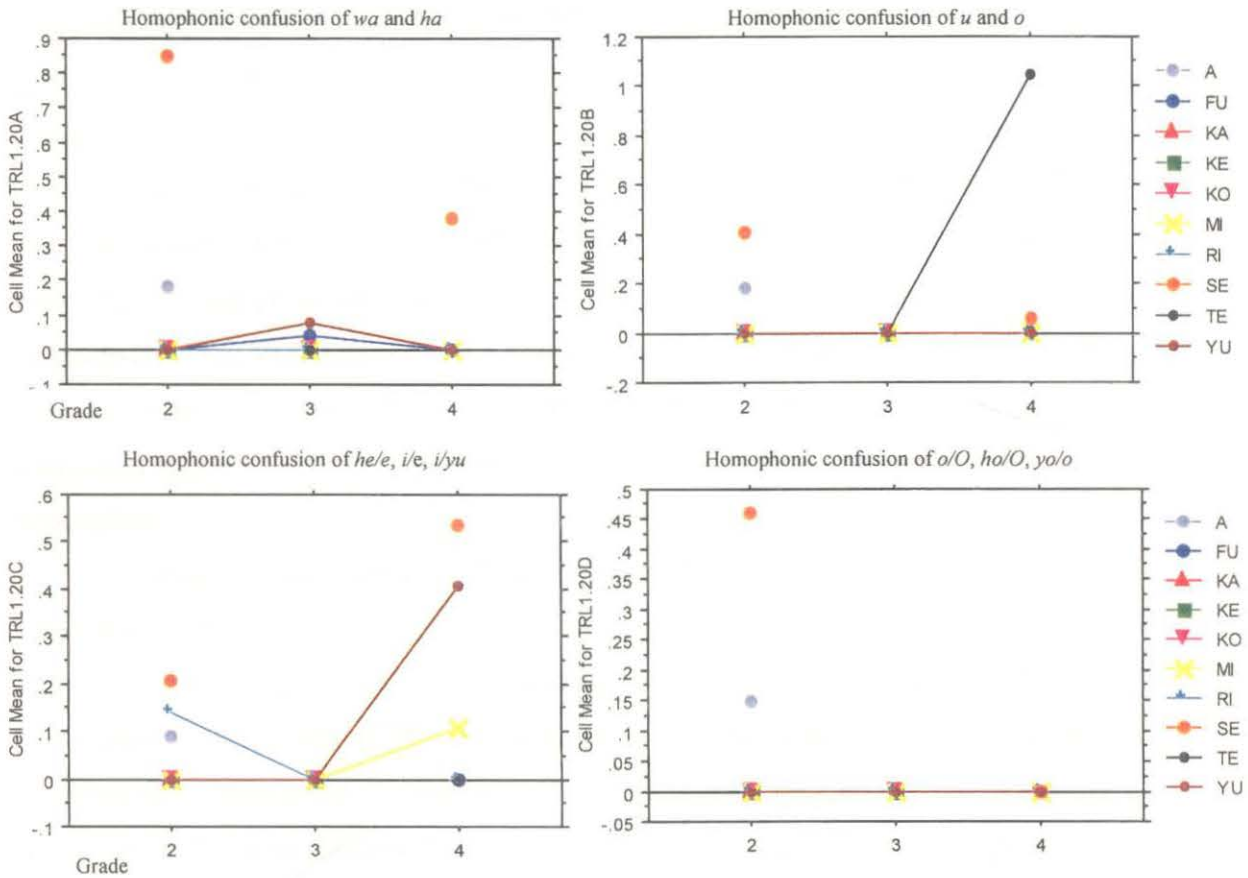
Although the variance is small for Type 1.18, tense confusion, it can be seen that overall, this feature disappeared by grade 4, with the exception of the subject RI. In fact, it was only RI who showed this TRL feature in the Interview Test. This shows that everyone but RI learned the distinction of verb tense by grade 4.

To summarize, the significant inter-grade increase in the TRL rate was observed in the non-standard use of topic/subject markers and verbal inflection. Large individual variance existed in the occurrence of non-standard use of topic/subject markers, counters, and of 'other' TRL features, while the variance was small in the aspects of conjunctions, adjectives, and verbs. Also, there was a general tendency of increase in individual differences after grade 2. This indicates that the features of the *Grammatical and Morphological Development* category develop in different ways for different individuals.

5.2.1.6 Homophone (HOMPHON)

No significant change was found in the inter-grade comparison of *Homophone* in the paired *t*-test, though the mean difference between grades 3 and 4 showed marginal increase. As there are 4 TRL types related to homophonic confusion involved (there was no incidence of Type 1.20E for this sample during three years), separate analyses of inter-grade and within-grade difference were conducted for each type. Although the *t*-test found little evidence of difference between grades, there were some interesting findings on each TRL type from the descriptive analyses. Figure 5.8 shows the trend of the between-grade TRL rate shift and the within-group variance for each of the component TRL types (see Section 4.3.1.1 *Morphological + Orthographic* for examples of each TRL type).

Figure 5.8 TRL rate in *Homophone* at each grade



A comparison of Types 1.20A (*wa/ha* confusion) and 1.20D (*o/O, ho/O, yo/o* confusion) revealed some similarities in their patterns of TRL rate shift. That is, while the occurrence of Type 1.20A is more frequent than that of Type 1.20D, and observed mainly in Subject SE, TRL rates decreased from grade 2 to grade 4. The decrease was more obvious for Type 1.20D, as this feature no longer occurred after grade 2. This shows that the homophonic distinctions of *o/O, ho/O, yo/o* in writing were acquired by all subjects by grade 3. In fact, this feature was found only with the subjects A and SE, who are siblings (SE is younger than A). Since homophonic confusion is developmental, the finding shows that SE was especially behind in learning these homophonic distinctions in writing, though her ability developed with age.

A similar pattern of inter-grade shift in the TRL rate can be observed with the subject SE for Type 1.20B (*u/o* confusion). However, the overall pattern is different from that of Types 1.20A and 1.20D due to the sudden TRL rate increase of the subject TE at grade 4. Still, since this TRL type occurs only among few individuals, it is clear that the homophonic confusion of *u* and *o* in writing is uncommon.

In contrast to the other TRL types that generally showed a decrease in the TRL rate with grade, Type 1.20C (*he/e, i/e, yu/i* confusion) had a different pattern of TRL rate shift between grades. In particular, TRL rates increased in 3 subjects after the total absence of TRL rate at grade 3. Although the total lack of this TRL type at grade 3 is partly due to the absence of subjects A and SE during this period (Subject A discontinued community school after grade 2, while SE came back at grade 4), the fact that no subject produced this TRL feature during grade 3 is notable. At the same time, the increase in the TRL rate at grade 4 is of interest in that it was observed in 3 subjects (MI, SE, YU), and not just a particular case of a single individual. While the occurrence rate was extremely small for YU and MI, the emergence of homophonic confusion at grade 4 indicates that they have not yet completely mastered these homophonic distinctions.

Overall, the occurrences of different types of homophonic confusion were small and observed in few individuals. Consequently, the between-grade TRL rate shift and the within-group variance were insignificant. However, some characteristics were found in the pattern of TRL rate shift for each of the component TRL types of *Homophone*. In particular, the homophonic distinctions of *o/O, ho/O, yo/o* in writing were acquired earliest, followed by those of *wa/ha*. Although the *u/o* distinction seems to be learned by most subjects by grade 4, this was not the case for subjects TE and SE. In contrast, the homophonic combinations of *he/e, i/e, yu/i* were confused more frequently at the fourth grade than at the second grade. These show that some homophonic distinctions take longer to be acquired, but there are individual differences in the degree of acquisition.

5.2.1.7 Grammatical and Morphological Acquisition (GRMMRPAC)

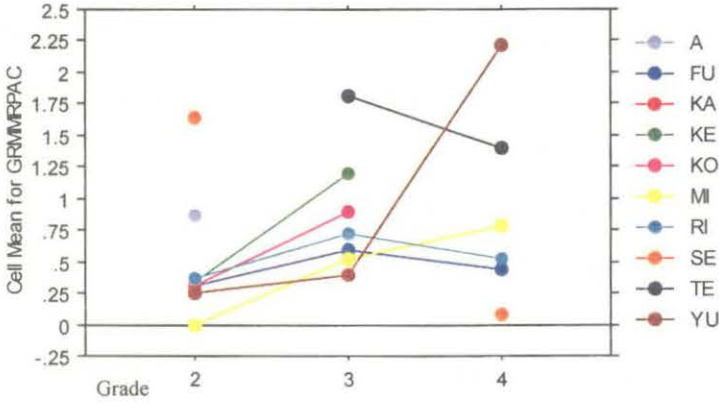
There was significant statistical evidence that TRL rates of *Grammatical and Morphological Acquisition* changed between grades. The results of a paired *t*-test revealed that TRL rate increased at grade 3 compared to grade 2, at different levels of individuals. Note that the numbers in the results signify the grade levels.

Paired t-test
Hypothesized Difference = 0

	Mean Diff.	DF	t-Value	P-Value
GRMMRPAC2, GRMMRPAC3	-.461	5	-4.535	.0062
GRMMRPAC2, GRMMRPAC4	-.294	4	-.516	.6328
GRMMRPAC3, GRMMRPAC4	-.259	4	-.644	.5545

This change occurred at a group level, as it is apparent from Figure 5.9. That is, the increase of TRL rate at grade 3 was marked and observed in most subjects.

Figure 5.9 TRL rate in *Grammatical and Morphological Acquisition* at each grade



Conversely, there was not much difference between grades 2 and 4, mainly because of the increased individual variance at grade 4. As discussed in Section 4.3.3, *Grammatical and Morphological Acquisition* is a compound variable of transference TRL types in the grammatical and morphological aspect, so the degree of variance would indicate the individual differences in the degree of transference. In order to further investigate such variance and possible differences in each TRL type involved, separate analyses were conducted for every component TRL type.

The results of *t*-testing revealed that not every TRL type had an inter-grade shift, while some underwent significant changes. The TRL types that were different in their TRL rate at various grade levels were Types 1.10 and 1.16. All the other types, such as 1.11, 1.12, 1.13, and 1.19, did not have any major between-grade differences (see Section 4.3.1.1 *Orthographic* for examples of each TRL type).

Paired t-test

Hypothesized Difference = 0

	Mean Diff.	DF	t-Value	P-Value
TRL 1.10 G2, TRL 1.10 G3	-.340	5	-2.493	.0550
TRL 1.10 G2, TRL 1.10 G4	.001	4	.040	.9703
TRL 1.10 G3, TRL 1.10 G4	.338	4	7.871	.0014

Paired t-test

Hypothesized Difference = 0

	Mean Diff.	DF	t-Value	P-Value
TRL 1.16 G2, TRL 1.16 G3	-.241	5	-1.251	.2663
TRL 1.16 G2, TRL 1.16 G4	-.171	4	-.552	.6043
TRL 1.16 G3, TRL 1.16 G4	-.394	4	-2.732	.0523

*G=Grade

De (location of action, means)/*ni* (location of existence, indirect object) and *O* (direct object) confusion

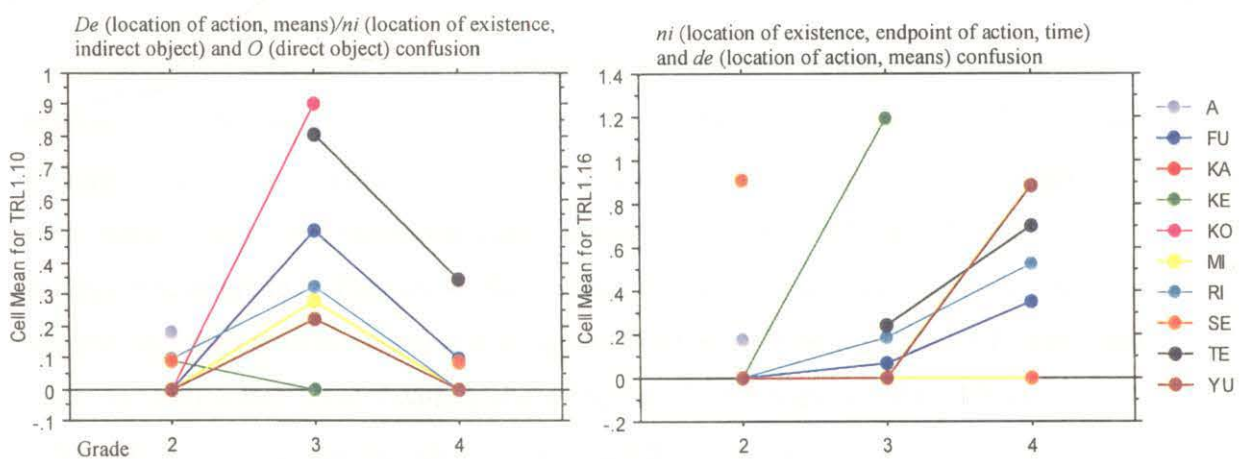
ni (location of existence, endpoint of action, time) and *de* (location of action, means) confusion

The results show that Type 1.10, use of the direct object marker *O* instead of the markers *de* (location of action, means)/*ni* (location of existence, indirect object), generally increased during grade 3, but decreased significantly at grade 4. This

resulted in no difference between grades 2 and 4. The pattern could be thus interpreted as a consequence of learning the use of these grammatical markers; non-standard use first escalates, as it is a part of the learning process, and then declines with acquisition.

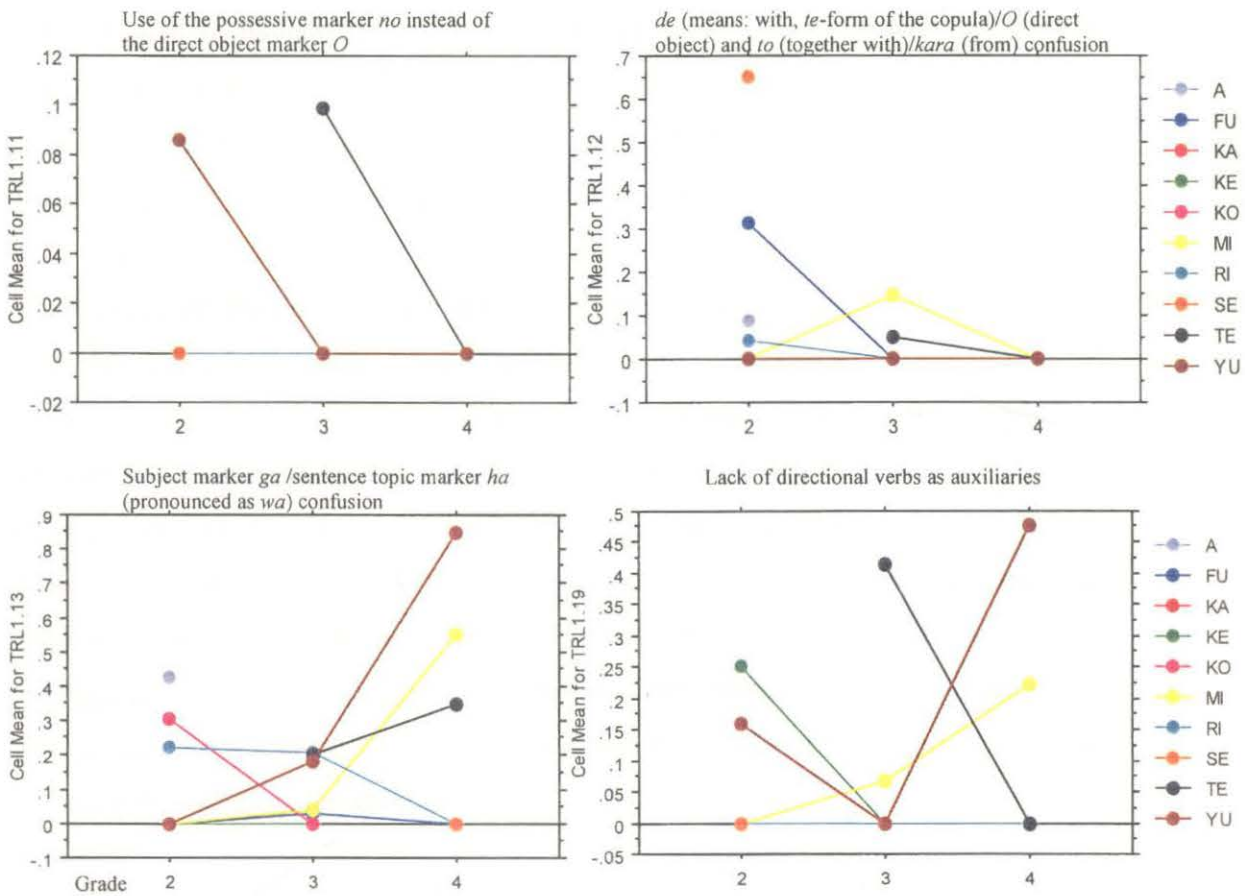
As for Type 1.16 (confusion of the markers *ni* and *de*), there was not a great difference between grades 2 and 3, but the significant change occurred at grade 4, due to the increase in TRL rate. On the other hand, the difference was insignificant when grades 2 and 4 are compared. This is more likely to be the reflection of some individual variance; 3 (YU, RI, and FU) out of 5 subjects who were present at both grades 2 and 4 increased their TRL rates, while SE who had the highest TRL rate at grade 2 ceased to produce this TRL type and MI never produced it. The increase at grade 2 ceased to produce this TRL type and MI never produced it. The increase at grade 4, however, was a general trend, as all but one subject showed an increase. This rise of TRL rate at later stages of literacy development is interesting; since this TRL type is the result of transference (see Section 4.3.3), the increase in the TRL rate would be an indication of general growth in transference. These changes and the general variance patterns are clear in Figure 5.10.

Figure 5.10 TRL rate in *Grammatical and Morphological Acquisition* (Type 1.10 and Type 1.16) at each grade



In contrast to the aforementioned TRL types, those that showed no significant inter-grade difference in the TRL rate revealed more individual differences in the pattern of TRL rate shift and the TRL rate itself. Specifically, these are Types 1.11, 1.12, 1.13, and 1.19 (see Figure 5.11 for details of each TRL type feature). The occurrences of these TRL types were small, except for Type 1.13. This was especially so in the case of Type 1.11, which was found only once in 2 subjects, respectively. Such differences between the TRL types are presented in Figure 5.11.

Figure 5.11 TRL rate in *Grammatical and Morphological Acquisition* (Types 1.11, 1.12, 1.13, and 1.19) at each grade



It can be seen from Figure 5.11 that the occurrences of Type 1.11, use of the possessive marker *no* instead of the direct object marker *O*, and Type 1.12, confusion of markers *de* (means: with, *te*-form of the copula)/*O* (direct object) and *to* (together with)/*kara* (from), were small and found among few subjects whose TRL rates disappeared at grade 4. This shows that these TRL features are uncommon in the sample, and they tend to decrease with grade. Similarly, Type 1.19 (lack of directional verbs as auxiliaries) is not a widely shared feature, but it does not diminish in everyone with grade; that is, subjects YU and MI still continued to produce this feature at grade 4. Only Type 1.13, the confusion of the subject marker *ga* with the topic marker *ha* (pronounced as /*wa*/), was more commonly shared among the sample, and showed higher TRL rates in general. Still, there were some individual differences in the occurrence frequency; TRL rates decreased in some, while they increased in others.

On the whole, there was a tendency that these 4 TRL types occur more often among children of exogamous families after grade 2. In fact, with the exception of

Type 1.13, these TRL types were found only among subjects who have a monolingual English-speaking parent. Thus, it seems to indicate the influence of the individual context, such as the lack of language behavior model on the occurrence of these TRL features. Likewise, the fact that YU and MI are siblings is of interest; it indicates certain consistent environmental influences on their ability. Accordingly, such possible effects of the individual context will be examined in the next chapter.

In summary, the findings show that some TRL features of *Grammatical and Morphological Acquisition* is common to the majority of subjects, while others are shared by a few individuals. More specifically, the following were commonly found among the sample, and the first two features increased after grade 3: the confusion of markers *de* (location of action, means) /*ni* (location of existence, indirect object) and *O* (direct object); the confusion of markers *ni* (location of existence, time) and *de* (location of action, means); the confusion of the subject marker *ga* /the sentence topic marker *ha* (pronounced as /*wa*/). Other TRL features were rare and found mainly among the subjects from exogamous families in later grades. These thus suggest that not all transference features in grammar and morphology are shared and produced at the same frequency in the sample.

5.2.1.8 English Transference (ENGTRF)

Significant differences in the TRL rate were found between different grade levels of *English Transference*. The results of a paired *t*-test revealed that the largest shift took place during grade 3, as the occurrence of *English Transference* decreased considerably compared to grade 2. Note that the numbers in the results signify the grade levels.

Paired t-test
Hypothesized Difference = 0

	Mean Diff.	DF	t-Value	P-Value
ENGTRF2, ENGTRF3	.813	5	3.294	.0216
ENGTRF2, ENGTRF4	.867	4	2.258	.0869
ENGTRF3, ENGTRF4	.207	4	.431	.6885

The difference between grades 2 and 4 was moderate, showing the decrease of grade 4 TRL rate in relation to grade 2. In contrast, the difference was not significant when grades 3 and 4 were compared.

As the stabilization of decrease at grade 4 could be a consequence of individual differences, or the difference between the 2 component TRL types, a

separate analysis was conducted for each of the component TRL types, 2.1 (Transference from English) and 2.2 (Direct translation from English). Note that the difference between the two is that Type 2.1 includes lexical transference other than direct translation and other types of transference in just a part of a sentence, while Type 2.2 involves directly and entirely translated words or sentences (see Section 4.3.1.2 *Language transfer* for examples of each TRL type).

The results of individual analysis revealed that the patterns of TRL rate shift in the two TRL types are somewhat different. In particular, there was no noticeable TRL rate difference found between grades 2 and 4 for Type 2.2, while there was some decrease for Type 2.1. Moreover, inter-grade difference for Type 2.2 was significant only between grades 2 and 3, and insignificant in other combinations of between-grade comparison. However, both types showed an inter-grade difference between grades 2 and 3; the difference was not particularly noteworthy for Type 2.1, but significant for Type 2.2. The difference was inconsequential for either type, when grades 3 and 4 are compared. The patterns of TRL rate shift in these TRL types are also clear in Figure 5.12. In addition, it shows the between-grade change in variance pattern for each TRL type.

Paired t-test

Hypothesized Difference = 0

	Mean Diff.	DF	t-Value	P-Value
TRL 2.1 G2, TRL 2.1 G3	.559	5	2.084	.0916
TRL 2.1 G2, TRL 2.1 G4	.745	4	2.454	.0701
TRL 2.1 G3, TRL 2.1 G4	.240	4	1.034	.3595

Transference from English

Paired t-test

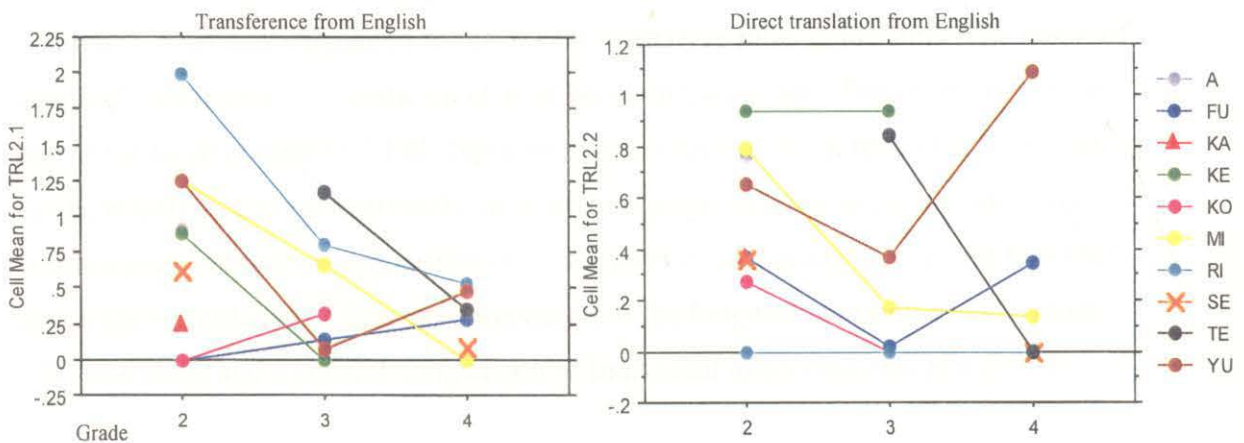
Hypothesized Difference = 0

	Mean Diff.	DF	t-Value	P-Value
TRL 2.2 G2, TRL 2.2 G3	.255	5	2.686	.0435
TRL 2.2 G2, TRL 2.2 G4	.122	4	.663	.5435
TRL 2.2 G3, TRL 2.2 G4	-.033	4	-.130	.9030

Direct translation from English

*G: Grade

Figure 5.12 TRL rate in *English Transference* (Type 2.1 and Type 2.2) at each grade



The differences between the 2 TRL types in the pattern of shift in the TRL rate and the within-group variance are clear; to be precise, while the average TRL rate and the variance decreased with grade for Type 2.1, they somewhat increased for Type 2.2. This contrasting pattern of TRL rate and the variance shift thus explain the stabilization of decrease at grade 4 when both types are combined as the *English Transference* category. Also of interest is the fact that the increase in direct translation at grade 4 may suggest increasing difficulty in finding a Japanese translation equivalent for a concept or an expression learned only in English, or rarely used in Japanese. At the same time, the increase may indicate an increased desire to express more complex ideas in the less developed language, Japanese. In other words, lower TRL rates in some subjects could be due to a lack of effort to use more complicated words or structures in their writing.

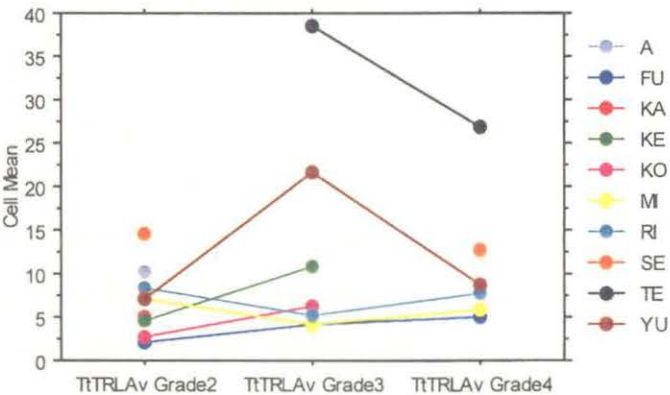
In brief, the results revealed that although both types of transference decreased between grades 2 and 3, there are differences between the two. Specifically, while minor transference occurred more often than direct translation at grade 2, it decreased to the point where its occurrence rate is lower than that of direct translation. In addition, the overall decrease in variance with grade in minor or less obvious transference showed that the degree of transference other than direct translation became similar among subjects at grade 4. On the other hand, there are certain individuals who had an exceptionally higher production of direct translation at grade 4. Whether such individual difference is due to more frequent attempts to write more complex ideas in Japanese, or due to a higher degree of transference will be explored later in Section 5.2.2.3.

5.2.1.9 Total TRL rate Average

Total TRL rate Average is the average of TRL rate with all TRL types combined. This was calculated for each year to analyze inter-grade shift. The result of a paired *t*-test found no significant change between each grade. This could in part be due to the large numbers of TRL types involved, which differ in their characteristics, but be mainly due to the extremely large within-group variance at each grade level. While a comprehensive comparison of all subjects at each grade level is not feasible due to the irregularity of data, an observation of the longitudinal trend of individual TRL rate shift, and a general comparison of individual differences are possible to

some degree. Figure 5.13 presents Total TRL rate Average shift during the three-year period.

Figure 5.13 Total TRL rate Average at each grade



* TtTRLAv: Total TRL rate Average

From Figure 5.3, it is apparent that there is less individual variance at grade 2 than at other grades; although the TRL rate is relatively higher for subjects A and SE, the variance is not as substantial as in later grades. However, the major change occurred at grade 3, when the subject TE with a high TRL rate joined, and the TRL rate increased considerably for YU, while it slightly decreased for MI and RI. An increase is also observed to some extent for the subjects FU, KE, and KO. At grade 4, the variance is somewhat decreased but still significant, due to the large TRL rate of the subject TE and the comparatively high rate of SE. It is of interest that the TRL rate declined to a great extent for YU, with TRL rate almost comparable to that of grade 2.

Another finding of interest is that the grade 4 TRL rate at different levels of individuals is generally similar to that at grade 2, though there is a variation in the direction of change in the TRL rate (increase or decrease compared to the grade 2). Moreover, some correspondences exist between the two grades in the order of individuals according to the degree of TRL rate. These similarities seem to indicate the persistence of the initial differences in ability, despite the TRL rate shift in the course of linguistic development. In fact, the result of correlation analysis showed that the TRL rate at grade 2 is most significantly correlated to that of grade 4, and the TRL rate also correlated significantly between grades 3 and 4. This is shown below.

Fisher's R to Z
Hypothesized Correlation = 0

	Correlation	Count	Z-Value	P-Value
TtTRLAv2, TtTRLAv3	.273	6	.485	.6280
TtTRLAv2, TtTRLAv4	.927	5	2.319	.0204
TtTRLAv3, TtTRLAv4	.923	5	2.275	.0229

*TtTRLAv: Total TRL rate Average for each grade

The results thus show that while there were inter-grade shifts in some TRL aspects, the overall occurrence of non-standard TRL features did not change greatly after three years. However, since there are exceptionally high TRL rates among a few individuals, and the individually different TRL type production, a further examination of such differences would provide additional insights into the literacy development of Individual bilinguals.

To summarize, the investigation of the group trend in this section revealed that the between-grade difference in the TRL rate at a group level occurred only in a few TRL types that constitute the following categories: *Grammatical and Morphological Development*, *Grammatical and Morphological Acquisition*, and *English Transference*. Of these, however, transference categories, *Grammatical and Morphological Acquisition* and *English Transference* also showed the change as a category. The inter-grade change was due to the increase in the TRL rate for *Grammatical and Morphological Development* and *Grammatical and Morphological Acquisition*, but the decrease for *English Transference*. Despite these changes in individual category, the analysis of Total TRL rate Average showed that the TRL rate as a whole did not change very much over the years.

At the same time, various degrees of within-group variance were found according to the kind of TRL types. While the variance was generally small in the *Phonology*, *Kanji Orthography*, *Grammatical and Morphological Acquisition*, and *Homophone* categories, it was mostly large in *Phonology and Orthography* as well as *Grammatical and Morphological Development*. There were also fairly large differences between component TRL types in the *Grammatical and Morphological Development* category. On the other hand, the variance was moderate in *Kana Orthography* and *English Transference* groups.

The findings thus suggest that few major TRL rate shifts occurred at the group-level, though it is partly due to large individual variance. However, what contributed to such a general lack of TRL rate shifts between grades, and the within-group variance is unclear. For this reason, the connection between writing practice and literacy development will be examined in the next section. In addition, a further investigation will be made in relation to the effects of the socio-cultural and the individual contexts on literacy development in Chapter 6.

5.2.2 Contributing factors of TRL rate shift and the within-group variance

5.2.2.1 Inter-grade shifts in the TRL rate and the amount of writing

In order to assess whether the shift in the TRL rate is related to the increase or decrease in the amount of writing, a simple linear regression analysis was conducted for all TRL categories. To be specific, separate analyses were conducted to examine the respective relationship between *the difference in Average Number of Words per Week between grades 3 and 2 (AVNW32)* and *the difference in Average Number of Words per Week between grades 4 and 3 (AVNW43)*, and each TRL category's difference in the TRL rate between grades 3 and 2, and grades 4 and 3. These variables were obtained by subtracting the values of a smaller grade from those of a larger grade.

The results revealed the significant predictive power of each independent variable in the following combinations. *The difference in Average Number of Words per Week between grades 3 and 2 (AVNW32)* had a significant effect on *the TRL rate difference in Phonology between grades 3 and 2 (PHONO32)*, and a highly significant effect on *the TRL rate difference in Grammatical and Morphological Acquisition between grades 3 and 2 (GRMMRPAC32)*. In contrast, *the TRL rate difference in English Transference between grades 3 and 2 (ENGTRF32)* showed a significant effect only in relation to *the difference in Average Number of Words per Week between grades 4 and 3 (AVNW43)*. These results are presented in Table 5.2.

Table 5.2 Regression Analysis of Predictors of PHONO32, GRMMRPAC32, and AVNW43

The TRL rate difference in <i>Phonology</i> between grades 3 and 2 (PHONO32)					
Predictor	Std. Coeff.	R squared	P-value	N=6	
The difference in <i>Average Number of Words per Week</i> between grades 3 and 2 (AVNW32)	-.884	.781	.0195		
The TRL rate difference in <i>Grammatical and Morphological Acquisition</i> between grades 3 and 2 (GRMMRPAC32)					
Predictor	Std. Coeff.	R squared	P-value	N=6	
The difference in <i>Average Number of Words per Week</i> between grades 3 and 2 (AVNW32)	-.945	.894	.0044		
The difference in <i>Average Number of Words per Week</i> between grades 4 and 3 (AVNW43)					
Predictor	Std. Coeff.	R squared	P-value	N=4	
The difference in <i>English Transference</i> between grades 3 and 2 (ENGTRF32)	.993	.986	.0068		

Std. Coeff.: Standardized Coefficients/Beta

Moreover, it can be seen in Table 5.2 that the decrease in the *Average Number of Words per Week* during the grade 2-3 period (AVNW32) accounts for 78 per cent

of the increase in the TRL rate for the phonological TRL category. That is, the orthographic ability to describe special syllables that include voiced sounds and geminate obstruent consonants declines with the lack of writing practice. The effect of decline in writing practice is further apparent for the *Grammatical and Morphological Acquisition* category; it explains 89 per cent of the variance in the TRL rate increase in this category between grades 2 and 3. As discussed in the previous chapter, the TRL types in this category are the result of transference. Thus, it indicates the negative influences of insufficient amount of writing on language acquisition, as transference features increase in the grammatical and morphological aspects. In addition, as these influences appeared significantly only in relation to the grade 2-3 shifts in the amount of writing, this would suggest that early literacy practices affect the development of *Phonology* and *Grammatical and Morphological Acquisition* more significantly than those at a later stage.

On the other hand, the difference in *English Transference* between grades 2 and 3 was found to affect the amount of writing at grade 4. In interpreting this result, it should be noted that there was a general decrease in transference between grades 2 and 3, as discussed in Section 5.2.1.8. In fact, a further examination of the original data found that no increase was observed among subjects who continued to write in a diary at grade 4, and that the between-grade shift in the occurrence rate of *English Transference* was large for those who had a high TRL rate at grade 2. The result thus shows that those who originally had less transference from English increased their amount of writing at grade 4, compared to those who had more transference initially. In other words, those who had less inter-grade shift in *English Transference* wrote more at grade 4 than at grade 3. This effect was considerably robust, accounting for 99 per cent of the variance in the shift patterns of the amount of writing between grades 3 and 4. This indicates that despite the decrease in the overall amount of transference, the initial difference in the degree of transference remains and affects the amount of writing due to hesitation or difficulty in writing Japanese caused by the need to transfer words or expressions from English.

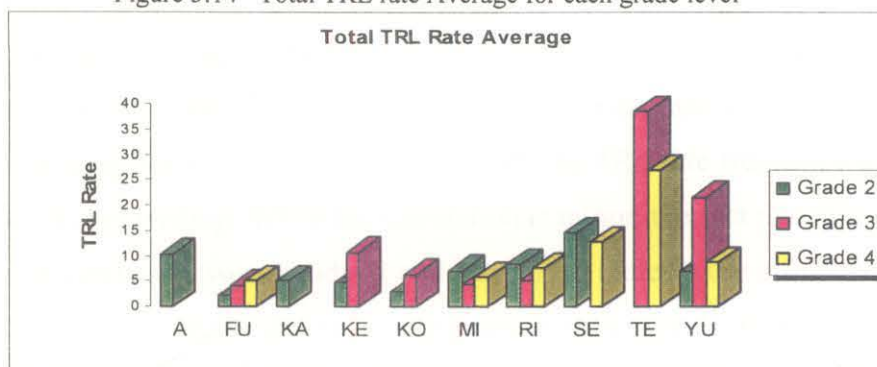
To summarize, the significant effects of writing practice on the TRL rate variance of *Phonology* and *Grammatical and Morphological Acquisition* were found, while the interrelationship between the degree of *English Transference* and the amount of writing was also revealed. However, causal factors are uncertain for other

categories. For this reason, possible factors other than longitudinal behaviors of writing practice will be assessed in Chapter 6.

5.2.2.2 Total TRL rate Average

As discussed in Section 5.2.1.9, there were large individual differences in Total TRL rate Average at each grade, and its shift patterns during the three-year period. Also, similarities were found between Total TRL rate Average at grade 2 and grade 4, and in the order of individuals when placed according to the degree of TRL rate at each grade level.

Figure 5.14 Total TRL rate Average for each grade level



In order to check whether the individual differences in the degree of literacy practices may relate to ability, the relationship with the factors of writing practices was examined. In particular, the factors tested were as follows: *Average Number of Words per Week* at each grade, and at all grades; *Average number of Words per Entry*, *Total Number of No Entry* (a total number of no diary entries in the three years), *Total Number of Words per Year*, and *Total Number of Words in Three Years*. For this purpose, a correlation analysis with pairwise deletion was conducted for Total TRL rate Average at each grade to investigate the connection with the factors aforementioned.

The results of the analysis revealed that significant correlation exists only for grade 4 Total TRL rate Average, and with particular factors. Specifically, a significant positive correlation was found with *Total Number of No Entry* (TOTN.NE) during three years, and a relatively significant negative correlation with *Average Number of Words per Week at grade 2* (AvNWpW2). Although a minor negative correlation appeared between *Total Number of No Entry* and *Average Number of Words per Week at grade 2*, the two might not be independent of each other. For this reason, only the

correlation regarding Total TRL rate Average will be discussed. The following are the results of the correlation analyses.

Fisher's r to z

	Correlation	P-Value	
TiTRLAv4, TotN.NE	.877	.0184	N=6
TiTRLAv4, AvNWpW2	-.861	.0665	N=5
TotN.NE, AvNWpW2	-.667	.1633	

The significantly positive correlation between the grade 4 Total TRL rate Average and *Total Number of No Entry* suggests that Total TRL rate Average at grade 4 is higher for the subjects who wrote fewer diary entries. In other words, infrequent writing practice is strongly related to higher production of TRL forms. It is also worth noting that this correlation appears only at grade 4, indicating the long-term effect of literacy practice.

The fact that the grade 2 *Average Number of Words per Week*, but not those per entry, is negatively related to Total TRL rate Average at grade 4 suggests that the frequency of writing has a stronger relationship with the TRL rate frequency than the number of words per writing. While the correlation is minor, the fact that this relationship only exists between grades 2 and 4 seems to indicate the influence of earlier writing practices on the ability in later years. In other words, there is a weak tendency to suggest that the children who wrote more, and practiced writing more frequently in the early stages of literacy development, produced fewer non-standard features in later writing.

Since correlation analysis only shows the degree of the linear relationship between two variables, a regression analysis was also conducted to clarify the possibility of a connection that is other than precisely linear. In order to investigate the predictive power of *Total Number of No Entry* and *Average Number of Words per Week at grade 2*, separate analyses were conducted for each variable, with Total TRL rate Average at grade 4 as a dependent variable. Causal direction was tested in this way, as the future cannot influence the past. Yet, as *Total Number of No Entry* includes the grade 4 period, the opposite causality was also examined.

An initial examination of the variable relationship by a bivariate scattergram showed that the relation between *Total Number of No Entry* and Total TRL rate Average at grade 4 is not strictly linear. For this reason, a polynomial regression analysis was done instead of a simple linear one. The results revealed that *Total Number of No Entry* is highly significant in predicting Total TRL rate Average at

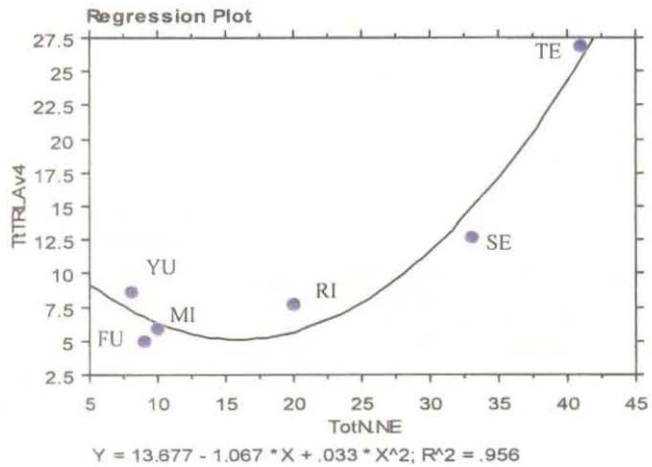
grade 4, and the influence of Total TRL rate Average at grade 4 on *Total Number of No Entry* is insignificant. The effect of *Total Number of No Entry* is apparent in the significantly high R squared value, which suggests that *Total Number of No Entry* explains about 96 per cent of the variance in Total TRL rate Average at grade 4. In addition, the considerably low p-value of the squared *Total Number of No Entry* shows its significance as an explanatory factor. Such significance was also supported by the low p-value (0.009) of the F-statistic for this regression analysis. The regression plot below shows how Total TRL rate Average at grade 4 (TtTRLAv4) increases with *Total Number of No Entry* (TotN.NE).

Regression Summary
TtTRLAv4 vs. TotN.NE

Count	6
Num. Missing	4
R	.978
R Squared	.956
Adjusted R Squared	.927
RMS Residual	2.205

Regression Coefficients
TtTRLAv4 vs. TotN.NE

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	13.677	3.973	13.677	3.442	.0412
TotN.NE	-1.067	.446	-1.828	-2.390	.0967
TotN.NE^2	.033	.009	2.739	3.581	.0373



From the graph, it can be observed that the curvilinear relationship of Total TRL rate Average at grade 4 and *Total Number of No Entry* is due to the variation of the two subjects, YU and TE. Their exceptional behaviors could be interpreted in two ways. One is the possibility of variance when *Total Number of No Entry* is below 20, and of the larger increase in Total TRL rate Average at grade 4 when it is above 35. The other is the initial difference of the subjects YU and TE, as they are on average, 3 years older than the other subjects are. That is, they were initially delayed in their linguistic development. However, as there is a large difference even between YU and TE, in addition to a linear relationship between the dependent and independent variable with other subjects as a group, the pattern would be better explained with the

two interpretations combined. While initial differences affect later ability to some extent, the overall consistency of writing practice has a much stronger influence on such an outcome. In other words, constant literacy practice would promote linguistic development, and ultimately minimize the initial differences.

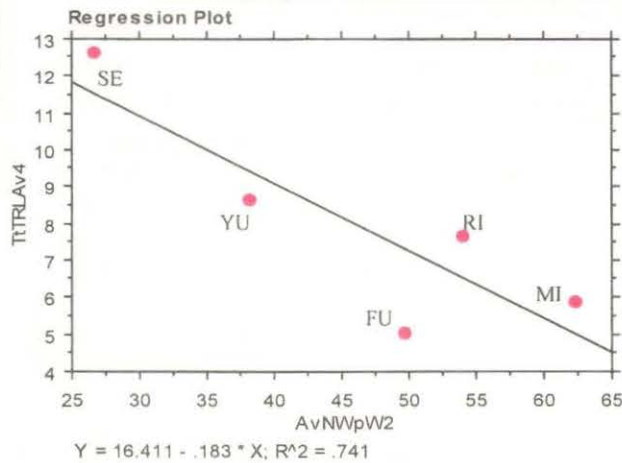
With regard to the relationship between *Average Number of Words per Week at grade 2* and Total TRL rate Average at grade 4, a simple regression analysis was conducted, as the scattergram of the two showed a fairly clear linear relation. In order to examine the effect of *Average Number of Words per Week at grade 2* on Total TRL rate Average at grade 4, the former was entered as the independent variable, and the latter as the dependent variable. The following result shows a relatively strong relationship between the two variables, with *Average Number of Words per Week at grade 2* (AvNWpW2) explaining 74 per cent of the variance in Total TRL rate Average at grade 4 (TtTRLAv4). The explanatory power of the independent variable is moderately significant, as shown in the fairly low p-value for *Average Number of Words per Week at grade 2*. The negative relationship between the two variables, in addition to individual variance, is also observed in the graph. Note that TE was absent at grade 2.

Regression Summary
TtTRLAv4 vs. AvNWpW2

Count	5
Num. Missing	5
R	.861
R Squared	.741
Adjusted R Squared	.655
RMS Residual	1.744

Regression Coefficients
TtTRLAv4 vs. AvNWpW2

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	16.411	2.985	16.411	5.498	.0118
AvNWpW2	-.183	.062	-.861	-2.933	.0608



Although the subject FU has a lower Total TRL rate Average at grade 4 than RI and MI despite the less *Average Number of Words per Week at grade 2*, this could be due to the fact that FU was 6 years old and the youngest of the grade 2 peers (ages of SE, YU, RI, and MI were 8, 10, 8, 7, respectively). In fact, FU's *Average Number*

of *Words per Week* increased to about 90 in the following year. Thus, it could be assumed that the age factor may affect this independent variable. While the case number is small due to lack of data for the other 4 subjects who were present at grade 2, but absent or stopped writing a diary at grade 4, there is an overall pattern that suggests that the amount of writing per week at an early stage of literacy development is influential in determining later writing ability.

While the importance of the two above-mentioned factors was detected by a correlation analysis, re-examination of other factors with a regression method found one more factor significant in explaining the variance in Total TRL rate Average at grade 4: *Total Number of Words in Three Years* (TotNW3Y). This variable did not show its significance with a method that only tests a simple linear correlation, as its relationship with Total TRL rate Average at grade 4 was highly curvilinear. Since *Total Number of Words in Three Years* is the absolute total number of words written during the three-year period, it provides a longitudinal record of literacy practice.

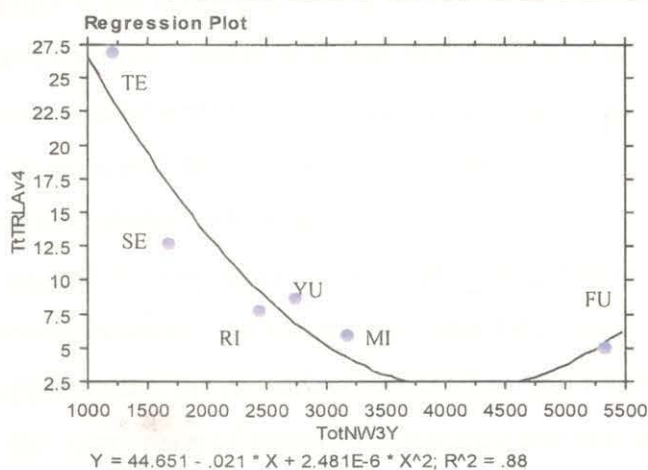
The result of a polynomial regression analysis showed that *Total Number of Words in Three Years* explains 88 per cent of the variation in Total TRL rate Average at grade 4 (TtTRLAv4). The probability of the F-statistic ($p = 0.042$) also indicated the significance of this variable.

Regression Summary
TtTRLAv4 vs. TotNW3Y

Count	6
Num. Missing	1
R	.938
R Squared	.880
Adjusted R Squared	.800
RMS Residual	3.649

Regression Coefficients
TtTRLAv4 vs. TotNW3Y

	Coefficient	Std. Error	Std. Coeff.	t-Value	P-Value
Intercept	44.651	8.261	44.651	5.405	.0124
TotNW3Y	-.021	.006	-3.669	-3.631	.0360
TotNW3Y^2	2.481E-6	8.346E-7	3.004	2.973	.0589



The regression plot shows that the rate of decrease in the grade 4 Total TRL rate Average with the increase in the number of words is much greater for the range of

subjects whose average number of words is below 2500. This indicates that the amount of writing has an especially significant influence on the occurrence of non-standard features when it drops under 833 words per year or 17 words per week on average. It should be noted, however, that the consistency of writing practice was found to be more important than the average number of words per week. Also noteworthy is that the total average number of words per week, which does not include the period of absence from the community school, is not as significant in influencing ability as *Total Number of Words in Three Years*, which is affected by such a factor. In other words, overall literacy practices through school attendance and diary writing have a considerable influence on ability.

In summary, the results of correlation and regression analyses regarding the relationship between Total TRL rate Average and writing practices found only longitudinal writing factors significant in explaining the variance in ability. In particular, it revealed that *Total Number of No Entry*, or the accumulated absence of writing practice in the three-year period, has a highly significant negative influence on writing ability, and *Average Number of Words per Week at grade 2* is relatively significant in predicting literacy at grade 4. That is, when children wrote more per week during grade 2, they produced less non-standard features in grade 4. In addition, the regression analysis found *Total Number of Words in Three Years* significant as an explanation for the variance in Total TRL rate Average at grade 4; the larger the amount of writing during the grade 2-4 period is, the smaller the rate of non-standard TRL type occurrence at grade 4 would be. Of the three factors that explain the variance in the levels of literacy at grade 4, the explanatory power of *Total Number of No Entry* was most significant (96 per cent), followed by *Total Number of Words in Three Years* (88 per cent) and *Average Number of Words per Week at grade 2* (74 per cent). Accordingly, the results suggest that the consistency of writing practice, the amount of writing in the long term, and the literacy development at an earlier stage are important in determining later ability in writing.

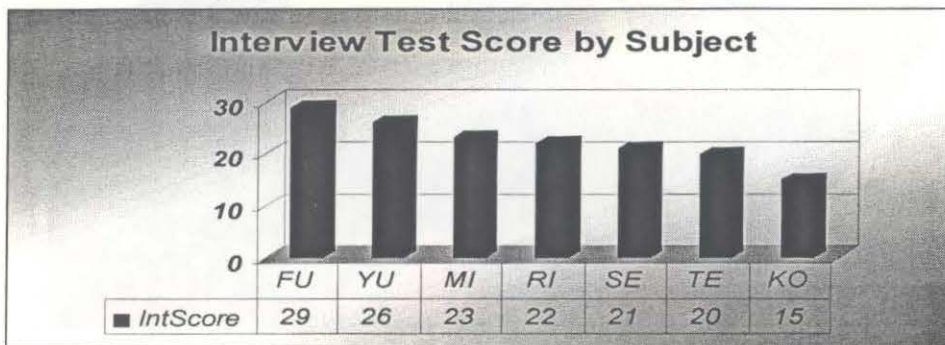
While the findings suggest the long-term influence of writing practices, which emerge as individual differences in ability, the variance of Total TRL rate Average could be partly due to the opportunities for use, or avoidance of certain linguistic structures. For this reason, the comparison of ability by a standard test may assess the within-group variance and its relationship with possible contributing factors more accurately. Also, the ability of the subject KO, whose TRL rate data at grade 4 was

unavailable, can be measured in this way. The Interview Test, which is a standardized instrument to assess literacy and general language ability, would thus clarify these points.

5.2.2.3 The Interview Test

The Interview Test aimed to elicit problematic aspects of the TRL system that had surfaced in the Translanguage Analysis, in order to investigate whether they are unique to a certain individual, the bilingual population, or common to a certain age group. For the Individual bilingual group, the degree of consistency in TRL occurrence patterns between the results of the Interview Test and the Translanguage Analysis was also examined. The result of the Interview Test on Individual bilinguals confirmed the existence of the within-group variance in both ability and tendency of each TRL type occurrence. The Interview Test Score (IntScore) measured the individual variance in literacy and general ability, and the number of TRL type occurrence in the test assessed the individual trend of TRL type production. The test results of Individual bilinguals are shown in Figure 5.15. Note that the full score is 48.

Figure 5.15 Interview Test Score by Subject



As can be seen from Figure 5.15, there is some variance in the test score. While the difference is fairly small between the scores of the subjects MI, RI, SE, and TE, there is a large gap between the highest and the lowest. Also noteworthy is the sudden drop in score from the second lowest to the lowest. The most striking finding, however, is that Parentage (endogamous or exogamous families) is not important in the development of literacy among this sample. To be specific, subjects FU, SE, and KO are from endogamous families, but FU scored highest while KO scored lowest, and SE scored lower than the average. This shows that children whose parents are

both Japanese do not necessarily possess better Japanese literacy than those who have only one Japanese parent. In fact, a correlation analysis found no significant relationship between Parentage and the Interview Test Score.

Accordingly, other possible factors that contribute to variance in literacy need to be examined. Initially, causal factors behind the variance patterns of the Interview Test Score will be examined through an analysis of TRL type occurrence pattern, which would illuminate areas of weakness in ability. In other words, it would provide a clue as to which aspect contributed to the loss of score in the test. Subsequently, the effect of writing practice on literacy will be investigated by a regression analysis. Figure 5.16 presents the pattern of TRL occurrence for each subject, which makes such an observation possible. Details of the TRL types elicited or possible to emerge in the Interview Test are listed in Table 5.3.

Figure 5.16 The occurrence of TRL Types in the Interview Test among Individual bilinguals

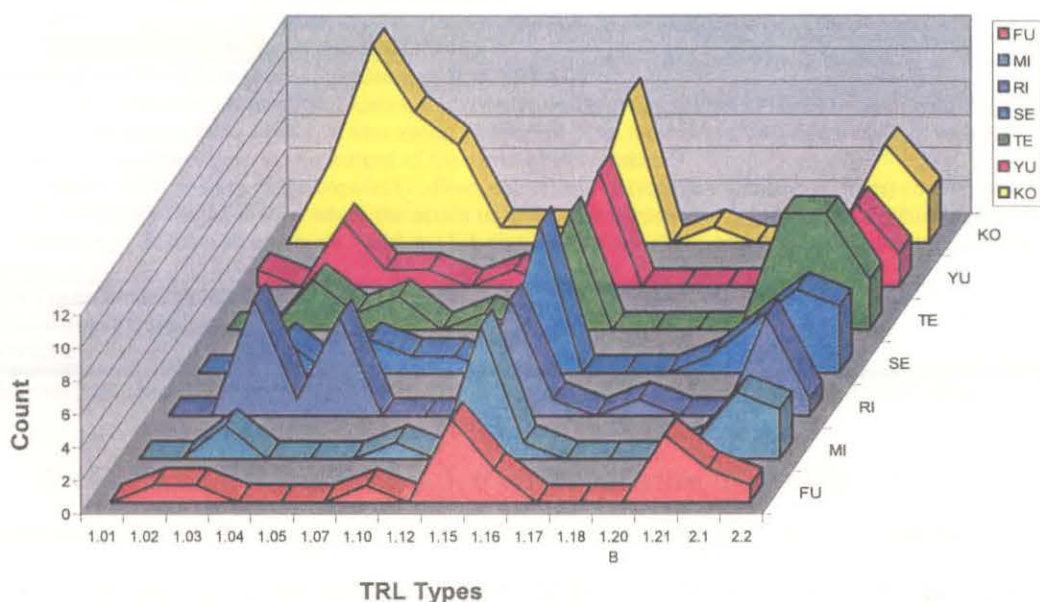


Table 5.3
TRL types elicited in the Interview Test

Phonology (PHONO)
1. 01. Lack/non-standard use of a voiced sound marker 1. 02. Lack/non-standard use of the small <i>tsu</i> for a geminate obstruent consonant
Phonology and Orthography (PHONORTH)
1. 03. <i>Kana</i> non-standard spelling 1. 04. Lack of one <i>kana</i> syllable (non-standard spelling)
Kana Orthography (ORTHHRKT)
1. 05. <i>Katakana</i> and <i>hiragana</i> mixing 1. 07. Use of large letter instead of small letter
Kanji Orthography (ORTHKANJ)
1. 03a. <i>Kanji</i> non-standard spelling 1.0 6. <i>Hiragana</i> non-standard spelling after <i>kanji</i>
Grammatical and Morphological Development (GRMMRPDV)
1. 09. Lack/non-standard use of the topic marker <i>ha</i> /the subject marker <i>ga</i> 1. 14. Adjective/ <i>na</i> -adjective confusion, adjective inflection 1. 15. Counters 1. 17. Verbal inflection 1. 18. Tense confusion (present/past tense verb, present/present progressive tense verb) 1. 21. Other non-standard features
Homophone (HOMPHON)
1. 20 Homophonic confusion A. <i>wa/ha</i> (pronounced as / <i>wa</i> /) confusion B. <i>u/o</i> confusion C. <i>he</i> (pronounced as / <i>e</i> /) <i>e</i> , <i>i/e</i> , <i>yu/i</i> confusion D. <i>o/O</i> , <i>ho/O</i> , <i>yo/o</i> confusion E. Voiced sound for <i>chi/shi</i> , <i>su/tsu</i> confusion
Grammatical and Morphological Acquisition (GRMMRPAC)
1. 10. <i>de</i> (location of action, means)/ <i>ni</i> (location of existence, indirect object) and <i>O</i> (direct object) confusion: treatment of an indirect object as a direct object, or vice versa; ; treatment of an intransitive verb as a transitive verb 1. 11. Use of the possessive marker <i>no</i> instead of the direct object marker <i>O</i> 1. 12. <i>de</i> (means: with, <i>te</i> -form of the copula)/ <i>O</i> (direct object) and <i>to</i> (together with)/ <i>kara</i> (from) confusion 1. 16. <i>ni</i> (1. location or target toward which the action or motion progresses: to; 2. location in/at which something exists, resides, etc.; 3. time: at, on, in, etc.) and <i>de</i> (1. Location in/at which the action occurs or is done; 2. means) confusion
English Transference (ENGTRF)
2. 1. Transference from English 2. 2. Direct translation from English

* TRL types in shading were not intended for elicitation but they occurred in the responses of a few subjects.

From Figure 5.16 and Table 5.3, it can be seen that most of the TRL types elicited appeared in the Interview Test on Individual bilinguals. Also, it can be observed that there are some similarities and differences between individuals in the occurrence of TRL types. As discussed earlier, the longitudinal Translanguage Analysis found that the within-group variance is large in the *Phonology and Orthography* and *Grammatical and Morphological Development* categories. In particular, the TRL types in these two categories emerged in the Interview Test are Types 1.03 and 1.04 for *Phonology and Orthography* and Types 1.15, 1.17, 1.18, and 1.21 for *Grammatical and Morphological Development*. It should be noted that there was a variation in the degree of within-group variance in the component TRL types of

the *Grammatical and Morphological Development* category, and Types 1.15 and 1.21 are among those found to have a large variance.

As apparent in Figure 5.16, there is indeed a large variance in the TRL occurrence of the *Phonology and Orthography* category, with subjects FU and KO having a 10-point difference for Type 1.03 (*kana* non-standard spelling), and a 7-point gap for Type 1.04 (the lack of one *kana* syllable). These differences are reflected in the Interview Test Score, as FU scored the highest and KO the lowest. It is worth mentioning that KO did not have a particularly high TRL rate at grade 3 in the Translanguage Analysis, though the data is absent during grade 4 due to the total lack of diary entry by this subject. Subject FU, on the other hand, generally showed a low TRL rate throughout the Translanguage Analysis. These TRL rate shifts are observed in Figure 5.1, presented earlier. Among the rest of the subjects, there was not much difference, except for the relatively high occurrence of Type 1.03 for RI. This was rather surprising, as there was more variance in the Translanguage Analysis for this category, and the TRL rate was especially high for the subject TE. This smaller variance could be due to the fact that mainly familiar words were employed for the writing task of the test, so there might have been less opportunity to produce creative spellings for less familiar words. In this light, it could be assumed that KO and RI produced non-standard forms even to write familiar words.

As for Types 1.15, 1.17, 1.18, and 1.21 for the *Grammatical and Morphological Development* category, a mostly consistent pattern of TRL occurrence with the Translanguage Analysis has emerged, with the exception of Type 1.15 (non-standard use of counters). To be specific, as anticipated, small variance was observed for Type 1.17 (non-standard verbal inflection) and 1.18 (tense confusion), and large variance was found for Type 1.21 (other non-standard features). However, Type 1.15 showed a contrasting pattern from the Translanguage Analysis: rather small variance, contrary to the pattern found in the longitudinal observation.

The small variance of Type 1.15, non-standard use of counters, could be understood in relation to the opportunity to use this structure. In the Interview Test, the counter use was specifically tested, but its use in the diary for the Translanguage Analysis depended on voluntary motivation and context of writing. As a result, non-standard features surfaced in the Interview Test, though they were only observable in the Translanguage Analysis among a few subjects who used counters. In addition, a relatively high occurrence of this TRL type was observed in the Interview Test.

Therefore, the test results show that the use of counters is generally difficult to master for Individual bilinguals. This also seems to indicate the lack of opportunities to use and learn a variety of counters in their daily life.

Type 1.17 (non-standard verbal inflection) was only produced by the subject KO, and it was merely a single instance. The variance for this TRL type was thus extremely small. Although the lack of occurrence of this TRL type is mainly due to the nature of the task for the test, which required only simple verb reflection use, the small variance pattern is consistent with the Translanguage Analysis finding discussed in section 5.2.1.5. The development of verbal inflection use, therefore, appears to be at a similar level in general.

Another TRL type in the *Grammatical and Morphological Development* category that showed a significantly small variance in the Translanguage Analysis is 1.18, tense confusion. In the Interview Test, only RI made Type 1.18, though it was merely one instance. While the fact that present progressive verbs were mainly required for the test might have reduced the likelihood of TRL occurrence, the consistency of the small variance with the Translanguage Analysis is of note. In addition, it is of interest that the subject RI was the only one who produced this TRL type at grade 4 according to the Translanguage Analysis data. Since the Interview Test was conducted in the grade 4 period, this is also in line with the Translanguage Analysis finding. Thus, there is a good indication that tense confusion hardly occurs at grade 4 level, except for one individual.

With regard to Type 1.21 (other non-standard features), a large individual variance was found in the Interview Test. While subjects RI and YU produced none of this TRL type, and KO and MI had only a single instance, TE, FU, and SE produced 7, 4, and 3 instances of this TRL feature, respectively. The pattern of TRL occurrence roughly corresponds to that of the Translanguage Analysis at grade 4 level. The comparison was not possible for KO, as his data at grade 4 was not available for the reason mentioned earlier. Only MI showed a somewhat different pattern from the Translanguage Analysis. As discussed in Section 5.2.1.5, the variance for Type 1.21 was small at grade 2, but notably large at grade 4. Since both the Translanguage Analysis and the Interview Test confirmed a large variance, it seems to indicate the existence of idiosyncratic language rules in different aspects, which has developed during the course of each individual's literacy development.

Other TRL categories that did not show a particularly large variance were also examined for consistency with the Translanguage Analysis. These are *Phonology*, *Kana Orthography*, *Homophone*, *Grammatical and Morphological Acquisition*, and *English Transference*. Upon examining each of these categories, it was found that *Phonology* (Types 1.01 and 1.02) had a consistently small variance for Type 1.01, but a larger variance for Type 1.02. In particular, Type 1.01, lack/non-standard use of a voiced sound marker had an extremely small occurrence, showing the mastery of this marker by most subjects. Likewise, Type 1.02 (lack/non-standard use of the small *tsu* for a geminate obstruent consonant) appeared only in subjects FU (once) and KO (5 times). This shows that most subjects learned the standard use of this consonant marker, but some have not yet acquired it.

As for *Kana Orthography*, the test result showed consistent patterns of TRL occurrence and variance for Type 1.07, but a somewhat different outline for Type 1.05, *hiragana* and *katakana* mixing. Specifically, more variance was found for 1.05, as subjects KO and RI had a much higher occurrence rate of this TRL type than most subjects. Moreover, KO and RI had no occurrence of Type 1.05 at grade 3, and at grade 4, respectively. In the case of KO, it was due to an inability to recall *katakana*, which was most likely caused by the total absence of diary writing, and possibly from the lack of other literacy practices. As for RI, it is uncertain why this TRL type did not occur in her diary entries, but it could be that *katakana* were written with the help of reference materials.

The variance and the occurrence pattern of the *Homophone* category were consistent with the Translanguage Analysis. Only Type 1.20B, homophonic confusion of *u* and *o*, occurred in the Interview Test, and only the subject SE made this TRL type, while others used the appropriate script for these homophones. This pattern in fact corresponds to grade 4 data for the Translanguage Analysis. Thus, it is likely that Type 1.20B is an individual phenomenon unique to SE at a grade 4 level. The lack of other homophonic TRL types, consistent with their relatively small occurrence in the Translanguage Analysis during the grade 4 period, indicates either the standard use is mastered or that these forms are avoided. For instance, the lack of topic marker use in the Interview Test among this sample can be a reason for the absence of Type 1.20A, homophonic confusion of *wa* and *ha* (pronounced /*wa*/ as the topic marker).

In the *Grammatical and Morphological Acquisition* category, TRL types emerged in the Interview Test are 1.10, 1.12, and 1.16. Of the TRL types elicited in

this category, it was only Type 1.11 that did not appear. In the Translanguage Analysis, Type 1.11 only occurred with subjects YU and TE, at grades 2 and 3, respectively. At grade 4, no subject produced this TRL type. Thus, the consistency of the Interview Test and the Translanguage Analysis results confirmed that the use of the possessive marker *no* instead of the direct object marker *O* is unique to the two subjects and at earlier stages of literacy development.

The variance patterns of Types 1.10, 1.12, and 1.16 were similar to those found in the Translanguage Analysis. In particular, variance was small for Type 1.10, as it occurred with all but one subject, RI, and only a single instance was found for those who showed this TRL feature. Considering the limited opportunities to produce this TRL type and the chance of paraphrasing that does not show the aspect concerned, the occurrence pattern shows that this TRL feature is fairly common among Individual bilinguals. That is, the treatment of an intransitive verb as a transitive verb is a shared feature among this sample.

Only a single instance of Type 1.12 occurred in the Interview Test, which was produced by the subject KO. As discussed in Section 5.2.1.7, the variance for this TRL type was significantly small at all grade levels, since its occurrence was rare and found among few subjects. At grade 4, there was no occurrence of Type 1.12, though the data for KO is not included. Thus, the occurrence pattern in the Translanguage Analysis and the Interview Test corresponds. In other words, confusion of markers *de* (means, *te*-form of the copula)/*O* (direct object) and *to* (together with)/*kara* (from) does not occur in most subjects at grade 4 level.

The pattern of the Type 1.16 occurrence in the Interview Test was relatively consistent with the Translanguage Analysis. As subjects FU and RI had this TRL type at grade 4 in the longitudinal analysis, their production of this TRL type in the test shows a consistent pattern. In contrast, the occurrence of Type 1.16 with MI is rather perplexing, as she did not make this TRL type during the three-year investigation. While it is true that MI rarely used markers *de* (location of action, means) or *ni* (location of existence, time), the two were not confused in her writing. It could be that this lack of use may have led to the uncertainty of distinguishing the two markers. In fact, the sudden appearance of Type 1.16 was observed in 4 subjects during the longitudinal study; to be specific, it appeared after a year of absence in FU, KE, and RI, and after two years in YU. As mentioned in the previous section, Type 1.16 increased significantly during the grade 4 period. Thus, considering the fact that this

TRL type increases at a later stage of literacy development in most subjects, it is possible this also occurred with MI.

The absence of this TRL type in SE, TE, and YU in the Interview Test was analyzed further, and some explanation for each case was found. Since SE ceased to produce Type 1.16 at grade 4, its non-appearance is consistent, confirming the acquisition of the marker use concerned. In the case of TE, it was found that Type 1.16 did not occur because the direct object marker *O* was used where the location markers *de/ni* was supposed to be used. It thus shows that TE's knowledge regarding the use of location markers is still developing. YU used the appropriate location marker *de* for one of the questions, but used the direct object marker for another, where the other location marker *ni* was elicited. However, this behavior corresponds to the longitudinal data; YU used *de* where *ni* was required as a time marker, but never confused *de* and *ni* when they are used for location. Since only the location marker use was tested in the Interview Test, this accounts for the non-occurrence of Type 1.16 in YU. Accordingly, the occurrence patterns of the TRL types in the *Grammatical and Morphological Acquisition* category tested in the Interview Test were generally consistent with those of the Translanguage Analysis.

With regard to the *English Transference* category, there was a fairly large variance in the occurrence of Type 2.1 (transference from English), and some variance for Type 2.2 (direct translation from English). This is contrary to the results of the Translanguage Analysis at grade 4 level, especially for Type 2.1. A comparison of the individual trend between the two investigations found that there is also an inconsistency in the occurrence pattern of these TRL types. Specifically, it appears that those who have a low TRL rate in the Translanguage Analysis do not necessarily have a low TRL type occurrence in the Interview Test. This was particularly so with the subject MI; Type 2.1 occurred 4 times despite the total absence of this TRL type during grade 4 in the Translanguage Analysis. Similarly, SE's relatively low TRL rate (0.086) in the Translanguage Analysis did not correspond to the test result: 5 incidences of Type 2.1. Some consistency was found only with the subject RI, whose somewhat higher TRL rate (0.538) corresponded to the occurrence count being higher than the mean. The inconsistency is likely to be a result of communicative stress in the test; avoidance of uncertain structures is for the most part not possible in the test, unlike in the diary. In other words, the subjects had little choice but to utilize all their knowledge to answer the questions in the Interview Test. In this regard, the Interview

Test may reflect the extent of transference more accurately than the Translanguage Analysis for some subjects. The same would be true with Type 2.2, as the TRL rate of individuals did not particularly match the occurrence pattern in the Interview Test.

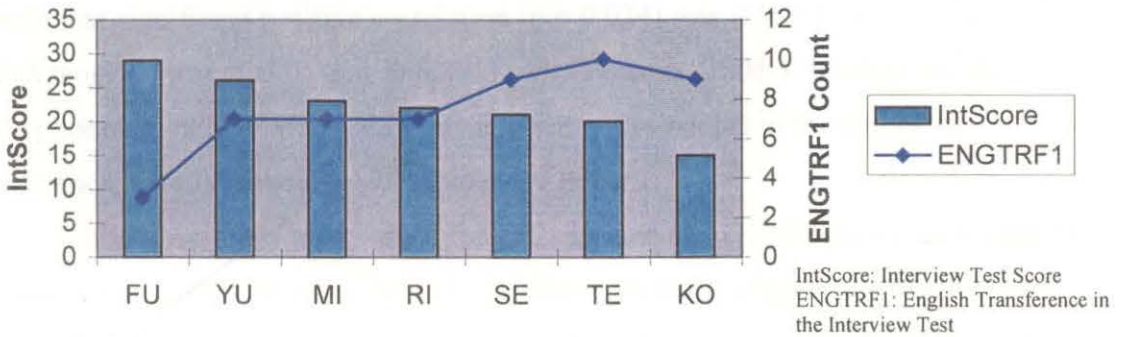
Since the extent of transference may relate to ability, the correlation between the Interview Test Score and *English Transference* was investigated. The result of a correlation analysis showed a significantly high negative correlation between the two. In other words, a higher test score correlates with lower *English Transference* occurrence. A comparison of the individual cases is also illustrated in Figure 5.17.

Fisher's r to z

	Correlation	P-Value
IntScore, ENGTRF1	-.826	.0186

N=7

Figure 5.17 IntScore & ENGTRF1 by Subject



As can be seen from Figure 5.17, there is a large gap in the count of *English Transference* between the highest and the second highest scores. Also worth noting is that the amount of *English Transference* is the same from the second highest to the median score, but increases below the median. These patterns indicate the close connection between the degree of transference and ability. However, it should be noted that the decrease in score with transference does not proceed at the comparable degree with all subjects. This seems to indicate that *English Transference* is not the only significant factor that contributed to the loss of score, but that there are also other factors.

Consequently, the correlation between the test scores and the occurrence of other TRL categories was also examined. The results found that *Phonology and Orthography* and *Kana Orthography* are the two categories other than *English Transference* that reveal a relationship with the Interview Test Score.

Fisher's r to z			Fisher's r to z				
	Correlation	P-Value		Correlation	P-Value		
IntScore, PHONORT1	- .752	.0506	N=7	IntScore, ORTHRKT1	-.763	.0448	N=7
PHONORT1: <i>Phonology and Orthography</i> in the Interview Test				ORTHRKT1: <i>Kana Orthography</i> in the Interview Test			

In addition, an analysis through a bivariate scattergram with regression line showed that these TRL aspects are especially common among some subjects, specifically, RI and KO. This pattern is also apparent in Figure 5.17 shown earlier. The negative correlation with each category thus indicates that weakness in orthographically related ability is the second major reason contributing to the loss of scores after *English Transference*. Furthermore, correlation analyses between these TRL categories found a significantly positive relationship between *Phonology and Orthography* and *Kana Orthography* ($p = 0.016$), but none of them correlated significantly with *English Transference*, though they were positively related. Yet, it is notable that significant positive correlation ($p = 0.024$) was found between *Phonology and Orthography* at grade 4 and *English Transference* at grade 3. In other words, while phonologically related orthographic abilities are related to the degree of transference, mainly orthographic abilities are not.

While these analyses revealed the TRL aspects that significantly contributed to the loss of test score, and some individual differences in the degree of TRL occurrence in such aspects, the fundamental factors that play a part in the degree of mastery of these particular aspects need to be examined for further explanation of individual variance. For this reason, the significance of the factors of writing practice in predicting the Interview Test Score was investigated by a regression analysis. Since all factors showed a clear linear relationship with the Interview Test Score, simple regression was the only method used. The predictor variables used are the same as those of Total TRL rate Average analysis discussed earlier in Section 5.2.2.2. Specifically, they are *Total Number of Words in Three Years* (TotNW3Y), *Average Number of Words per Week at Grade 3* (AvNWpW3), *Total Number of Words at Grade 3* (TNW3), *Total Average Number of Words per Week* (ToAvNWpW), *Total Number of No Entry* (TotN.NE).

The results revealed that *Total Number of Words in Three Years* is the most significant predictor of the variance in the Interview Test Score (81 per cent), followed by *Average Number of Words per Week at Grade 3* (80 per cent), *Total*

Number of Words at Grade 3 (72 per cent), *Total Average Number of Words per Week* (71 per cent), and *Total Number of No Entry* (66 per cent). As there are many variables, the results are summarized in Table 5.4.

Table 5.4 Regression analysis of predictors of the Interview Test Score

	Std. Coeff.	R squared	P-value	
<i>Total Number of Words in Three Years (TotNW3Y)</i>	.897	.805	.0061	N=7
<i>Average Number of Words per Week at Grade 3 (AvNWpW3)</i>	.894	.800	.0162	N=6
<i>Total Number of Words at Grade 3 (TNW3)</i>	.846	.716	.0165	N=6
<i>Total Average Number of Words per Week (ToAvNWpW)</i>	.845	.714	.0166	N=7
<i>Total Number of No Entry (TotN.NE)</i>	-.814	.663	.0258	N=7

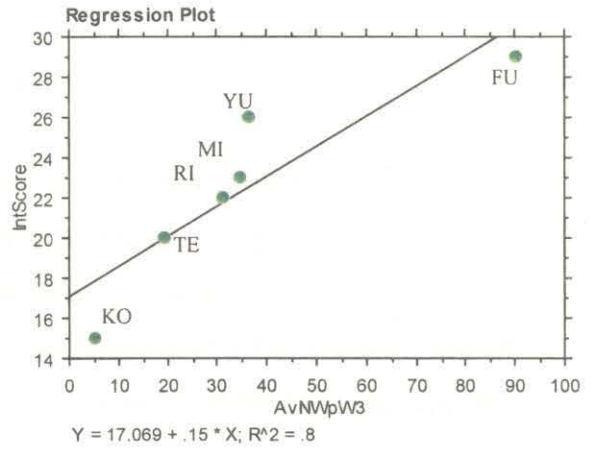
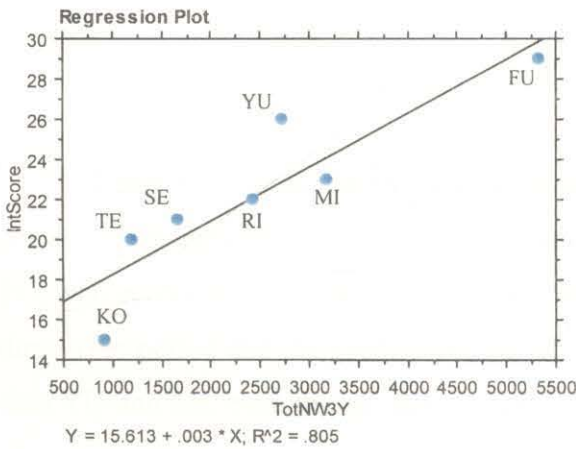
Std. Coeff.: Standardized Coefficients/Beta

The exceptionally low p-value for *Total Number of Words in Three Years* indicates that long-term literacy practice has a highly significant effect on ability. It showed a fairly clear linear relationship with the Interview Test Score; that is, the more diary writing was practiced during the grade 2-4 period, the higher the test scores were. Interestingly, this variable showed a significant curvilinear relationship with Total TRL rate Average at grade 4. This difference could be due to the fact that the opportunities to produce TRL types are limited, and that the same opportunity was given for all subjects in the Interview Test, unlike in the diary used for the Translanguage Analysis. That is, a much higher rate of increase in the TRL feature occurrence among those who wrote a fewer number of words may have caused a curvilinear pattern for Total TRL rate Average analysis, but the rate of TRL rate increase is more stabilized with the Interview Test.

Of the predictor variables, *Total Number of Words in Three Years* and *Total Number of No Entry* also showed a significant relationship with Total TRL rate Average at grade 4. Thus, it indicates the consistently significant effects of these factors on ability. Another finding of interest is that more factors were found relevant to the Interview Test Score, than to Total TRL rate Average. As mentioned earlier, this could be due to the fact that Total TRL rate Average in the Translanguage Analysis may not reflect ability in all TRL aspects because of avoidance, and the occurrence of non-standard features in some aspects such as *Kanji Orthography*, is a part of the learning process. On the other hand, all subjects were given the same opportunities to show their ability in a variety of TRL aspects in the Interview Test. In addition, the subject KO whose data was unavailable for the grade 4 Total TRL rate

Average was included in the Interview Test. As a result, the relevancy of factors might have become more evident in relation to the Interview Test.

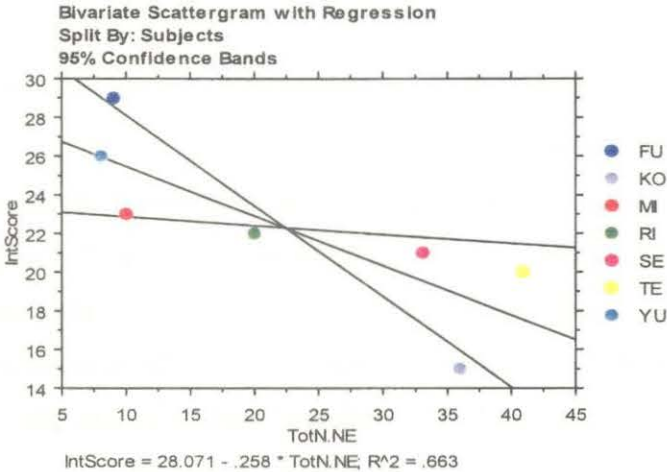
Another effect worth noting is the ordering of factors in grade 3 literacy practice — the average amount of writing per week, which do not include the period of absence from school, and the absolute amount of writing per year regardless of absence from school — are important in the order mentioned. This shows that relatively recent writing practice (6 to 12 months before the test) has a fairly significant influence on the test results. While these were not as significant as *Total Number of Words in Three Years*, which is the unconditional total of words in the diary from grades 2 to 4, the similarity in the distribution of individuals in the analyses of *Total Number of Words in Three Years* (TotNW3Y) and *Average Number of Words per Week at Grade 3* (AvNWpW3) is of note. This is apparent in the following graphs.



The lower predictive power of *Total Average Number of Words per Week*, though it is relatively strong, could be accounted for by the fact that it excludes the period of absence from school. That is, an individual with a fairly large amount of writing per entry despite the absence from school would have a higher average than those who wrote relatively little but more consistently. Thus, it may disguise the long-term effect of literacy practice, including sites other than diary entries. In fact, the examination of the variable relationship by a scattergram found that such was the case with some subjects. In particular, SE had a higher average number of words than YU, MI, and RI, but a lower test score.

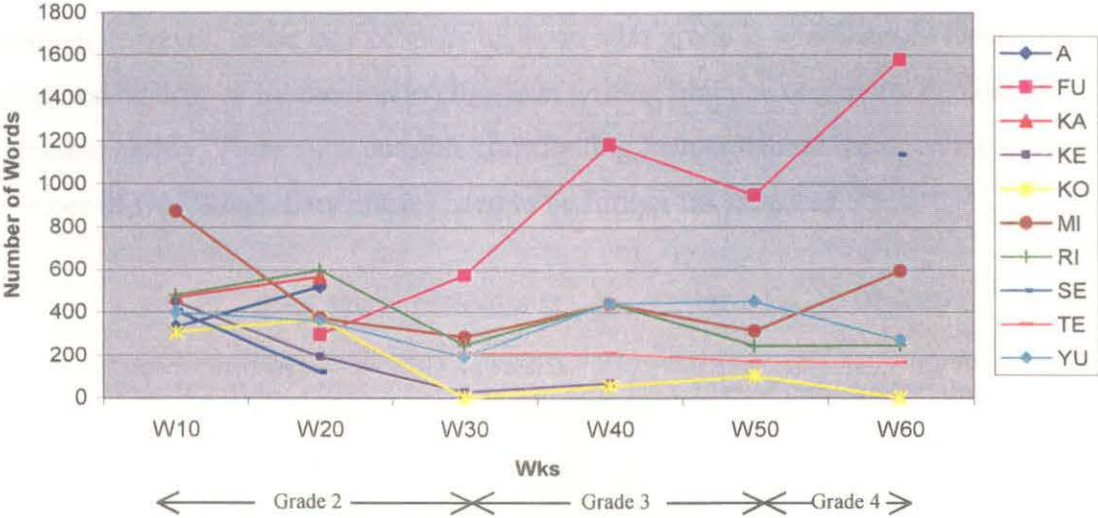
While *Total Number of No Entry* (TotN.NE) was the best predictor of Total TRL rate Average at grade 4, it did not show the same degree of significance in

relation to the Interview Test Score. Further examination of the relationship with a scattergram revealed some existence of curvilinear relations. As shown in the following graph, compared to the rest of the group, the rate of increase in the test score is much faster with subjects whose *Total Number of No Entry* is below 10. There is also an outlier with a higher number of non-entries, which behaves differently from the others.



Upon examining individual cases across the analyses of different factors, some possible explanations of the outliers were found. As shown in Figure 5.18, Subject FU, who scored the highest in the test, had the largest amount of writing both in the three-year period and the grade 3 period. This may explain why FU's score is higher than YU and MI, even though their counts of *Total Number of No Entry* are similar to FU.

Figure 5.18 Average Number of Words per 10 Wks



With reference to some inconsistency in the linearity concerning YU and MI, it seems the degree of writing practice during grade 3 made the ultimate difference in their test scores. In other words, the higher score of YU than MI is explained more by the amount of writing at grade 3, rather than the overall amount of writing in three years. Furthermore, an examination of the shift in *Average Number of Words per 10 Weeks* (see Figure 5.18) found that during the period from the first 10 weeks of grade 2 to the last 10 weeks of grade 3, the amount of writing dropped by 64 per cent with MI, while it increased by 13 per cent with YU. Such a change seems to be reflected in the test score.

In the case of the outlier KO, who scored the least in the Interview Test, it is obvious that he wrote the least in the group, both in the three-year total and the grade 3 total or average per week. Also notable is the complete absence of diary writing at grade 4. Such a long-term lack of writing practice is the most likely cause of KO's particularly low score and the high occurrence of TRL types, especially in orthography and transference. Also, it explains KO's inconsistent pattern in the regression analysis of the effects of *Total Number of No Entry* on the Interview Test Score. While the overall total of no entry affects ability to a fairly large extent, the degree of concentration of the no entry period would have influenced the result further. Another finding of interest is that KO's *Average Number of Words per 10 Weeks* was comparable to other subjects during the first 20 weeks of grade 2, unlike in the later grades, and that KO had relatively less production of transference TRL types compared to other subjects at the initial stage. These show that the initial ability declined due to the lack of writing practice. While the regression analyses in Section 5.2.2.1 revealed that the initial degree of transference at grade 2 affected the amount of writing between grades 3 and 4, the cause of decline in literacy practice between grades 2 and 3 is uncertain. One possible reason for KO's discontinuance of diary writing, however, is the lack of visits to Japan after grade 2, which might have triggered his loss of motivation to engage in writing practice or general decline in Japanese ability. Thus, such possible contributing factors behind the decrease in the number of words and diary entries need to be further investigated.

5.3 Conclusion

In summary, this chapter examined the group and individual trends in the longitudinal development and maintenance of TRL literacy among Individual bilinguals, and its connection with factors of writing practice. In the first section, the degree of inter-grade shift in the TRL rate and within-group variance for each TRL type of 8 TRL categories was analyzed to assess the longitudinal group trend and the within-group variance. It revealed the increase in the TRL rate for certain TRL types in *Grammatical and Morphological Development* and for *Grammatical and Morphological Acquisition* as a whole, but the decrease for *English Transference* in general. In addition, large individual variance in the TRL rate was found for *Phonology and Orthography* and for some TRL types in *Grammatical and Morphological Development*, whilst it was generally small in *Phonology, Kanji Orthography, Grammatical and Morphological Acquisition, and Homophone* categories.

The subsequent section investigated the relationship between these individual variances and the factors of longitudinal writing practice. The analyses found a significant relationship between consistent writing practice and literacy. Especially of note is that the positive effect of consistent writing practice was stronger than the generally claimed negative influence of exogamous marriage on minority language development and maintenance (see Section 2.6). The examination also elucidated great individual variance in the degree of engagement in such literacy practice. Whereas some subjects wrote a fairly large amount consistently, others showed inconsistency in the amount of writing and the frequency of its practice. These differences were clearly reflected in Total TRL rate average at grade 4 and the Interview Test Score, as confirmed by the statistical analyses. The reason for such individual variance in writing practice and the consequential difference in the degree of development and maintenance of literacy would also involve factors other than longitudinal writing practice. This is due to the connection between ability and the individual and socio-cultural context, as discussed in Section 2.3. Behind the constant writing practice and the development of ability, there would be a promoting individual context, such as a supportive home environment and a child's degree of use of, and exposure to, the language. Furthermore, the socio-cultural context surrounding such individual context would have a further influence on ability, as it is the basis of

the individual context. For this reason, the influence of the socio-cultural and the individual contexts on ability will be examined in the next chapter.

CHAPTER 6

THE SOCIO-CULTURAL AND INDIVIDUAL CONTEXT OF ABILITY

6.1 Introduction

In the preceding chapter, the longitudinal development and maintenance of Translanguage (TRL) literacy in Individual bilinguals was examined in detail, revealing some differences in the degree of inter-grade shift in TRL rate and within-group variance for each TRL category. While consistent longitudinal writing practice was found significant in promoting ability, other possible contributing factors remain to be explored. Specifically, these are the potential influences of the socio-cultural and the individual contexts on ability. The present chapter thus investigates both internal and external factors surrounding an individual's language development and ability. Note that here, not only does ability mainly refer to literacy, but that it is also interrelated to general language ability. Initially, the influence of the socio-cultural context on ability will be examined in terms of contact and community. That is, the influences of growing up in situations where two languages and cultures are in contact will be examined by comparing ability between the bilingual and monolingual populations. Likewise, the effects of the presence of an ethnolinguistic community will be analyzed by comparing the abilities of Community bilinguals and Individual bilinguals. In addition, an analysis will be made in relation to the effects of contact on monolinguals, by comparing the ability of Contact monolinguals and Non-contact monolinguals. Subsequently, the influences of the individual context on ability will be assessed for both bilingual groups, together with a possible difference between the two in the individual context. As discussed in Section 2.3, the individual context includes 'origin', 'attitudes', and 'use', though 'use' partly belongs to the socio-cultural context. Each of these contexts includes a range of variables, and the influence of each factor will be investigated in relation to the specific aspects of literacy and general literacy. Finally, the influence of the socio-cultural context on the individual context will be examined to clarify the interrelationship that affects individual ability.

6.2 The influence of the socio-cultural context on ability

In this section, the data on the degree of literacy development in bilinguals will be compared cross-sectionally with the monolingual population, and between the two bilingual groups. In addition, the two monolingual groups were compared to see whether the difference found in Section 4.3.2 (the incidence of transference forms among Contact monolinguals) is statistically significant. For these analyses, the TRL type occurrence per 100 words for each of the 8 compounds TRL categories in the Translanguage Analysis (see Section 5.2), the TRL type occurrence count in the Interview Test, and the Interview Test Score were used as a measure of ability. The comparisons were made at the same grade and age level for the Translanguage Analysis measures (grade 2-4), respectively. As for the measures related to the Interview Test, they were assessed only at grade 4 level for same grade comparison, and at the same age level within grade 4. This is because the Translanguage Analysis data for Individual bilinguals were collected during the grade 2-4 period, and their Interview Test data was collected at grade 4. Also, bilinguals have variance in age within the same grade unlike monolinguals, which need to be assessed for its effect as well as the age-norm ability in each group.

The procedure used to investigate differences in the key comparisons was multiple regression analysis. Dummy variables shown in Table 6.2 were established for the three contrasts described in Table 6.1:

Table 6.1 The three contrasts of ability among 4 groups

Sample types				Types of contrast
Individual bilinguals	Community bilinguals	Contact monolinguals	Non-contact monolinguals	
0.5	0.5	-0.5	-0.5	1. Bilinguals vs. Monolinguals
1	-1	0	0	2. Individual bilinguals vs. Community bilinguals
0	0	1	-1	3. Contact monolinguals vs. Non-contact monolinguals

Table 6.2 Dummy variables for the key comparisons including 4 groups

Types of the sample		Bilinguals vs. Monolinguals (BILING)	Individual bilinguals vs. Community bilinguals (COMBIL)	Contact monolinguals vs. Non-contact monolinguals (CONTAC)
Individual bilinguals:	School = 1	0.5	0.5	0
Community bilinguals:	School = 2	0.5	-0.5	0
Contact monolinguals:	School = 3	-0.5	0	0.5
Non-contact monolinguals:	School = 4	-0.5	0	-0.5

For further statistical information regarding how these dummy variables and contrasts will work in a linear regression model, see Appendix E.

Analyses of the three contrasts were performed successively within each grade (2/3/4) with and without Age as a covariate. For the Translanguage Analysis data, the compound TRL rate for each TRL category was used as the dependent variable, with the three contrasts as the independent variables. Similarly, the same independent variables were entered for the Interview Test measure, with the TRL type occurrence count in each category and the Interview Test Score as the separate dependent variable. In this way, each of the three contrasts is made in relation to the different dependent variables. At the same time, it clarifies the relative explanatory power of each contrast for the variance of the dependent variable. The results of the analyses will be presented for each contrast in the order shown in Table 6.1. Within each contrast, the results regarding the Translanguage Analysis will be discussed first, followed by those of the Interview Test. The criteria used to assess the quality of a regression model are β and p-values associated with a *t*-test for regression. Because it is the quality of each independent variable (each of the three contrasts) that matters in the current analyses, the R squared value is not presented everywhere.

6.2.1 Bilinguals vs. Monolinguals (BILING)

The following comparisons of the bilingual and the monolingual populations will investigate the effect of the macro-level socio-cultural context on literacy of each population. Since all monolinguals are of the grade-norm age, the analyses without Age as a covariate will compare grade-norm age monolinguals with bilinguals of different ages in the same grade. The analyses with the Age control will examine how the ability of the bilinguals of the grade-norm age is compared with their monolingual age peers.

6.2.1.1 Translanguage Analysis

In this section, the comparison in ability between the two populations, using the writing analysis data, will be discussed for each grade (2-4) and the overall trend for all grades concerned.

6.2.1.1.1 Grade 2

The results for the grade 2 comparison without Age as a covariate showed that the difference between the two populations is significantly large for the following TRL categories in the mentioned order: *English Transference* (ENGTRF), *Kana Orthography* (ORTHHRKT), *Grammatical and Morphological Acquisition* (GRMMRPAC). The difference was almost significant for *Phonology and Orthography* (PHONORTH). While these differences were not as significant with the Age control, the difference was still significant for the *English Transference* category, reflecting the fact that there was no transference feature found in Non-contact monolinguals and only two incidences found among Contact monolinguals. In all levels of comparison for each TRL category, however, the bilinguals' TRL rate was higher than that for monolinguals. For details of each TRL category refer to Table 5.1 in the previous chapter.

Table 6.3 Regression of TRL Categories on Bilinguals vs. Monolinguals (BILING) with/without the Age control for Grade 2

Grade 2		TRL Categories							
N=32 (B16, M16)		PHONO	PHONORTH	ORTHHRKT	ORTHKANJ	GRMMRPDV	HOMPHON	GRMMRPAC	ENGTRF
BILING	B	.524	1.653	.801	.171	.542	.089	.227	.597
	p-value	.3603	.0527	.0238	.0984	.3946	.5335	.0364	.0017
BILING +Age	B	.595	1.620	.720	.157	.670	.091	.196	.497
	p-value	.3524	.0871	.0635	.1702	.3452	.5727	.0978	.0124
Age	B	-.084	.039	.094	.016	-.149	-.001	.036	.116
	p-value	.7860	.9287	.5984	.7632	.6568	.9872	.5146	.1986

PHONO: *Phonology*; PHONORTH: *Phonology and Orthography*; ORTHHRKT: *Kana Orthography*; ORTHKANJ: *Kanji Orthography*; GRMMRPDV: *Grammatical and Morphological Development*; HOMPHON: *Homophone*; GRMMRPAC: *Grammatical and Morphological Acquisition*; ENGTRF: *English Transference*; B: Bilinguals=1; M: Monolinguals=-1

The findings thus suggest that the gap between the two populations is notably large in the following aspects: the ability to differentiate *hiragana* from *katakana*; grammar and morphology, and the general linguistic elements that are affected by transference from English. It is of note that Non-contact monolinguals had no features related to transference, while there were some among Contact monolinguals. Likewise, the two populations differ moderately in the orthographic abilities that are reported to require phonological awareness (Akita & Hatano, 1999), especially special syllables that do not have script-sound correspondence.

Another finding of interest is that the difference is not particularly significant in the aspects of *Homophone*, *Grammatical and Morphological Development*, *Phonology*, and *Kanji Orthography*, in the order of least significance. Although *Kanji Orthography* showed more disparity than the other three, it indicates that the

development in the above-mentioned aspects is at a similar level in the two populations at grade 2.

With regard to the effect of Age, the decreased significance in the *Phonology and Orthography*, *Kana Orthography*, *Kanji Orthography*, *Grammatical and Morphological Acquisition*, and *English Transference* categories when controlled for the effect of Age (BILING + Age) suggests that there are more between-group differences with older bilinguals than the grade-norm age bilinguals (Age 7-8). In other words, the TRL rate in these categories increases with age. To some extent, this is understandable considering the fact that the older bilinguals are even more behind the younger bilinguals, who are of the grade-norm age in the monolingual standard. It is also noteworthy that the increase of disparity with age is most apparent for *English Transference*, indicating that the older bilinguals have a higher TRL rate in this aspect. On the other hand, more occurrences of non-standard *Kanji Orthography* with age could be related to the lack of *kanji* use among younger bilinguals.

However, the increase of the between-group difference with age is not always the case for other categories. The effect of Age is negative for *Phonology*, *Grammatical and Morphological Development*, and *Homophone*. That is, the older bilinguals have a lower TRL rate than the younger ones in these categories, which with the Age control, resulted in a slight increase in the difference between Bilinguals and Monolinguals. Although the effect of Age is not significant, this may indicate that the ability in these aspects develops with age to a certain extent.

6.2.1.1.2 Grade 3

Unlike the grade 2 comparison, major differences were found in more TRL categories at grade 3. Specifically, in addition to the categories that were found to be significantly different in the grade 2 between-group comparison, noteworthy differences were also revealed for the *Phonology*, *Phonology and Orthography*, *Kanji Orthography*, *Grammatical and Morphological Development* categories. This however excludes *Kana Orthography*, though it approached significance. Of the categories with significant or almost significant inter-group differences at grade 2, the difference in *Phonology and Orthography* and *Grammatical and Morphological Acquisition* became greater at grade 3. Moreover, these differences remained significant even after controlling the effect of Age (Age 8-9 for the grade-norm). This

was also true with *English Transference*. The only category that did not have much difference was *Homophone*; in fact, the occurrence rate of homophonic confusion was slightly higher in monolinguals than in bilinguals, revealing the difficulty in mastering this aspect, for even the monolingual population. The results are shown in the table below.

Table 6.4 Regression of TRL Categories on Bilinguals vs. Monolinguals (BILING) with/without the Age control for Grade 3

Grade3		TRL Categories							
N=33 (B18, M15)		PHONO	PHONORTH	ORTHHRKT	ORTHKANJ	GRMMRPDV	HOMPHON	GRMMRPAC	ENGTRF
BILING	B	.760	1.725	.386	.512	4.041	-.217	.495	.662
	p-value	.0221	.0006	.0504	.0402	.0383	.2670	.0001	.0025
BILING +Age	B	.638	1.300	.208	.466	2.621	-.224	.435	.591
	p-value	.0710	.0070	.2754	.0848	.1774	.2960	.0012	.0110
Age	B	.164	.570	.237	.062	1.950	.010	.080	.095
	p-value	.3450	.0172	.0178	.6416	.0502	.9279	.1991	.3921

PHONO: *Phonology*; PHONORTH: *Phonology and Orthography*; ORTHHRKT: *Kana Orthography*; ORTHKANJ: *Kanji Orthography*; GRMMRPDV: *Grammatical and Morphological Development*; HOMPHON: *Homophone*; GRMMRPAC: *Grammatical and Morphological Acquisition*; ENGTRF: *English Transference*; B: Bilinguals=1; M: Monolinguals=-1

Another difference from the grade 2 comparison is the effect of Age. Age showed a significant or near-significant effect on the TRL rate disparity in the *Phonology and Orthography*, *Kana Orthography*, and *Grammatical and Morphological Development* categories. This reveals that older subjects, that is, bilinguals older than the grade-norm age, had a higher TRL rate in these categories. The effect of Age on the between-group difference was apparent for *Phonology*, *Kana Orthography*, *Kanji Orthography*, and *Grammatical and Morphological Development*, which lost significance after the Age control. As the effect is positive, it shows that it was mainly the older bilinguals that contributed to the gap between the two populations in these categories. As for *Phonology and Orthography*, the effect of Age was not as significant as it was for the other two. Also worth mentioning is that unlike at grade 2, there is no more negative effect of Age at grade 3, indicating a higher TRL rate for the older bilinguals in all categories.

While Age had some effects on the inter-group differences, the fact that even after the Age control, the differences in *Phonology and Orthography* and *Grammatical and Morphological Acquisition* remained significant in addition to *English Transference* is of note. That is, whereas only *English Transference* kept its significance in the between-group difference despite the Age control in the grade 2 comparison, the difference in *Phonology and Orthography* and *Grammatical and*

Morphological Acquisition also remained significant at grade 3. This indicates that the inter-group gap at the same age level now extended to these two areas. In other words, at grade 3, the disparity between the two populations even increased among the bilinguals who are of the grade-norm age. This also reflects the fact that there was no occurrence of *Grammatical and Morphological Acquisition* or *English Transference* among the grade 3 monolingual population.

6.2.1.1.3 Grade 4

The results revealed a remarkably significant inter-group difference ($p < 0.01$) in all TRL categories without the Age control. Specifically, the occurrence of non-standard features in bilinguals was much higher than monolinguals of the same grade. Moreover, this difference remained significant even after Age is controlled, though there were some effects of Age on the difference in certain categories. This suggests that the areas of disparity between the two populations significantly widened at grade 4, not only at the same grade level, but also at the same age level.

Table 6.5 Regression of TRL Categories on Bilinguals vs. Monolinguals (BILING) with/without the Age control for Grade 4

Grade4		TRL Categories							
N=34 (B14, M20)		PHONO	PHONORTH	ORTHHRKT	ORTHKANJ	GRMMRPDV	HOMPHON	GRMMRPAC	ENGTRF
BILING	B	.384	2.293	.446	.611	2.104	.241	.566	.502
	p-value	.0042	.0044	.0054	.0035	.0001	.0018	.0001	.0001
BILING +Age	B	.372	1.784	.497	.633	1.910	.188	.471	.431
	p-value	.0096	.0265	.0039	.0051	.0004	.0127	.0008	.0010
Age	B	.017	.718	-.072	-.032	.275	.075	.133	.100
	p-value	.7960	.0648	.3609	.7566	.2421	.0380	.0374	.0903

PHONO: *Phonology*; PHONORTH: *Phonology and Orthography*; ORTHHRKT: *Kana Orthography*; ORTHKANJ: *Kanji Orthography*; GRMMRPDV: *Grammatical and Morphological Development*; HOMPHON: *Homophone*; GRMMRPAC: *Grammatical and Morphological Acquisition*; ENGTRF: *English Transference*; B: Bilinguals=1; M: Monolinguals=1

As can be seen from Table 6.4, the differences in *Grammatical and Morphological Development*, *Grammatical and Morphological Acquisition*, and *English Transference* are robust. In addition, an examination of the standardized coefficient in these comparisons showed that they are significant in the reverse order mentioned. As discussed in Section 4.3.2, there was no occurrence of *Grammatical and Morphological Acquisition* and *English Transference* among Non-contact monolinguals, confirming that these are the results of transference. Thus, the significant between-group difference in the two categories further elucidates the fact that these are common features among bilinguals. The highly significant difference in

Grammatical and Morphological Development, on the other hand, shows that the development in this aspect is mostly complete among the fourth grade monolinguals.

With regard to the comparisons of other TRL categories, it is apparent that the inter-group differences are more significant than at grade 3 in all but one category, *Phonology and Orthography*, though the difference is still significant. This shows that the difference between the two populations became greater with grade in most categories. Especially of note is the emergence of the significant difference in the *Homophone* category, unlike the earlier grade comparisons. It suggests that the grade 4 monolinguals generally learned to differentiate the use of homophones, whereas the learning of this feature in the bilinguals of the same grade is still incomplete. Such a disparity in the degree of literacy development would hold true for other categories. That is, the development in many aspects of literacy examined in this study is mostly complete in monolinguals at grade 4 (Age 9-10). In fact, Hatano (1995) claims that Japanese monolingual children's literacy in the orthography without the use of *kanji* is generally acquired by the grade 4 of elementary school. Thus, the developmental gap in literacy between the two populations is manifested particularly clearly at grade 4.

Furthermore, such a developmental gap is apparent even after controlling for the effect of Age. In particular, the two populations differed significantly in all categories at the same age level. This pattern is different from the comparisons of the previous grades; the between-grade difference was not significant in most categories when Age was controlled. Thus, the large disparity with the Age control shows that the gap in ability widened even with the grade-norm age bilinguals at grade 4, whereas the difference was mostly due to the older bilinguals at the lower grades.

Another finding of note is the change in the effect of Age, compared to earlier grade comparisons. To illustrate, while the TRL rate in *Kana Orthography* significantly increased with Age at grade 3, the effect of Age is slightly negative at grade 4, resulting in the increased difference at the same age level. Likewise, the significant positive effect of Age on the increase of TRL rate in *Grammatical and Morphological Development* disappeared at grade 4. These indicate that the occurrence of non-standard features in these categories is generally high in bilinguals, regardless of the Age effect.

A further inter-grade change in the effect of Age is the increased positive effect in the *Homophone* and *Grammatical and Morphological Acquisition* categories. In other words, the increase in TRL rate with the Age control in these categories is

greater at grade 4 than at grade 3. Such a change was more prominent for *Homophone* than for *Grammatical and Morphological Acquisition*. The higher TRL rate of the older bilinguals in these categories may imply the relative difficulty they had in acquiring these aspects, compared to the younger bilinguals in the same grade. That is, the younger bilinguals who began literacy learning at the grade-norm age acquired these aspects better than the older bilinguals who started at a later age than the grade-norm. Thus, it could also indicate the importance of an earlier start for literacy development, which is age-appropriate in the monolingual standard.

In summary, the results of the regression analyses at the three grade levels revealed that the differences between monolinguals and bilinguals widen with each grade. The range of TRL categories that showed a significant inter-group difference also expanded with grade. Moreover, this occurred in both types of analysis, with and without the Age control. The Age effect was not significant at grade 2, but it increased in some TRL categories in subsequent grades. In particular, the positive effect became significant in *Phonology and Orthography*, *Kana Orthography*, and *Grammatical and Morphological Development* at grade 3, whereas it appeared in *Homophone* and *Grammatical and Morphological Acquisition* at grade 4. These findings thus elucidated the fact that the disparity between the two populations increases with grade, and that the bilinguals who are in a grade lower than their age-norm generally have more difficulty in literacy development than their younger peers who are of the grade-norm age.

6.2.1.2 The Interview Test

As mentioned earlier, the comparison regarding the Interview Test measures involving all sample groups was made only at the grade 4 level. The multiple regression analysis was conducted to test the difference between bilinguals and monolinguals in the test score and the occurrence of TRL types in the 7 compound TRL categories. The *Kanji Orthography* category was excluded, as this aspect was not specifically tested. The procedure taken was the same as that of the Translanguage Analysis data comparison; the explanatory power of the three key contrasts (see Table 6.1) on the variance in the dependent variables was examined. The dependent variables are the Interview Test Score and the count of the TRL type occurrence in the Interview Test, which are compounded in the 7 TRL categories. The results of the

analyses will be discussed first for the Interview Test Score comparison, followed by those of the compound TRL categories.

6.2.1.2.1 *Interview Test Score*

An outstandingly significant difference was found between the two populations: 100 per cent. This robust difference remained unchanged even after the effect of Age was controlled. It is thus clear that bilinguals scored much lower than monolinguals both at the same grade and age levels. This shows the difficulty of bilinguals in keeping up their Japanese literacy with their monolingual grade peers. In other words, the influence of the macro-level socio-cultural context is strong on language development. It is of note that Community bilinguals who took the Interview Test were all of the grade-norm age (9-10), unlike the Individual bilinguals. Accordingly, while Age had a slightly negative effect on the score, this was due to the older bilinguals in the Individual bilingual group. In other words, the older Individual bilinguals scored somewhat lower than the younger bilinguals in either bilingual group.

Table 6.6 Regression of the Interview Test Score (IntScore) on Bilinguals vs. Monolinguals (BILING) with/without the Age control for Grade 4

Grade4	IntScore		
N=46 (B11, M35)	B	Beta	p-value
BILING	-22.35	-.956	.0000
BILING+Age	-21.58	-.924	.0000
Age	-1.30	-.089	.0924

B: Bilinguals=1; M: Monolinguals=-1
 *Total number for the equation is 46

6.2.1.2.2 *The occurrence of non-standard features in the TRL categories*

Another measure of the between-group comparison is the count of the non-standard features of the 7 TRL categories occurring in the Interview Test. In the same way as the Translanguage Analysis measure was examined, comparisons were made in relation to each TRL category. The results revealed a significant difference in most categories as shown in Table 6.7.

Table 6.7 Regression of the Interview Test TRL Categories on Bilinguals vs. Monolinguals (BILING) with/without the Age control for Grade 4

Grade4		TRL Categories						
N=46 (B11, M35)		PHONO	PHONORTH	ORTHHRKT	GRMMRPDV	HOMPHON	GRMMRPAC	ENGTRF
BILING	B	.383	3.976	1.651	8.301	-.041	.714	6.089
	p-value	.3229	.0007	.0010	.0000	.8990	.0000	.0000
BILING +Age	B	.159	2.759	1.200	8.163	-.026	.939	5.518
	p-value	.6906	.0096	.0117	.0000	.9406	.0000	.0000
Age	B	.380	2.065	.766	.234	-.026	-.382	.970
	p-value	.0989	.0009	.0049	.4738	.8957	.0000	.0000

PHONO: *Phonology*; PHONORTH: *Phonology and Orthography*; ORTHHRKT: *Kana Orthography*; GRMMRPDV: *Grammatical and Morphological Development*; HOMPHON: *Homophone*; GRMMRPAC: *Grammatical and Morphological Acquisition*; ENGTRF: *English Transference*; B: Bilinguals=1; M: Monolinguals=-1

With the exception of *Phonology* and *Homophone*, the difference between the two populations is highly significant for all levels of comparison. That is, while there were some decreases or increases in disparity, the significance of the difference still stayed regardless of the Age control. This was most apparent in *Grammatical and Morphological Development*, as Age had little influence on the inter-group difference, which is consistent with the finding from the examination of the Translanguage Analysis measure. Thus, it indicates that the bilinguals' command of grammar and morphology was well below that of their monolingual peers.

With regard to the small difference in *Phonology* and *Homophone*, as opposed to the results of the Translanguage Analysis, a further examination of the original data found a possible explanation: avoidance or lack of use of the related forms by bilinguals in the Interview Test. For instance, some subjects avoided the use of syllables with geminate consonants by paraphrasing, and the use of particles or syllables that require homophonic distinction. On the other hand, monolinguals generally wrote the required words, and the occurrence of homophonic confusion was mainly due to a single individual in the Non-contact monolingual group.

The effect of Age was significantly positive in *Phonology and Orthography*, *Kana Orthography*, and *English Transference*, but significantly negative in *Grammatical and Morphological Acquisition*. Of these, the effect was strongest in *Grammatical and Morphological Acquisition*, followed by *English Transference*, *Phonology and Orthography*, and *Kana Orthography*. These suggest that the older bilinguals had fewer occurrences of non-standard TRL features in the *Grammatical and Morphological Acquisition* category than the younger ones, but more in *English Transference*, *Phonology and Orthography*, and *Kana Orthography*. However, the

effect of Age was positive for *Grammatical and Morphological Acquisition* in the Translanguage Analysis data.

The inconsistency could be explained by the fact that not all TRL types in this category were specifically tested. In addition, avoidance of the structures (mainly particles) that could lead to the production of TRL types was present to some extent. Furthermore, it could be that the older subjects are more cautious in tests than in diary writing. Considering the fact that older bilinguals had a higher TRL rate in *English Transference*, and that the TRL types in the *Grammatical and Morphological Acquisition* category are the results of transference, it is more likely that the effect of Age is positive for *Grammatical and Morphological Acquisition*, as found in the examination of the Translanguage Analysis data. Thus, it appears that the effect of age was consistent in the categories whose features are difficult to avoid.

To summarize, the comparison of bilingual and monolingual populations in both measures derived from the Translanguage Analysis and the Interview Test found a significant difference between the two. Specifically, bilinguals produce increasingly more non-standard features than monolinguals with each grade level. The analyses of the Translanguage Analysis measures found that the inter-group difference increases not only in the rate of TRL type occurrence, but also in the range of TRL categories that show the difference. In addition, the difference at the same age level became greater with the increase of the grade level. In other words, the initial similarity in ability between bilinguals and monolinguals of the same age disappeared, as they grow older. Significant difference was also apparent in the Interview Test measures, excepting in the occurrence count of *Phonology* and *Homophone*, but these exceptions are due to avoidance or lack of use of these structures. The findings as a whole indicate that bilinguals and monolinguals in the same age group are not exceptionally different in literacy and other linguistic abilities at an early stage of literacy development, but the difference grows with time in various aspects of ability. Such a growing disparity seems to be related to the increasing dominance of English over bilinguals' Japanese with age. While knowledge and use of type and amount of register in English greatly increases, Japanese may not develop to the same degree, due to the lack of opportunities for input and output to learn the equivalent type and amount of register.

As Hatano (1995) claims that the acquisition of Japanese orthography without *kanji* is possible without schooling and even before schooling for monolingual

Japanese children, there seems to be a crucial factor that differentiates the two populations. In particular, what would cause the Japanese–English bilingual children’s difficulty in developing Japanese literacy? Since language develops in the context an individual is placed in (Hamers & Blanc, 1989; 2000), the difference between the two populations is most likely a reflection of the difference of the wider socio-cultural context to which the two groups belong; one is dominant in Japanese, and the other dominant in English. Thus, the lack of social and cultural support for the development of Japanese literacy in bilinguals appears to be the fundamental cause of its lower stage of development. In fact, the strong influence of the macro-level social context is apparent in the fact that despite the inclusion of two separate groups within each population, the difference stayed in the analyses. If a within-population difference were large, this would further confirm the stronger influence of the macro-level socio-cultural context, compared to the micro-level one. In the subsequent sections, the group difference within each population will be analyzed in order to assess the effect of the micro-level socio-cultural context.

6.2.2 Individual bilinguals vs. Community bilinguals (COMBIL)

In this section, the influence of an ethnolinguistic community on minority language development will be assessed, by comparing Individual bilinguals and Community bilinguals in their literacy. As both groups include individuals of different ages in the same grade, analyses will be made with and without the Age control, to see whether the effect of community is beyond any influence associated with Age. Note that the difference in Age on Arrival, Length of Residence, and Parentage (endogamous or exogamous families) was not significant between the two groups in all models.

6.2.2.1 Translanguage Analysis

6.2.2.1.1 Grade 2

The comparison between Individual bilinguals and Community bilinguals at grade 2 found a significant difference in *Grammatical and Morphological Acquisition* and *English Transference*, but not very much difference in other TRL categories whether or not they were controlled for Age. The large differences in the two categories were due to the significantly higher TRL rate of Individual bilinguals.

Since both *Grammatical and Morphological Acquisition* and *English Transference* are the results of transference, the fact that only these features showed significant inter-group difference suggests that the two groups are different only in the degree of transference at the grade 2 level.

Table 6.8 Regression of TRL Categories on Individual bilinguals vs. Community bilinguals (COMBIL) with/without the Age control for Grade 2

Grade 2		TRL Categories							
N=16* (IndB 9, ComB 7)		PHONO	PHONORTH	ORTHHRKT	ORTHKANJ	GRMMRPDV	HOMPHON	GRMMRPAC	ENGTRF
COMBIL	B	-.479	-.400	-.087	-.111	-.320	.245	.454	1.139
	p-value	.5479	.7339	.8570	.4433	.7239	.2364	.0047	.0001
COMBIL +Age	B	-.444	-.415	-.124	-.117	-.262	.246	.440	.497
	p-value	.5881	.7318	.8025	.4309	.7778	.2491	.0070	.0124
Age	B	-.084	.039	.094	.016	-.149	-.001	.036	.116
	p-value	.7860	.9287	.5984	.7632	.6568	.9872	.5146	.1986

PHONO: *Phonology*; PHONORTH: *Phonology and Orthography*; ORTHHRKT: *Kana Orthography*; ORTHKANJ: *Kanji Orthography*; GRMMRPDV: *Grammatical and Morphological Development*; HOMPHON: *Homophone*; GRMMRPAC: *Grammatical and Morphological Acquisition*; ENGTRF: *English Transference*; IndB: Individual bilinguals=0.5; ComB: Community bilinguals=0.5 *Total number for the equation is 32

Another point of note is how little Age affects the difference in all TRL categories. This means that the bilinguals older than the grade-norm age are still at the same level as the younger ones in all aspects of ability, though the effect is somewhat larger for *English Transference* than for other categories in a positive direction. The results thus indicate the similarities between the two groups in ability at the same age and grade levels in all categories but those caused by transference. In other words, Individual bilinguals' Japanese has much more transference from English compared to Community bilinguals, but they produce about the same amount of non-standard TRL forms that are other than transference.

6.2.2.1.2 Grade 3

In the grade 3 comparison of the two bilingual groups without Age as a covariate, differences in most TRL categories increased to a varied degree. In particular, unlike at grade 2, significant differences appeared in *Kana Orthography* and *Grammatical and Morphological Development*, while the significance of difference in *Grammatical and Morphological Acquisition* increased to a maximum. On the other hand, differences in *Phonology* and *Homophone* somewhat decreased, and the highly significant difference in *English Transference* observed at grade 2 diminished to an insignificant level at grade 3. These show that Individual bilinguals produce more non-standard TRL forms than Community bilinguals especially in *kana*

orthography, grammar, and morphology. It should be noted that the grammatical and morphological features include elements that are either developmental or are the results of transference.

Table 6.9 Regression of TRL Categories on Individual bilinguals vs. Community bilinguals (COMBIL) with/without the Age control for Grade 3

Grade 3		TRL Categories							
N=18* (IndB 7, ComB 11)		PHONO	PHONORTH	ORTHHRKT	ORTHKANJ	GRMMRPDV	HOMPHON	GRMMRPAC	ENGTRF
COMBIL	B	.013	.886	.771	-.587	6.546	-.053	.768	.250
	p-value	.9752	.1485	.0044	.0734	.0136	.8343	.0000	.3538
COMBIL +Age	B	-.187	.191	.482	-.662	4.096	-.065	.670	.134
	p-value	.6906	.7578	.0714	.0750	.1328	.8226	.0004	.6564
Age	B	.164	.570	.237	.062	1.950	.010	.080	.095
	p-value	.3450	.0172	.0178	.6416	.0502	.9279	.1991	.3921

PHONO: *Phonology*; PHONORTH: *Phonology and Orthography*; ORTHHRKT: *Kana Orthography*; ORTHKANJ: *Kanji Orthography*; GRMMRPDV: *Grammatical and Morphological Development*; HOMPHON: *Homophone*; GRMMRPAC: *Grammatical and Morphological Acquisition*; ENGTRF: *English Transference*; IndB: Individual bilinguals=0.5; ComB: Community bilinguals=-0.5 *Total number for the equation is 33

With reference to the Age effect, it was significant in *Phonology and Orthography*, *Kana Orthography*, and almost significant in *Grammatical and Morphological Development*. As a result, the inter-group difference in *Kana Orthography* and *Grammatical and Morphological Development* was no longer significant after the Age control. The effect was positive in all cases, indicating a higher TRL rate in older bilinguals than in younger ones. Thus, the results showed that the literacy development of the older bilinguals is particularly further behind in these aspects than is the case among their younger grade peers.

Of the categories that showed significant between-group differences without the Age control, only *Grammatical and Morphological Acquisition* remained significant with the Age control. As the difference is highly significant, this reveals that transference in grammar and morphology is a predominant trend among Individual bilinguals, irrespective of their age. It is noteworthy that *English Transference*, which is a category for other transference features, did not show a notable difference between the two groups at grade 3.

The different patterns between the two categories could be understood in terms of differences in their transference features. Whereas *English Transference* is more obvious, as in direct translation and transference at lexical and structural levels, *Grammatical and Morphological Acquisition* appears mostly in particle use. The acquisition of appropriate particle use and the maintenance of knowledge of this aspect may not be difficult if mastered at an earlier stage, and used frequently. On the

other hand, vocabulary and phraseology learned and used mainly in English could be difficult to express in Japanese. Such difficulty may increase with age, if knowledge and experience are gained mainly in English. Also, bilinguals in the higher grades may produce syntactically more complex writing, which would give more opportunities for transference features to appear. Yet, uncertainty or unfamiliarity of the equivalent expressions may lead to avoidance of such expressions altogether or paraphrasing with familiar words or forms. Thus, the insignificant difference in *English Transference* could be a result of these different factors. For this reason, this point will be clarified in the comparison of the Interview Test measures, for which the same opportunities were given to test the possibility of transference, and avoidance or paraphrasing is generally difficult in the test.

6.2.2.1.3 Grade 4

The comparison between Individual bilinguals and Community bilinguals at the grade 4 level without a covariate revealed significant differences in all but three categories, *Phonology*, *Kana Orthography*, and *English Transference*. To be more specific, significant inter-group differences appeared in the categories that did not show very much difference in the earlier grades. These are *Homophone*, *Kanji Orthography*, and *Phonology and Orthography* in the order of significance. The marked increase in the between-group gap in *Phonology* is also noteworthy. The difference in *Grammatical and Morphological Development* further increased to a maximum at grade 4, while the difference in *Grammatical and Morphological Acquisition* was significant but decreased slightly compared to grade 3.

Table 6.10 Regression of TRL Categories on Individual bilinguals vs. Community bilinguals (COMBIL) with/without the Age control for Grade 4

Grade 4		TRL Categories							
N=15* (IndB 7, ComB 8)		PHONO	PHONORTH	ORTHHRKT	ORTHKANJ	GRMMRPDV	HOMPHON	GRMMRPAC	ENGTRF
COMBIL	B	.383	2.405	-.029	-.955	3.340	.364	.644	-.041
	p-value	.0541	.0468	.9018	.0031	.0000	.0021	.0023	.8166
COMBIL +Age	B	.385	2.465	-.035	-.958	3.363	.370	.655	-.033
	p-value	.0573	.0348	.8817	.0036	.0000	.0011	.0012	.8485
Age	B	.017	.718	-.072	-.032	.275	.075	.133	.100
	p-value	.7960	.0648	.3609	.7566	.2421	.0380	.0374	.0903

PHONO: *Phonology*; PHONORTH: *Phonology and Orthography*; ORTHHRKT: *Kana Orthography*; ORTHKANJ: *Kanji Orthography*; GRMMRPDV: *Grammatical and Morphological Development*; HOMPHON: *Homophone*; GRMMRPAC: *Grammatical and Morphological Acquisition*; ENGTRF: *English Transference*; IndB: Individual bilinguals=0.5; ComB: Community bilinguals=-0.5 *Total number for the equation is 34

Except for *Kanji Orthography*, all the significant differences were due to the much higher TRL rate in Individual bilinguals, compared to Community bilinguals. The higher TRL rate of *Kanji Orthography* in Community bilinguals, however, is mainly due to their use of a larger number of *kanji* than Individual bilinguals. This shows that Community bilinguals are developing higher levels of orthographic ability than Individual bilinguals.

The increase in difference between the two groups is also apparent in comparisons at the same age level. All categories that showed significant inter-group differences without the Age control also had significant or almost significant differences with the Age control. Moreover, the order of significance did not change for these differences in the comparison of the same age bilinguals. In particular, differences were significant in the following order: *Grammatical and Morphological Development*, *Homophone*, *Grammatical and Morphological Acquisition*, *Kanji Orthography*, *Phonology and Orthography*, and *Phonology*. Of these, only the difference in *Phonology* did not reach the significance level.

The decline of the Age effect is also observed from the fact that the significant positive effect of Age that appeared at grade 3 in *Phonology and Orthography*, *Kana Orthography*, and *Grammatical and Morphological Development* disappeared at grade 4. Yet, *Phonology and Orthography* still showed a near significant positive effect at this higher-grade level. This suggests that the older bilinguals at grade 4 generally mastered these aspects, though some difficulty remains for phonologically related orthography.

Conversely, Age showed a significantly positive effect for the *Homophone* and *Grammatical and Morphological Acquisition* categories at grade 4. That is, the older bilinguals have a higher TRL rate than the younger bilinguals in these aspects. As mentioned in Section 6.2.1.1.3, this shows that the older bilinguals who joined a community school at the age above the grade-norm have difficulty in acquiring standard forms in these aspects. Still, there were significant between-group differences in these categories at the same age level, indicating that the group effect is much stronger than the Age effect.

It should be noted that the data for the grade 4 comparison is semi-longitudinal, and that the two groups were not particularly different in *Average Number of Words per Week* nor in *Average Number of Words per Entry*. Thus, the results indicate that the two bilingual groups are different in their degree of literacy

development regardless of the type of data (semi-longitudinal or cross-sectional), and that Community bilinguals' literacy is more developed compared to Individual bilinguals, even though they write about the same amount per week or per entry for diary.

In short, the results of the comparisons in the three grades show that the disparity in ability between Individual bilinguals and Community bilinguals widened at grade 4 in comparison to the lower grades, not only at the same grade level, but also at the same age level. In addition, the increase in the range of TRL categories with a significant difference shows that the developmental or acquisitional gap between the two groups emerges with grade in a range of linguistic aspects. While the inter-group difference was not significant in *Kana Orthography* and *English Transference* at grade 4, it is unclear whether the decrease in difference is due to the acquisition of standard forms in these aspects or the avoidance of uncertain forms. For this reason, the results of the Interview Test measure analysis will be used to verify the degree of between-group difference in these categories.

6.2.2.2 The Interview Test

6.2.2.2.1 Interview Test Score

The grade 4 comparison of the Interview Test Score between Individual bilinguals and Community bilinguals found that the difference between the two is not particularly significant with or without the Age control. While Community bilinguals scored somewhat higher than Individual bilinguals and this was more so at the same grade level than at the same age level, as neither showed statistical significance. This is shown in Table 6.11.

Table 6.11 Regression of the Interview Test Score (IntScore) on Individual bilinguals vs. Community bilinguals (COMBIL) with/without the Age control for Grade 4

Grade4	IntScore		
N=11* (IndB7, ComB4)	B	Beta	p-value
COMBIL	-3.21	-.078	.1083
COMBIL+Age	-2.33	-.057	.2456
Age	-1.30	-.089	.0924

IndB: Individual bilinguals=1; ComB: Community bilinguals=-1
 *Total number for the equation is 46

The insignificant difference in scores between the two groups contrasts with the results of the Translanguage Analysis measure comparisons, which showed a large

inter-group difference in TRL rate in a range of categories. This inconsistency could partly be due to the small number of subjects, and partly be due to the fact that only basic abilities were required for the test. Since the test scores reflect only the parts elicited, an analysis of non-standard TRL form occurrence in each category may reveal a different pattern of disparity between the two groups. Such a possibility will be clarified in the next section.

6.2.2.2.2 *The occurrence of non-standard features in the TRL categories*

The comparison of TRL type occurrence in the Interview Test between the two bilingual groups without the Age control found significant differences in the 4 TRL categories. Specifically, the significant inter-group difference appeared in *Kana Orthography, Grammatical and Morphological Development, Grammatical and Morphological Acquisition, and English Transference*.

Table 6.12 Regression of the Interview Test TRL Categories on Individual bilinguals vs. Community bilinguals (COMBIL) with/without the Age control for Grade 4

Grade4		TRL Categories						
N=11 (IndB7, ComB4)		PHONO	PHONORTH	ORTHHRKT	GRMMRPDV	HOMPHON	GRMMRPAC	ENGTRF
COMBIL	B	.750	3.000	1.964	1.714	.143	1.429	2.179
	p-value	.2063	.0770	.0087	.0425	.7746	.0000	.0011
COMBIL +Age	B	.492	1.599	1.445	1.555	.161	1.688	1.521
	p-value	.4102	.2963	.0390	.0755	.7588	.0000	.0053
Age	B	.380	2.065	.766	.234	-.026	-.382	.970
	p-value	.0989	.0009	.0049	.4738	.8957	.0000	.0000

PHONO: Phonology; PHONORTH: Phonology and Orthography; ORTHHRKT: Kana Orthography; GRMMRPDV: Grammatical and Morphological Development; HOMPHON: Homophone; GRMMRPAC: Grammatical and Morphological Acquisition; ENGTRF: English Transference; IndB: Individual bilinguals=0.5; ComB: Community bilinguals=-0.5 *Total number for the equation is 46

It is however of note that the pattern of appearance of the between-group difference was consistent with that of the Translanguage Analysis for *Grammatical and Morphological Development* and *Grammatical and Morphological Acquisition*, but inconsistent for *Kana Orthography* and *English Transference*.

The inconsistency of the inter-group difference in *Kana Orthography* and *English Transference* is likely a result of differences between the nature of free writing and tests. While the avoidance of uncertain words or phrases in relation to these categories is possible in a diary or in essays, such avoidance is less easy in the test. This would explain why the difference in the two categories appeared more clearly in the Interview Test than in the Translanguage Analysis.

On the other hand, inconsistency between the two measures was also found with regard to the categories that did not show a large difference. While *Phonology and Orthography* showed a near significant difference as in the Translanguage Analysis measures, this was not the case for either *Phonology* or *Homophone*. As discussed in Section 6.2.1.2.2, the small between-group difference in these categories is most likely due to the avoidance or lack of use of the related forms in the test. This is contrary to the TRL features in *Kana Orthography* and *English Transference*; use of forms that produce such features are difficult to avoid in the test.

Therefore, considering these factors that influenced the results in relation to the two measures of the inter-group difference in ability, it appears that such a difference at the grade 4 level is overall significant in all TRL categories involved. In other words, the grade 4 comparisons of the two bilingual groups with the measures derived from the Translanguage Analysis and the Interview Test show that Individual bilinguals produce more non-standard features than Community bilinguals in all TRL categories except for *Kanji Orthography*.

Another finding of interest is that the significant inter-group difference appeared with and without the Age control, excepting *Grammatical and Morphological Development*, though it did approach significance. The difference appeared in the same order of significance as in the comparison without the Age control; *Grammatical and Morphological Acquisition* had the largest difference, followed by *English Transference*, *Kana Orthography*, and *Grammatical and Morphological Development*. There were also small changes in the degree of difference in these categories. Specifically, the difference slightly decreased in most categories, but it somewhat increased in *Grammatical and Morphological Acquisition*. This seems to be related to the effect of Age. Unlike other categories, Age had a significant negative effect on the occurrence of non-standard TRL forms in *Grammatical and Morphological Acquisition*. However, this Age effect contrasts with the results of the Translanguage Analysis, and considering the reason mentioned in Section 6.2.1.2.2, it is more likely that the effect is positive. It is also noteworthy that the inter-group difference showed a maximum significance both with and without the Age control.

Overall, the difference between the two groups at the same age level was small in phonologically related orthography and developmental grammar and morphology, but significantly large in those aspects caused by transference. Also noteworthy is that

the between-group difference was generally larger without the Age control. However, considering the fact that at grade 4, only the Individual bilingual group included older subjects for the Interview Test, the exclusion of older Individual bilinguals from the comparison with the Age control is a likely cause of the decline in the degree of difference in some categories. Together with the mainly positive effect of Age on the TRL type occurrence rate, this would indicate that older Individual bilinguals generally have higher production of TRL features than the younger bilinguals in both groups.

In short, the comparison of the two grade 4 bilingual groups with the Interview Test measures showed that Community bilinguals produce less non-standard TRL features than Individual bilinguals. While the between-group difference was not significant in the test score, the occurrence of TRL features in the test was significantly higher in Individual bilinguals in most categories. The inconsistency of the inter-group difference in score and in TRL type occurrence is explained by the fact that scores reflect only the specific aspects investigated, not the counts of non-standard TRL forms. Accordingly, the occurrence pattern of TRL types revealed the two groups' difference in ability in much broader aspects with more quantitative precision.

The findings from the between-group comparison at the three grade levels revealed that the difference in ability between the two bilingual groups widened with each grade, as the range of TRL categories with significant difference expanded. Moreover, this increase also occurred at different age levels within grade, which appeared more in the higher grades. In other words, the gap in ability between Individual bilinguals and Community bilinguals widened with grade, at all age levels within grade, and in the number of TRL categories that show the inter-group difference. The results of the comparison with the Interview Test measures also revealed significant differences between the two populations in the TRL type occurrence, but a small difference in the score itself, due to the lack of subjects and the fact that only basic skills on specific aspects are tested.

Hence, these findings appear to indicate that living in a community where there are more opportunities for minority language use and contact with its model has facilitating influences on the development of a minority language, and the reduction of transference from the majority language. Put another way, it seems to confirm that the absence of community and the prevalence of the majority language and culture

reduces minority language use and contact, which has impeding impacts on the minority language development. The fact that the inter-group difference appears more clearly in higher grades suggests that the effect of these influences increase in the long-term; they affect the minority language ability gradually, but especially during the crucial periods of literacy and general language development. The results also showed that the influence of the socio-cultural context is much stronger than that of the individual context, as the difference between the two groups was significant, regardless of micro-level individual background. This in turn confirms the strength of the macro-level socio-cultural context, which contributed to the wide disparity in literacy between bilinguals and monolinguals, in that the between-population difference was significant despite the large difference within the bilingual population. Still, the possibility of the influence of the socio-cultural context on the individual context needs to be explored, and this will be dealt with in later sections of this chapter.

6.2.3 Contact monolinguals vs. Non-contact monolinguals (CONTAC)

This section will discuss the results of the comparison between the two monolingual groups in relation to the influence of contact on monolinguals. In particular, it will examine whether the within-population difference discussed in Section 4.3.2 is significant. Since there is no difference in age at the same grade level in the monolingual population, analyses will be made only as to the possible effect of contact.

6.2.3.1 Translanguage Analysis

6.2.3.1.1 Grade 2

No significant difference was found between the two monolingual groups. Although Contact monolinguals had a slightly higher occurrence of non-standard features than Non-contact monolinguals in most categories, no difference was observed in *Kanji Orthography* and *Grammatical and Morphological Acquisition*. While the small number of *kanji* used may explain the total lack of inter-group difference in *Kanji Orthography*, no occurrence of the *Grammatical and Morphological Acquisition* features in either group was the apparent reason for this result.

Table 6.13 Regression of the TRL Categories on Contact monolinguals vs. Non-contact monolinguals (CONTACT) for Grade 2

Grade2		TRL Categories							
N=16 (ConM6, NconM10)		PHONO	PHONORTH	ORTHHRKT	ORTHKANJ	GRMMRPDV	HOMPHON	GRMMRPAC	ENGTRF
CONTACT	B	.305	.668	.143	.000	1.049	.089	.000	.258
	p-value	.7085	.5636	.7630	1.0000	.2422	.6570	1.0000	.2906

PHONO: *Phonology*; PHONORTH: *Phonology and Orthography*; ORTHHRKT: *Kana Orthography*; ORTHKANJ: *Kanji Orthography*; GRMMRPDV: *Grammatical and Morphological Development*; HOMPHON: *Homophone*; GRMMRPAC: *Grammatical and Morphological Acquisition*; ENGTRF: *English Transference*; ConM: Contact monolinguals =0.5; NconM: Non-contact monolinguals =-0.5 *Total number for the equation is 32

Although it is of note that no *English Transference* features were found among Non-contact monolinguals, it is clear from Table 6.9 that the two groups are similar in all aspects of their literacy. This shows that the effect of contact is small for the grade 2 monolinguals (Age 8-9) who are schooled in Japanese.

6.2.3.1.2 Grade 3

There was even less difference between Contact monolinguals and Non-contact monolinguals at grade 3 than at grade 2. The lack of difference is mainly due to the fact that no non-standard features were found among Contact monolinguals. Although such a perfect absence of non-standard features could be related to the especially small number of Contact monolingual subjects, the fact that the between-group difference is minor in all categories is significant. Moreover, there was no difference in *Kana Orthography*, *Kanji Orthography*, *Grammatical and Morphological Acquisition*, and *English Transference*. Especially noteworthy is that no transference features were detected in either group, further confirming the insignificance of contact effects on Contact monolinguals.

Table 6.14 Regression of the TRL Categories on Contact monolinguals vs. Non-contact monolinguals (CONTACT) for Grade 3

Grade2		TRL Categories							
N=15 (ConM5, NconM10)		PHONO	PHONORTH	ORTHHRKT	ORTHKANJ	GRMMRPDV	HOMPHON	GRMMRPAC	ENGTRF
CONTACT	B	-.202	-.041	.000	.000	-.081	-.521	.000	.000
	p-value	.6709	.9527	1.0000	1.0000	.9768	.0800	1.0000	1.0000

PHONO: *Phonology*; PHONORTH: *Phonology and Orthography*; ORTHHRKT: *Kana Orthography*; ORTHKANJ: *Kanji Orthography*; GRMMRPDV: *Grammatical and Morphological Development*; HOMPHON: *Homophone*; GRMMRPAC: *Grammatical and Morphological Acquisition*; ENGTRF: *English Transference*; ConM: Contact monolinguals =0.5; NconM: Non-contact monolinguals =-0.5 *Total number for the equation is 33

The results thus show that the literacy of the grade 3 Contact monolinguals is not particularly influenced by contact experience. In fact, the occurrence of non-standard features in Contact monolinguals was somewhat smaller than Non-contact

monolinguals in general. This may reflect the general tendency of Japanese parents to be more concerned with the literacy and educational development of their children during their stay overseas (Dômo, 1996; Nagaoka, 1998). The fact that Contact monolinguals' parents chose the weekday Japanese school instead of a local school for their children's education seems to be related to such concerns.

6.2.3.1.3 Grade 4

Consistent with the results of the lower grade comparisons, no significant difference was found between Contact monolinguals and Non-contact monolinguals at grade 4. While Contact monolinguals produced transference features of *Grammatical and Morphological Acquisition* and *English Transference*, the between-group difference was insignificant, indicating that the occurrence rate is extremely small.

Table 6.15 Regression of the TRL Categories on Contact monolinguals vs. Non-contact monolinguals (CONTAC) for Grade 4

Grade2		TRL Categories							
N=20 (ConM10, NconM10)		PHONO	PHONORTH	ORTHHRKT	ORTHKANJ	GRMMRPDV	HOMPHON	GRMMRPAC	ENGTRF
CONTAC	B	.054	.079	-.159	.390	.225	.000	.037	.138
	p-value	.7336	.9331	.4023	.1241	.6962	1.0000	.8193	.3520

PHONO: *Phonology*; PHONORTH: *Phonology and Orthography*; ORTHHRKT: *Kana Orthography*; ORTHKANJ: *Kanji Orthography*; GRMMRPDV: *Grammatical and Morphological Development*; HOMPHON: *Homophone*; GRMMRPAC: *Grammatical and Morphological Acquisition*; ENGTRF: *English Transference*; ConM: Contact monolinguals =0.5; NconM: Non-contact monolinguals =-0.5 *Total number for the equation is 34

The lack of transference from English is surprising, given that Contact monolinguals are living in the English-speaking environment of Sydney. It may reflect some level of social isolation in the Japanese temporary resident community.

Another finding of interest is that neither group produced features related to homophonic confusion. This suggests that both groups have generally mastered the orthographic differentiation of homophonic words at this grade level. Although Contact monolinguals have somewhat higher production of non-standard forms in *Kanji Orthography* than Non-contact monolinguals, the two groups are similar in many aspects of their literacy. Considering the fact that some of the Contact monolinguals had a length of residence of three years or more, their literacy is surprisingly well developed and maintained. The results thus show that the influence of the macro-level socio-cultural context is small when sufficient micro-level social and cultural support is given for minority language development and maintenance.

6.2.3.2 The Interview Test

Since Contact monolinguals for the Interview test were chosen on the basis of the shortest Length of Residence possible, the grade 4 subjects' average Length of Residence was 4.25 months (8 months at the maximum). As expected, the difference was small in both score and in occurrence of non-standard forms. Thus, the results will be discussed briefly in the following sections.

6.2.3.2.1 Interview Test Score

The difference between the two groups was not significant, as shown in Table 6.12. This is consistent with the results of the grade 4 comparison with the Translanguage Analysis measures. Both groups scored close to full marks in the test, indicating that the *kana* only orthography is generally mastered by grade 4. In fact, this supports Hatano's (1995) claim that Japanese orthography without *kanji* is at the latest, usually acquired by the upper grades of elementary school. Therefore, the result of the analysis again confirms that Contact monolinguals' literacy is on a par with Non-contact monolinguals.

Table 6.16 Regression of the Interview Test Score (IntScore) on Contact monolinguals vs. Non-contact monolinguals (CONTAC) for Grade 4

Grade4	IntScore		
N=35* (ConM4, NconM31)	B	Beta	p-value
CONTAC	1.52	.049	.3664

ConM: Contact monolinguals=0.5; NconM: Non-contact monolinguals =-0.5

*Total number for the equation is 46

6.2.3.2.1 The occurrence of non-standard features in the TRL categories

In regards to the occurrence of non-standard features, no significant between-group difference was found in all TRL categories concerned. Thus, the result shows that Contact monolinguals and Non-contact monolinguals are at the same level in not only the test score, but also in the occurrence of non-standard features in the test.

Table 6.17 Regression of the Interview Test TRL Categories on Contact monolinguals vs. Non-contact monolinguals (CONTAC) for Grade 4

Grade4		TRL Categories						
N=35* (ConM4, NconM31)		PHONO	PHONORTH	ORTHHRKT	GRMMRPDV	HOMPHON	GRMMRPAC	ENGTRF
CONTAC	B	-.484	-.048	-.161	-.113	-.226	.000	.500
	p-value	.3341	.9726	.7909	.8716	.5939	1.0000	.3490

PHONO: Phonology; PHONORTH: Phonology and Orthography; ORTHHRKT: Kana Orthography; GRMMRPDV: Grammatical and Morphological Development; HOMPHON: Homophone; GRMMRPAC: Grammatical and Morphological

To summarize, the comparisons of the two monolingual groups at the three grade levels consistently showed that the difference between the two is small. In other words, the influence of the macro-level socio-cultural context on Contact monolinguals' Japanese literacy is minor when it is supported by the micro-level socio-cultural context of home and school. The relatively short length of stay in Australia may also account for the small effect of contact.

The analyses of the three contrasts thus revealed that the external socio-cultural environment is important for language development. In particular, the results of the comparison between the bilingual and the monolingual populations showed that the lack of macro-level social and cultural support for the bilinguals' Japanese literacy has a negative influence on its development. The examination of the effect of the existence of a community on the two bilingual groups revealed that the micro-level socio-cultural context of community has a positive effect on the development of minority language literacy. On the other hand, the comparison between the two monolingual groups showed that the influence of the macro-level socio-cultural context on minority language literacy is small, when the language is sufficiently supported by the micro-level socio-cultural context. This indicates that the negative influence of the macro-level socio-cultural context against minority language development could be counteracted by the micro-level socio-cultural context that encourages literacy in the minority language. In this light, the wide gap between the bilingual and the monolingual populations could not only be because of the negative socio-cultural context at the macro-level, but also because of insufficient support for minority language development in the micro-level socio-cultural context. The findings thus suggest that both macro and micro aspects of the socio-cultural context need to be considered for its influence on the development of literacy in the minority language. Furthermore, since the social and individual context of language development are interrelated and influence each other, such interrelationship between the two, and the influence of individual factors on literacy, still need to be explored. For this reason, the subsequent sections will investigate the relationship between the individual context and minority language literacy.

6.3 The influence of the individual context on ability

Since the analyses in the previous section revealed the strong influence of the socio-cultural context on the literacy of the two bilingual groups, this section will investigate the influence of the individual context and its connection with the socio-cultural context. As discussed in Section 2.3, the individual context includes the ‘origin’, ‘language use’, and ‘attitudes’ of a bilingual individual. ‘Origin’ consists of factors relating to the origin of each bilingual individual, such as Parentage, family structure, Age on Arrival (AOA), and Length of Residence (LOR). They are fairly stable and less affected by the external environment, compared to the other aspects of the individual context. To be more specific, ‘language use’ in public is influenced by both the socio-cultural and the individual context, as its function is interpersonal, but to some extent, the private function of language use is also affected by the socio-cultural context. ‘Attitudes’ towards the culture and the ethnolinguistic group of their heritage and upbringing is considered to be a reflection of other aspects of the individual context, ‘origin’ and ‘language use’, as well as the socio-cultural context of bilingual development. The transformation procedures to create origin and language use variables are explained in Section 3.5.3. Likewise, for further information on the measurement of attitudes, see Sections 3.4.3 and 3.5.2. The details of the individual context variables of origin, language use, and attitudes are presented in Table 6.18. Descriptive statistics for these predictor variables are presented in Appendix F.

The effect of individual factors on ability will be investigated for the entire bilingual population, using multiple regression analysis with Age and School (types of bilingualism) as covariates. These covariates are included to examine whether the individual factors have additional effects. To be more specific, the explanatory power of the various factors of origin, language use and attitudes will be assessed for the following dependent variables: the TRL rate (the occurrence of non-standard TRL features per 100 words) of the TRL categories in the Translanguage Analysis, the TRL type occurrence count in the Interview Test, the Interview Test Score, and the total count of TRL type occurrence in the Interview Test.

The first two measures were used to examine the extent to which each factor explained the variance in ability in each TRL aspect, while such explanatory power regarding the difference in general literacy was investigated by the last two measures. The method thus enables the examination of the effect of the individual context on the

specific as well as the general aspects of literacy. Both the Translanguage Analysis and the Interview Test measures were used as dependent variables, as they are different in the degree of communicative stress involved and in the occurrence of TRL features for each category (see Section 5.2.2.5 for more detail). It should be remembered that the data for the Translanguage Analysis is the subject's diary, while the Interview Test is a writing test.

In short, this section will investigate the following theoretical issues: 1) factors of the individual context that affect specific aspects of literacy, and 2) factors of the individual context that affect literacy in general. For the first issue, analyses will be made regarding each TRL category, in relation to the relevant factors of the individual context, along with the influence of Age and School (the socio-cultural context at a micro-level). The second issue will be clarified by an examination of the predictors of the Interview Test Score, and the total count of TRL type occurrence in the Interview Test.

Table 6.18 The individual context predictor variables

Origin	
JJORAJ	Parentage (endogamous or exogamous families)
AOA	Age on Arrival
LOR	Length of Residence
NOS	Number of Older Siblings
NYS	Number of Younger Siblings
Language Use	
CLUWJP	Child Language Use with the Japanese Parent
CLUWEP	Child Language Use with English-speaking Parent
JPLUWC	Japanese Parent Language Use with Child
EPLUWC	English-speaking Parent Language Use with Child
CLUWS	Child Language Use with Siblings
JPLUWJP	Japanese Parent Language Use with Japanese Parent
JPLUWEP	Japanese Parent Language Use with English-speaking Parent
NOVTJ	Number of Visits to Japan
FOJBR	Frequency of Japanese Book Reading
FOPHWJL	Frequency of Parental Help with Japanese Learning
NOSM	Number of Study Materials
VOJTV	Variety of Japanese TV Programs Watched
FOJTV	Frequency of Watching Japanese TV Programs
NOJEI	Number of Japanese Entertainment Items
FOUJEI	Frequency of Use of Japanese Entertainment Items
LANGUSE	Total Language Use (total scores of language use variables)
Attitudes	
AVCAT	General Cultural and Group Identification Score (Japanese score minus Australian score)
CAT4&10	Ethnolinguistic Group Identification Score (Japanese score minus Australian score)

6.3.1 Factors that affect specific aspects of literacy

In this section, the effects of individual factors on various aspects of TRL literacy development will be examined. The results of the examination for each TRL category will be described first for the Translanguage Analysis measures, followed by those of the Interview Test. The details of TRL types compounded in each TRL category are referred to in Table 5.1, Chapter 5. The sample for the analysis consists of the grade 4 Individual bilinguals and the Community bilinguals from all grades (grades 1-6). For the Translanguage Analysis, the number of cases ranged from 49 to 62 for origin factors, 45 to 55 for language use factors, and 33 for attitude factors. 33

cases were used for all models involving the Interview Test measures. The summary statistics for the multiple regression analyses are presented in Appendix G, with case numbers for each model. The criteria used to assess the quality of a regression model are β and p-values associated with a *t*-test for regression. The R squared value is not presented in the results, in part due to the fact that the focus of the analyses is the explanatory power of each predictor variable, and in part due to the large quantity of variables involved in the analyses.

6.3.1.2 Translanguage Analysis

6.3.1.2.1 *Phonology*

No significant relationship was found between the phonological TRL category and the predictive factors. Instead, Age showed an important negative correlation ($p = .041$) when used as a covariate to examine the effect of Length of Residence (LOR); that is, the occurrence of phonological TRL types decreased with the increase of age, when controlled for length of residence. Although the negative correlations were found with the control of Child Language Use with the Japanese Parent (CLUWJP), Parentage (JJORAJ), and Ethnolinguistic Group Identification Score (CAT4&10), they were not significant ($p < .06$). Also, there was no notable difference in the TRL rate between the two bilingual groups in all models, when predictor variables are controlled for Age. These show that the factors of the individual context do not significantly influence this TRL aspect, and only the effect of Age controlled for Length of Residence was found significant. For more detail, see Appendix G.

6.3.1.2.2 *Phonology and Orthography*

The only factor that strongly accounts for the variance was Child Language Use with Siblings (CLUWS) ($p = .046$). The negative effect of this predictor indicates that the more Japanese a child uses with their siblings, the less non-standard spelling he/she produces. It may suggest the possible power of peer learning in vocabulary enrichment or sound language maintenance efforts in the family domain. Other negatively related, but statistically insignificant predictors in the order of strength are: Number of Visits to Japan (NOVTJ), Variety of Japanese TV Programs Watched by a child (VOJTV), and the overall Language Use score (LANGUSE). These predictors seem to be related to the opportunity to use or encounter a variety of registers in

Japanese. Large differences in the TRL rate between the two bilingual groups became apparent especially with the predictors such as Number of Visits to Japan (NOVTJ), General Cultural and Group Identification Score (AVCAT), the respective number of older (NOS) and younger siblings (NYS), and Parentage (JJORAJ). This also shows that these variables do not contribute very much to the development of *Phonology and Orthography*, and their effects are much weaker than those of the socio-cultural context. For more detail, see Appendix G.

6.3.1.2.3 *Kana Orthography*

By far the most significant predictor in explaining the variance was the Frequency of Japanese Book Reading (FOJBR) ($p = .040$). This supports the view that the knowledge and skills required for differentiation of letter types are best acquired by familiarizing oneself with a substantial amount of letters and examples of the way they are used in context, in other words by extensive reading. Other factors of relevance partially contributing to the TRL rate variation are: Parentage (JJORAJ), Total Language Use scores (LANGUSE), and Frequency of Watching Japanese TV Programs (FOJTV). Of these, ethnically mixed Parentage was mildly related to the higher TRL rate, while the other two showed alleviating effects on the occurrence of non-standard TRL forms. From these results, it would be reasonable to assume that the ability in letter discrimination is best gained by reading practices, though there is a part played by the passive as well as the active learning experiences supported by a rich linguistic environment.

6.3.1.2.4 *Kanji Orthography*

None of the predictor variables contributed significantly to the decrease in non-standard features related to *kanji* use. In contrast, some factors revealed significant opposite effects; Age ($p < .05$) and Number of Japanese Entertainment Items ($p = .024$) contributed significantly to the increase in TRL rate. The positive effect of Age appeared in all models, indicating that the occurrence of non-standard forms associated with *kanji* increases with age regardless of different individual factors. Since the use of *kanji* is complex and requires higher levels of literacy, the fact that the TRL rate increases with age could be related to the general increase in *kanji* use with age. On the other hand, the rise of the TRL rate with Number of

Japanese Entertainment Items may indicate that while the variety of leisure items could increase opportunities to recognize *kanji* and *kanji* use, it is not sufficient to learn the standard *kanji* orthography.

6.3.1.2.5 *Grammatical and Morphological Development*

Although General Cultural and Group Identification Score (AVCAT) showed an almost significant negative effect ($p = .061$) on TRL rate, the effect of the socio-cultural context (School) was overwhelmingly significant in all models. In particular, Individual bilinguals always had a significantly higher TRL rate than Community bilinguals, regardless of the control for various individual factors. The results thus indicate that the influence of the individual context on the development of the *Grammatical and Morphological Development* aspect is small in contrast to the effect of the socio-cultural context. Yet, the result regarding an attitude factor seems to imply that the positive identification with Japan and its culture somewhat contribute to the development of grammar and morphology.

6.3.1.2.6 *Homophone*

No significant effect of the predictor variables on the *Homophone* TRL rate existed. Moreover, the effect of Age and the socio-cultural context was insignificant in all models. Therefore, it seems neither the individual nor the micro-level socio-cultural context play a major part in the learning of homophonic distinction in orthography. As the differentiation of homophonic words is required only in reading and writing, and this distinction needs to be learned case-by-case, it would be reasonable to assume the involvement of factors other than small-scale environmental ones for the acquisition of this aspect.

6.3.1.2.7 *Grammatical and Morphological Acquisition*

Several individual factors were found significant ($p < .05$) or near significant ($p > .05$) in influencing the TRL rate in *Grammatical and Morphological Acquisition*. These are Japanese Parent Language Use with Child (JPLUWC), Parentage (JJORAJ), Language Use (LANGUSE), Child Language Use with Japanese Parent (CLUWJP), and Frequency of Use of Japanese Entertainment Items (FOUJEI), in order of significance. Only the effect of the last factor was slightly below the

significance level ($p = .055$). In all cases other than Parentage, the effect was negative, indicating that these factors play an important role in the reduction of TRL rate. As for the effect of Parentage, exogamy was found to be a contributing factor for the increase in TRL rate. Parentage, however, is likely to affect the language environment at home. In fact, it was found that exogamous families in the sample generally employed English for communication between the parents. This would reduce a child's exposure to language models in Japanese. All the relevant factors are thus related to language use. It is of interest that home language use as well as overall language use has a significant facilitative effect on the development of this aspect of TRL. Also noteworthy is the fact that Age and types of bilingualism were insignificant in all models. Accordingly, it is clear that the occurrence of transference features in grammar and morphology is mainly affected by the individual context of language use.

6.3.1.2.8 *English Transference*

Only two factors showed a significant negative effect on the TRL rate in *English Transference*. The effect was most prominent with the Number of Japanese Entertainment Items (NOUJEI) ($p = .011$), followed by a related factor, Frequency of Use of Japanese Entertainment Items (FOUJEI) ($p = .029$). This shows that a variety of opportunities to use Japanese for enjoyment and self-motivated Japanese use for leisure activities contributed to the decrease in the occurrence of transference from English. That is, the frequency, amount and importance of private use of Japanese appear to promote the learning of Japanese to a great extent, minimizing the influence of English on Japanese. Another point of note is that in all models, neither Age nor type of bilingualism was significant in explaining the variance in the TRL rate in *English Transference*. This indicates that the explanatory power of these factors is weak when controlled for individual factors.

6.3.1.3 The Interview Test

6.3.1.3.1 *Phonology*

None of the predictor variables showed a significant negative effect on the TRL rate in *Phonology*. In contrast, an almost significant positive effect ($p = .051$)

was found with General Cultural and Group Identification Score (AVCAT). That is, the TRL type occurrence count in *Phonology* appears to be higher for those who identify more with Japan than with Australia, when Age and School are controlled. This is contradictory to the hypothesis that the positive identification with Japan would have a positive effect on the literacy development in Japanese.

However, a possible explanation was found after further examination of the original data. Although across-grade comparisons were not possible with individual bilinguals, there was a tendency among Community bilinguals of endogamous families in the higher grades to identify more with Australia and its culture, as opposed to those of exogamous families who generally identify positively with both cultures and groups. This could result from the socio-cultural pressure to conform to the majority group. That is, children from Japanese homes may not like to stand out because of their 'Japaneseness' from their peers, so they may develop an especially strong preference for Australian culture and group in an attempt to assimilate with the majority group. This point however will be further examined in Section 6.4.2. In contrast, identification with Japanese culture and group was generally stronger or just slightly less than that with Australian culture/group for both types of children until grade 3. Another finding is that children of endogamous families had fewer non-standard TRL features in *Phonology* than those of exogamous families at the higher grades, while the difference in non-standard form occurrence was small between the children of different Parentage at the lower grades. That is to say, in the upper grades, children with weak identification with Japan tended to have fewer occurrences of non-standard TRL features in *Phonology* than those who had more favorable attitudes toward Japan and its culture. Thus, these influential interactions of the sub-group tendencies are the likely reasons why less identification with Japan is related to higher Japanese proficiency.

6.3.1.3.2 *Phonology and Orthography*

A significantly negative as well as a positive relationship was found between the predictor variables and the variance pattern of *Phonology and Orthography*. Frequency of Watching Japanese TV Programs (FOJTV) had a highly significant negative effect ($p = .007$) on the occurrence of non-standard TRL forms. In short, frequent exposure to language behavior models has a promoting effect on the

development of phonologically related orthography. It is of interest that language learning through TV involves both audio and visual cues. This suggests that the learning of vocabulary and phraseology with image and sound is effective in developing the TRL aspect of *Phonology and Orthography*. A similar factor also showed a negative effect on the occurrence of *Phonology and Orthography* features. The negative effect of Frequency of Use of Japanese Entertainment Items (FOUJEI) was almost significant ($p = .052$), indicating that self-motivated Japanese use through leisure activities moderately contributes to the development of phonologically related orthographic skills. Furthermore, the variables related to the ones mentioned above were found to have negative effects, which approached significance ($p < .10$). These are factors associated with the range of language use opportunities: Variety of Japanese TV Programs Watched (VOJTV) and Number of Japanese Entertainment Items (NOJEI). This shows that the frequency of language use for leisure is much more effective than the variety of materials in promoting the development of the *Phonology and Orthography* aspect.

On the other hand, cultural and group identification scores showed significantly positive effects on the occurrence of non-standard features in *Phonology and Orthography*. In particular, an increase in General Cultural and Group Identification Score (AVCAT) and Ethnolinguistic Group Identification Score (CAT4&10) correlated to an increase in non-standard TRL forms. The relationship was somewhat stronger for General Cultural and Group Identification Score (AVCAT) ($p = .033$) than for Ethnolinguistic Group Identification Score (CAT4&10) ($p = .035$). The results are thus contrary to the expectation, at least for the aspect of *Phonology and Orthography*; that is, a stronger identification with Japan than with Australia does not necessarily mean good orthographic ability in Japanese. In other words, preference for Australia and its culture does not inevitably undermine the phonologically related orthographic skills in Japanese. Yet, it is of note that attitudes showed no significant effect on other TRL aspects or in relation to the Translanguage Analysis.

6.3.1.3.3 *Kana Orthography*

There was only one factor that showed a particularly near significant influence ($p = .052$) on ability in *Kana Orthography*: Child Language Use with the Japanese

Parent (CLUWJP). This predictor variable was negatively correlated with the occurrence of non-standard *Kana Orthography* forms. A related factor, Japanese Parent Language Use with Child (JPLUWC), also had a negative correlation that approached significance ($p = .068$), but was not as strong as Child Language Use with the Japanese Parent. This indicates that active language use is more effective than receptive use, in developing the skills required for the distinction of the two *kana* types, or large letters from small letters according to the rules (features of *Kana Orthography*). It is of interest that the degree of oral language use affects literacy, suggesting the interrelationship between oracy and literacy. Also noteworthy is the fact that the degree of a child's Japanese use with his/her Japanese parent would indicate the degree of parental insistency on the child speaking Japanese, as well as the child's acceptance to do so. A high degree of Japanese use on the part of a child may also imply keen parental interest in the child's literacy development, and the child's willingness to engage in literacy practices.

6.3.1.3.4 *Grammatical and Morphological Development*

Only one factor, Number of Visits to Japan (NOVTJ), reached a level of significance ($p = .032$) in its explanatory power. Specifically, the results showed that the more visits to Japan a child experiences, the fewer non-standard features of *Grammatical and Morphological Development* would occur in his/her writing. The result is especially relevant to the acquisition of counters, as this feature is specifically examined in the Interview Test. Therefore, the result indicates that maximum exposure to Japanese in the basically monolingual country, Japan, significantly promoted the development of *Grammatical and Morphological Development* features, and particularly in the use of counters.

Other factors that contributed to the decrease in TRL type occurrence to some degree ($p < .10$) are Japanese Parent Language Use with Child (JPLUWC) and Age on Arrival (AOA). To be specific, those who have a Japanese parent who speaks to them always or mostly in Japanese, or those who arrived in Australia at an older age tended to produce fewer non-standard features in the *Grammatical and Morphological Development* category. Length of Residence (LOR), on the other hand, was positively correlated to TRL occurrence; that is, the longer children stay in Australia, the more delayed their development seems to be in this TRL aspect.

Another finding of interest is that the School effect, or the effect of the micro-level socio-cultural context, was stronger than that of the Number of Visits to Japan. In other words, Individual bilinguals had a higher TRL type occurrence than Community bilinguals when controlled for Number of Visits to Japan and Age. When School itself was entered as a predictor with Age as a covariate however, the effect of School did not reach statistical significance, though it did approach significance. This indicates the involvement of other factors in influencing the development of the *Grammatical and Morphological Development* aspect. That is, although there are various factors of the individual as well as the micro-level socio-cultural contexts affecting ability, the influence of the macro-level socio-cultural context is greater than these small-scale factors.

6.3.1.3.5 *Homophone*

None of the models was found significant in influencing the occurrence of homophonic confusion, though Age and Number of Study Materials (NOSM) had a negative effect that somewhat approached significance ($p < .10$). It thus appears that although non-standard features of *Homophone* may decrease with age or Number of Study Materials used, the individual and the micro-level socio-cultural contexts do not have much influence on the learning of homophonic distinction in writing. This is a consistent finding with that of the Translanguage Analysis in respect to this category. The result thus seems to support the view that systematic teaching, along with phonological awareness and morphological knowledge, are required for the acquisition of homophonic distinction (Hatano, 1999).

6.3.1.3.6 *Grammatical and Morphological Acquisition*

The effect of School was robust ($p = 0$), indicating a large gap between the two bilingual groups. In particular, the occurrence of non-standard features in Individual bilinguals was significantly higher than that of Community bilinguals. This shows that the existence of a Japanese community in a child's surroundings has an important role in minimizing transference from English in the aspect of *Grammatical and Morphological Acquisition*.

While there were no individual factors that showed an effect above that of School, nor statistical significance, the following factors appear to explain the

variance partially: Frequency of Japanese Book Reading (FOJBR) ($p = .068$), Number of Visits to Japan (NOVTJ) ($p = .082$), and Child Language Use with the Japanese Parent (CLUWJP) ($p = .089$). These are all negatively correlated to the occurrence of non-standard features. The effect of Frequency of Japanese Book Reading is of interest, in that the main elements of *Grammatical and Morphological Acquisition* tested in the Interview Test are transference features that appear in the use of particles. More specifically, considering the fact that particles are often omitted in speech unlike in writing, the benefit of reading for learning standard particle use seems reasonable. As for the promoting effect of visits to Japan, it should be noted that this factor was significant for the related category, *Grammatical and Morphological Development*. This shows that Number of Visits to Japan is more relevant to the developmental aspects than those associated with transference, though they both belong to the grammar and morphology group. The effect of Child Language Use with the Japanese Parent, on the other hand, indicates that active language use by a child may have some benefits in reducing transference in grammar and morphology.

6.3.1.3.7 *English Transference*

Unlike other TRL categories, *English Transference* was significantly influenced by both the socio-cultural and the individual contexts, which are at a micro-level. Specifically, the effect of School was robust ($p = .0002$), indicating that Individual bilinguals had a much higher occurrence of *English Transference* than Community bilinguals did, when controlled for Age. This is a consistent pattern with the School effect on *Grammatical and Morphological Acquisition*. It is thus clear that living in a Japanese community is highly beneficial in minimizing the influence of English on Japanese.

In regards to the effect of the individual context, the following factors were found significant in explaining the variance of *English Transference* occurrence: Japanese Parent Language Use with Child (JPLUWC) ($p = .002$), Total Language Use (LANGUSE) ($p = .005$), Child Language Use with Siblings (CLUWS) ($p = .006$), Parentage (JJORAJ) ($p = .007$), Frequency of Japanese Book Reading (FOJBR) ($p = .015$), Child Language Use with the Japanese Parent (CLUWJP) ($p = .015$), and Variety of Japanese TV Programs Watched (VOJTV) ($p = .030$). In addition,

Frequency of Watching Japanese TV Programs (FOJTV) almost had a significant effect ($p = .056$).

Minor negative relationships were also found with factors such as Age on Arrival (AOA) ($p = .082$) and Frequency of Use of Japanese Entertainment Items (FOUJEI) ($p = .085$). To be more specific, there was a tendency indicating that the older the children were when they came to Australia, the less *English Transference* features they produced in the Interview Test results. Similarly, it appears that the more frequently children use Japanese for leisure (excepting books and TV), the fewer features of *English Transference* occurred.

The foremost importance of parental Japanese use with a child is noteworthy, in that it reveals the strong emotional needs of communication and intimacy with one's parent, and the value of receptive learning. The results thus indicate that such powerful needs to learn and understand Japanese contribute to the prevention of transference from English. The effect of Total Language Use, on the other hand, shows that the combined effect of language use is more important than that of any single factor, excepting the case of Japanese Parent Language Use with Child. In other words, the quantity of language exposure and language use is a factor in language development, although it may not be a sufficient condition.

While the importance of both active and receptive Japanese use within the family is apparent from the findings, it is of note that the predictive power is more significant for the child's degree of Japanese use with siblings, than it is with a Japanese parent. This would indicate the importance of peer learning, but may also signify parental insistence on their children speaking Japanese at home, especially in the case of endogamous family.

The effect of Parentage illustrated that the children of endogamous families produced fewer *English Transference* features than those of exogamous families. This is likely to be a reflection of overall Japanese use in each type of family. That is, English tends to be used more than Japanese in exogamous families in general, while the opposite is the case for most of endogamous families in the sample. Another interesting finding is that the frequency of Japanese book reading contributes to the decrease in transference as significantly as the degree of a child's Japanese use with the Japanese parent. This demonstrates that frequent reading helps develop Japanese and reduce transference from English, to as great an extent as a high degree of active Japanese use with a Japanese parent. Also noteworthy is that book reading

will promote mainly the acquisition of academic registers, in contrast to daily conversation that furthers acquisition of everyday registers in general (see Section 2.3.7). Thus, it is likely that the two factors contribute to the development of different language aspects, though the attainment of academic registers would require that of everyday registers.

Regarding the larger effect of the variety of Japanese TV watching compared to its frequency, the results seem to indicate that the exposure to a diversity of registers plays a greater role in minimizing transference from English, than does the frequency of exposure with little register variety.

These findings show that various individual factors are involved in influencing the degree of cross-linguistic influence, and that both contexts of origin and language use have an important role in this process. It is also worth noting that only Parentage was found significant in the origin variables, in contrast to the variety of significant language use factors. In addition, even Parentage was slightly less significant than Total Language Use, which is the total score of a whole range of language use variables. These suggest that the *à priori* factors have a lesser influence on the degree of transference, compared to the *à posteriori* factors of the linguistic environment.

6.3.2 Factors that affect literacy in general

While the previous section showed the factors of the individual context that contribute to the development of specific aspects of literacy, this section will clarify the individual factors that affect literacy in general, by analyzing the predictors of the Interview Test Score (IntScore) and the total count of TRL type occurrence in the Interview Test (TOTINT). First, the results regarding the Interview Test Score will be discussed, followed by those of the total count of TRL type occurrence. The criteria used to assess the quality of a regression model are β and p-values associated with a *t*-test for regression. As explained in Section 6.3.1, the R squared value is not used for the discussion of the results, in part due to the fact that the focus of the analyses is the explanatory power of each predictor variable, and in part due to the large quantity of variables involved in the analyses. As was the case for the factors that affect specific aspects of literacy, the summary statistics for the multiple regression analyses are presented in Appendix G.

6.3.2.1 Interview Test Score

A number of predictor variables were found significant in explaining the variance in the Interview Test Score (IntScore). Interestingly, most of these factors also had a significant influence on the development of different TRL aspects. In particular, the effect of the following factors were significant in the order mentioned: Japanese Parent Language Use with Child (JPLUWC) ($p = .005$), Number of Visits to Japan (NOVTJ) ($p = .011$), Total Language Use (LANGUSE) ($p = .012$), Child Language Use with the Japanese Parent (CLUWJP) ($p = .015$), Age on Arrival (AOA) ($p = .025$), Parentage (JJORAJ) ($p = .025$), Length of Residence (LOR) ($p = .025$), Frequency of Japanese Book Reading (FOJBR) ($p = .032$), and Variety of Japanese TV Programs Watched (VOJTV) ($p = .047$). In addition, three factors approached significance: Frequency of Use of Japanese Entertainment Items (FOUJEI) ($p = .059$), Child Language Use with Siblings (CLUWS) ($p = .064$), and Frequency of Watching Japanese TV Programs (FOJTV) ($p = .065$).

The examination of the effect of each factor and the overall pattern elucidate the relationship between the individual context and the development of literacy. With regard to the language use factors, the primary importance of parental Japanese use with child is noteworthy. This was also the most influential factor contributing to the decrease in transference. Accordingly, the result confirms the value of receptive learning, along with the significance of parental language for children. The effect of Number of Visits to Japan, on the other hand, shows that the socio-cultural pressure to use Japanese in both private and public promote the development of literacy to a great extent. Another point of note is that the collective effect of language use is stronger than the individual language use factor, excepting the two factors mentioned above. In other words, although Child Language Use with the Japanese Parent, Frequency of Japanese Book Reading, and Variety of Japanese TV Programs Watched had a significantly positive effect on literacy, the effect of each factor was smaller than that of Total Language Use.

Of the origin variables, Age on Arrival, Parentage, and Length of Residence affected literacy to a similar degree. Specifically, Age on Arrival correlated positively to the test score, indicating that the children with a later onset of English exposure scored higher than those exposed to English earlier. Likewise, children of exogamous families generally had weaker literacy than those of endogamous families. However,

it should be noted that Parentage was not significant for literacy development among Individual bilinguals (see Section 5.2.2.3). Length of Residence had a negative correlation to literacy; the longer the children stay in Australia, the weaker their literacy becomes.

From these results, it is clear that the language use variables generally have a stronger effect than the origin variables on the development of literacy in general. Also of note is that attitude, or the relative degree of cultural and group identification with Japan and Australia, do not particularly affect overall literacy development, as opposed to language use and origin. This finding is contrary to expectations, and a further analysis of attitude factors will be made later in Section 6.4.2.

6.3.2.2 Total TRL type occurrence

Predictor variables that had a significant effect on Total TRL type occurrence (TOTINT) were similar to those that affected the Interview Test Score (IntScore). Above all, the attitude factors were not significant in predicting the variance in either measure. There were also some differences in the relevance of each factor, but especially of note is that the origin variables were not significant in explaining the variance of Total TRL type occurrence, unlike their significant explanatory power for the Interview Test Score. It should be noted, however, that Total TRL type occurrence includes the occurrence of TRL features such as *kanji* orthography, which were not specifically tested, and thus not reflected in the test score.

The factors of the individual context that showed a significant effect on Total TRL type occurrence are the following: Japanese Parent Language Use with Child (JPLUWC) ($p = .006$), Total Language Use (LANGUSE) ($p = .012$), Frequency of Use of Japanese Entertainment Items (FOUJEI) ($p = .021$), Child Language Use with the Japanese Parent (CLUWJP) ($p = .023$), Number of Japanese Entertainment Items (NOJEI) ($p = .030$), Number of Visits to Japan (NOVTJ) ($p = .037$), Frequency of Japanese Book Reading (FOJBR) ($p = .042$), and Variety of Japanese TV Programs Watched (VOJTV) ($p = .047$). Note that these are all language use factors, and that they have a negative correlation to Total TRL type occurrence. That is, the more Japanese a child uses, the less non-standard TRL forms he/she produces.

The foremost importance of parental Japanese use with the child, and the significance of overall language use are consistent with the results regarding the

Interview Test Score. Other factors are also significant in relation to both the Interview Test Score and Total TRL type occurrence, except for Frequency of Use of Japanese Entertainment Items and Number of Japanese Entertainment Items. In other words, these two factors are significant only when all incidences of non-standard TRL features are included for the assessment. Such an inconsistency between the results of the analyses of the two measures, including the absence of significant origin variables, could be due to the fact that the Interview Test Score is a standardized measure (e.g. the same opportunities to produce certain TRL features), while Total TRL type occurrence is not. For this reason, the results regarding the Interview Test Score may be more precise than those concerning Total TRL type occurrence. Still, the relevancy of the aforementioned language use variables is generally consistent, confirming the significance of these individual factors on the development of literacy in general.

Another finding of interest is that although the factors of the individual context were found significant in explaining the variance both in the Interview Test Score and Total TRL type occurrence, the School effect stayed significant or almost significant in most models. However, the difference between Individual bilinguals and Community bilinguals was insignificant when controlled for Age and the following predictors, respectively: Age on Arrival (AOA) (not with Total TRL type occurrence), Length of Residence (LOR), Frequency of Japanese Book Reading (FOJBR), Variety of Japanese TV Programs Watched (VOJTV), Frequency of Watching Japanese TV Programs (FOJTV), Number of Japanese Entertainment Items (NOJEI), Frequency of Use of Japanese Entertainment Items (FOUJEI), and Total Language Use (LANGUSE). Of these, the School effect approached significance for Age on Arrival, Length of Residence, and Total Language Use with regards to the Interview Test Score, and the significance further increased with Total TRL type occurrence.

Since the between-group difference was large in the model with other significant predictors such as Japanese Parent Language Use with Child, a further analysis was made to investigate this discrepancy. The examination with descriptive statistics and correlation analysis revealed that the lesser effect of School in relation to the above-mentioned variables appears to be due to the following reasons: Individual bilinguals' lack of variance compared to Community bilinguals in relation to Age on Arrival, Length of Residence, Frequency of Watching Japanese TV Programs, Frequency of Use of Japanese Entertainment Items, and Total Language Use; strong correlations between School and Frequency of Japanese Book Reading, Variety of

Japanese TV Programs Watched, and Number of Japanese Entertainment Items, respectively. To be more specific, since Community bilinguals had a higher degree of language use and more variance in the origin variables and Total Language Use than Individual bilinguals, these may have led to the insignificant School effect in relation to the above-discussed predictors. The results of descriptive statistics and correlation analysis are shown in Table 6.19 and Table 6.20, correspondingly.

Table 6.19 Mean of predictor variables in each bilingual group

Predictor variables	Individual bilinguals	Community bilinguals	Label
Frequency of Japanese Book Reading	1.143	3.955	1 = once a month, 2 = once a week, 3 = 2 or 3 times a week, 4 = every other day, 5 = everyday
Variety of Japanese TV Programs Watched	.429	1.455	Count of variety
Frequency of Watching Japanese TV Programs	1.571	4.409	Count of TV variety x either of: 1 = once a month, 2 = once a week, 3 = 2 or 3 times a week, 4 = every other day, 5 = everyday
Number of Japanese Entertainment Items	.857	2.409	Count of items
Frequency of Use of Japanese Entertainment Items	1.857	6.409	Count of items x either of: 1 = once a month, 2 = once a week, 3 = 2 or 3 times a week, 4 = every other day, 5 = everyday
Total Language Use	56.429	67.636	Total of language use score
Age on Arrival	.429	1.850	Age on Arrival in months
Length of Residence	10.000	7.543	Length of Residence in months

Table 6.20 Correlations between School and predictor variables of interest

Predictor variables	Correlation	P-Value
School, Frequency of Japanese Book Reading	.599	.0003
School, Variety of Japanese TV Programs Watched	.413	.0251
School, Frequency of Watching Japanese TV Programs	.341	.0701
School, Number of Japanese Entertainment Items	.419	.0229
School, Frequency of Use of Japanese Entertainment Items	.342	.0694
School, Total Language Use	.152	.4361
School, Age on Arrival	.230	.2075
School, Length of Residence	-.312	.0822

Individual bilinguals: School=1; Community bilinguals: School=2

N=33

It is thus clear from these results that the two bilingual groups are different, especially in their degree of private language use and exposure to different language behavior models. This in fact would indicate the importance of the School effect, or the significant influence of the micro-level socio-cultural context on the individual context of language use. Since the analyses discussed above involve only the subjects who took the Interview Test, the relationship between the socio-cultural context and the individual context will be further investigated in the next section, including the entire bilingual population.

In summary, the results of the regression analyses regarding the contributing factors to the development of general literacy showed that the need to use Japanese, and the amount of exposure to Japanese, both in private and public, are most important in developing the bilingual sample's general literacy in Japanese. Interestingly, the effect of School remained significant in most models, excepting the cases where strong correlations exist between the predictors and School, or where there is a lack of variance in the predictor values. The results also indicated the significant or almost significant influence of the micro-level socio-cultural context on the individual context of language use. The individual context of origin also plays a significant role in the development of literacy, but to a lesser extent compared to language use. On the other hand, no significant relationship was found between literacy and attitudes. This weaker influence of attitudes parallels the finding of Cummins, Lopes, & King (1987) that attitudes towards the minority language and culture are less related to its proficiency (including literacy) than are the use and exposure to the language. Yet, as there were some variations in the relative degree of cultural and group identification with Japan and Australia, the relationship of attitudes with other factors is further explored in the subsequent section.

6.4 The influence of the socio-cultural context on the individual context

While the analyses in the previous sections clarified the respective influence of the socio-cultural and the individual contexts on ability, the influence of the socio-cultural context on the individual context will be investigated in this section. Initially, the influence of community on the individual context of language use will be examined by a comparison of Individual bilinguals and Community bilinguals. This is because language use was found to have a significant influence on ability in the previous section. Subsequently, the influence of the socio-cultural context on attitudes will be assessed, in combination with the possible relationship of attitudes with Age, Grade (where applicable), Age on Arrival, and Length of Residence. Although Age, Grade, Age on Arrival, and Length of Residence are the individual factors, their effects on attitudes are considered to be a reflection of the influence of the socio-cultural context. The analysis involves two types of contrast. One is a contrast of Contact monolinguals against bilinguals to investigate the influence of the socio-

cultural context of socialization and schooling (Japanese or Australian) on attitudes. The other is a contrast of Individual bilinguals against Community bilinguals to see whether the insignificant effect of attitudes on ability is due to the lack of variance in cultural and group identification scores among the bilingual population in general, or due to the connection between attitudes and other individual factors.

6.4.1 Language use

6.4.1.1 Individual bilinguals vs. Community bilinguals

The regression analyses in the previous section identified the factors of the individual context that affect the specific or general aspects of literacy, regardless of Age or School. In addition, a further analysis with respect to the School effect on general literacy revealed the difference between the two bilingual groups in the degree of language use; namely, higher degrees of language use in Community bilinguals compared to Individual bilinguals. Yet, since this analysis was conducted primarily to examine the cause of weak School effect in some models, it involved only the subjects who participated in the Interview Test, and the limited number of predictor variables. Thus, this section aims to clarify the possible difference between the two bilingual groups in language use, including the whole bilingual population. To this aim, correlations between School and the language use variables were computed with pairwise deletion. The results showed that not all the language use variables are significantly correlated to School. Table 6.21 presents only the pairs that had significant correlations.

Table 6.21 Correlations between School and the language use predictor variables

	Correlation	P-Value	Number
School, Frequency of Japanese Book Reading	.523	<.0001	55
School, Variety of Japanese TV Programs Watched	.365	.0058	55
School, Number of Study Materials	.339	.0101	56
School, Number of Japanese Entertainment Items	.329	.0138	55
School, Number of Visits to Japan	-.322	.0151	56
School, Frequency of Use of Japanese Entertainment Items	.299	.0261	55
School, Frequency of Watching Japanese TV Programs	.295	.0286	55

Individual bilinguals: School=1; Community bilinguals: School=2

It is clear from Table 6.21 that the two bilingual groups are significantly different; especially in their degree of private Japanese use, but also in Number of Visits to Japan, which involves use and exposure to Japanese in public. In other words, Community bilinguals use Japanese in private significantly more than

Individual bilinguals do, but Individual bilinguals have notably more opportunities for exposure to Japanese in Japan, compared to Community bilinguals. In fact, such differences were also observed in the two bilingual groups' language behaviors and experiences described in their diary entries and essays. To illustrate, Community bilinguals have more friends of Japanese heritage and more Japanese computer games compared to Individual bilinguals. Similarly, many Community bilinguals keep up their knowledge of the latest trends of Japanese popular culture via cable TV, such as information on singers and animations on TV. Living in the Japanese community also provides easy access to the Japan Foundation library and Japanese second hand bookshops. In fact, one of the parents of a Community bilingual told me that her child voluntarily goes to such bookshops and buys many comic books. Also worth mentioning is that this child is from an exogamous family but has developed a grade 6-level literacy. On the other hand, Individual bilinguals who went to Japan increased the amount of words in their diary entries while they were in Japan, though this effect disappeared after their return to Australia. It is possible that Individual bilinguals had more frequent trips to Japan because their Japanese parents missed Japan more in the absence of the Japanese community.

Interestingly, these between-group differences appeared in the language use variables that are found significant or almost significant in the development of general literacy, regardless of School types (see Section 6.3.2). Some of the variables are also significant contributors to the development of specific aspects of literacy (see Section 6.3.1). Another finding of interest is that the two groups are not particularly different in the degree of Japanese use within a family, signifying that the influence of the socio-cultural context on language use patterns of a family is lower than the other aspects of language use.

The results thus indicate the important influence of the socio-cultural context on the individual context of language use: that is, the existence of community promotes private Japanese use that contributes to the development of its literacy, while the absence of community seems to encourage trips to Japan that would provide public use and exposure to Japanese. Especially of note is the robust effect of the socio-cultural context on the frequency of book reading. Considering the fact that this literacy practice is important not only for the acquisition of everyday registers, but also that of academic registers, such promoting effect of the community is significant. In addition, the findings suggest that the development of literacy is better promoted by

the consistent language use supported by an encouraging socio-cultural context, and that the occasional public use and exposure to the language without regular private language use and a high degree of community contact is insufficient.

In summary, the analysis revealed that the socio-cultural context significantly affects the individual context of language use, which is significant for the development of literacy. Of the significant variables, most affected is the degree of private language use, and least for the patterns of family language use. Therefore, the results confirm the interrelationship between the socio-cultural context and the individual context of language use; both contexts need to be considered in assessing the individual ability of the sample.

6.4.2 Attitudes towards culture and group

This section will assess the influence of the socio-cultural context on attitudes, along with the possible interrelationship between attitudes and Age, Grade (only for the within-population contrast of bilinguals), Age on Arrival, and Length of Residence. The analysis used is a multiple regression with General Cultural and Group Identification Score (AVCAT) and Ethnolinguistic Group Identification Score (CAT 4&10) as the dependent variables, respectively (see Section 3.4.3 and 3.5.2 on the measurement used to test cultural and group identification). To be more specific, dummy variables shown in Table 6.23 were established for the two types of contrast described in Table 6.22, and these dummy variables (two contrasts) are entered as the independent variables with different covariates. The use of dummy variables and contrasts for this regression analysis is similar to the one explained in Appendix E. The results of the analyses will be discussed for each contrast in the order set out in Table 6.22. The criteria used to assess the quality of a regression model are β and p-values associated with a *t*-test for regression. Since it is the quality of each independent variable (each of the two contrasts) and the effect of each covariate that matters in the current analyses, the R squared value is not presented everywhere.

Table 6.22 The two contrasts of attitudes

Types of the sample			Types of contrast
Individual bilinguals	Community bilinguals	Contact monolinguals	
0.5	0.5	-1	1. Bilinguals vs. Contact monolinguals
1	-1	0	2. Individual bilinguals vs. Community bilinguals

Table 6.23 Dummy variables for the key comparisons including 3 groups

Types of the sample		Bilinguals vs. Contact monolinguals (BILING3)	Individual bilinguals vs. Community bilinguals (COMBIL3)
Individual bilinguals:	School = 1	0.33	0.5
Community bilinguals:	School = 2	0.33	-0.5
Contact monolinguals:	School = 3	-0.66	0

6.4.2.1 Bilinguals vs. Contact monolinguals

In this section, the influence of the macro- and the micro-level socio-cultural context on attitudes will be investigated, in conjunction with the respective effect of Age, Age on Arrival, and Length of Residence on attitudes. Specifically, it examines whether Contact monolinguals and bilinguals are different in the relative degree of cultural and group identification with Japan and Australia, when controlled for Age, Age on Arrival, and Length of Residence, respectively. This contrast was made because the two groups have different experiences of primary and secondary socialization due to the different socio-cultural context in which these socializations take place. That is, Contact monolinguals spend the first 5 to 10 years of their lives in Japan and then start to receive Japanese schooling in Australia, whereas bilinguals generally grew up in Australia from birth or at an early age, and have been educated in Australian schools. Consequently, the two groups' differences in the relative degree of identification with the two groups and cultures would manifest the influence of the socio-cultural context on attitudes. The results of regression analyses are shown in Table 6.24.

Table 6.24 Regression of *General Cultural and Group Identification Score* and *Ethnolinguistic Group Identification Score* on Bilinguals vs. Contact monolinguals (BILING3) with Age, Age on Arrival, and Length of Residence control

N=57 (Bilinguals=33, Contact monolinguals=24)	Cultural and group identification		Ethnolinguistic group identification	
	B	p-value	B	p-value
BILING3+Age	.897	.6344	-.169	.9523
BILING3+Age on Arrival	.487	.8917	-2.877	.5719
BILING3+Length of Residence	6.347	.0782	1.586	.7635
Age	-1.444	.0028	-1.267	.0718
Age on Arrival	.136	.7411	-.212	.7178
Length of Residence	-.844	.0254	-.363	.5076

Bilinguals=0.66, Contact monolinguals=-0.66

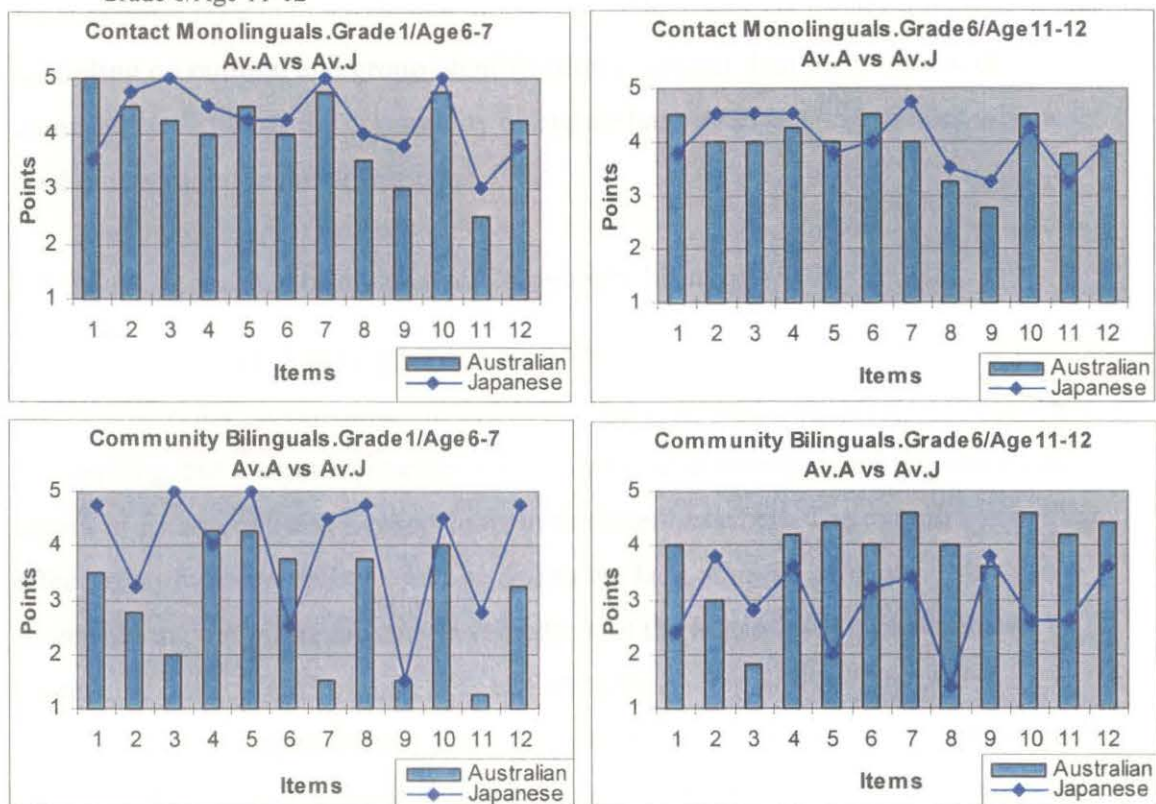
It can be seen in Table 6.24 that Bilinguals and Contact monolinguals are not particularly different either in General Cultural and Group Identification Score or

Ethnolinguistic Group Identification Score, when controlled for Age, Age on Arrival, and Length of Residence. This is mainly due to the significant effect of Age and Length of Residence on attitudes, and partly due to the lack of variance in Age on Arrival on the part of Contact monolinguals (minimum = 5.75, maximum = 10.84). In particular, Age and Length of Residence were negatively correlated to attitudes; the older the subjects are, or the longer the subjects reside in Australia, the lower their cultural and group identification with Japan is. The fact that the effects of Age and Length of Residence were significant in both groups indicates the strong influence of the macro-level socio-cultural context on attitudes.

In contrast, the comparative ethnolinguistic group identification with Japan does not seem to change to a great extent with either Age or Length of Residence. Since General Cultural and Group Identification Score includes only 2 items that are specifically related to group identification, and the other 10 items are mainly related to cultural identification, the score would mostly reflect the relative degree of cultural identification with Japan. Thus, the results show that the influence of the socio-cultural context on ethnolinguistic group identification is low, as opposed to its significant effect on mainly cultural identification.

Although the difference in identification scores between Bilinguals and Contact monolinguals was not statistically significant when controlled for Age, some differences were observed in a comparison between Community bilinguals and Contact monolinguals at the same age/grade levels (age 6-7, grade 1 and age 11-12, grade 6). Specifically, a more detailed comparison was made with graphs. Figure 6.1 shows each group's average Japanese and Australian identification score for each item of the CAT (Cultural Association Test). It should be noted that the same comparison with Individual bilinguals was not possible due to the lack of data for grade 1, or the Age 6-7 group. Note that the ratio of Parentage (endogamous or exogamous families) for bilinguals is 50/50 for grade 1, and 60/40 for grade 6.

Figure 6.1 Comparisons of the average Australian versus Japanese identification scores (Av. A vs. Av. J) between Contact monolinguals and Community bilinguals at Grade 1/Age 6-7, and at Grade 6/Age 11-12



Items:

Japanese	Australian	Japanese	Australian
1. Carp flag	Koala	7. Sushi	BBQ
2. Japanese breakfast	Australian breakfast	8. Kimono	Bikini
3. Winter Santa	Summer Santa	9. Baseball	Rugby
4. Japanese map	Australian map	10. Japanese flag	Australian flag
5. Doll festival	Easter festival	11. Sumo	Cricket
6. Mt Fuji	Opera House	12. Origami crane	Cockatoo

Note: Items 4 and 10 measure Ethnolinguistic group identification; N=4 for each grade group excluding grade 6 Community bilinguals

As can be seen from Figure 6.1, both Contact monolinguals and Community bilinguals at grade 1/age 6-7 generally have a stronger identification with Japan than with Australia. However, the difference between the two groups in the relative degree of identification with the Japanese and the Australian culture/group becomes more apparent at grade 6, or at the age of 11-12, due to the Community bilinguals' much lower identification with Japan and its culture, compared to Contact monolinguals. In other words, although the effect of Age on attitudes appears in both groups, the effect is much stronger for Community bilinguals.

Thus, this shows that the influence of the socio-cultural context of socialization and schooling (Japanese or Australian) on attitudes becomes clear only

in pre-adolescent years. In short, the results support the view that one's cultural and group identification is formed to the context he/she is in, as discussed in Section 2.3.4. Furthermore, they indicate that the influence of the wider socio-cultural context and schooling on cultural and group identification is greater than the presence of community. Whether the community existence has any effect on attitudes will be further examined in the next section.

6.4.2.2 Individual bilinguals vs. Community bilinguals

In Section 6.3, the regression analyses found no significant effect of attitudes on the bilinguals' development of general literacy or specific aspects of literacy for free writing, but a significant effect on the increase in non-standard features in the aspect of *Phonology and Orthography* in the Interview Test. The overall insignificant effect of attitudes on ability could be due to the lack of variance in identification scores among the bilingual sample regardless of the micro-level socio-cultural context, or due to the close link between attitudes and other individual factors. On the other hand, it was supposed that the unusual effect on the aspect of *Phonology and Orthography* could be related to the existence of older subjects in the lower grades. To be more specific, if the effect of Grade is more significant than that of Age, there is a possibility that these subjects have a higher identification with Japan than the same age subjects in the higher grades. If that were the case, it is more likely that those in the lower grades produced more non-standard forms than their age peers in the higher grades in the Interview Test.

In order to test these alternatives, Individual bilinguals and Community bilinguals will be compared in their relative degree of cultural and group identification with Japan and Australia, controlling for Age, Grade, Age on Arrival, and Length of Residence, respectively. As discussed in Section 6.4.2, the contrast was entered as one of the independent variables for the multiple regression analysis. The results of regression analyses are shown in Table 6.25.

Table 6.25 Regression of *General Cultural and Group Identification Score* and *Ethnolinguistic Group Identification Score* on Individual bilinguals vs. Community bilinguals (COMBIL3) with the Age, Grade, Age on Arrival, and Length of Residence control

N=33* (Individual bilinguals=7, Community bilinguals=26)	Cultural and group identification		Ethnolinguistic group identification	
	B	p-value	B	p-value
COMBIL3+Age	2.659	.3218	7.529	.0646
COMBIL3+Grade	2.173	.4056	7.335	.0599
COMBIL3+Age on Arrival	1.503	.6130	5.985	.1597
COMBIL3+Length of Residence	3.383	.2496	7.178	.1020
Age	-1.444	.0028	-1.267	.0718
Grade	-1.731	.0010	-2.023	.0079
Age on Arrival	.136	.7411	-.212	.7178
Length of Residence	-.844	.0254	-.363	.5076

Individual bilinguals=0.5, Community bilinguals=0.5

*Total number for the equation is 57.

The results of the regression analyses show no significant difference in either of the identification scores between the two bilingual groups, when controlled for Age, Age on Arrival, and Length of Residence. This would suggest that the influence of the micro-level socio-cultural context on attitudes is small. However, it is of interest that the difference in Ethnolinguistic Group Identification Scores approached significance with the Age and Grade control, and that the Individual bilinguals' scores were somewhat higher than Community bilinguals. This in a sense seems paradoxical, as Individual bilinguals living outside of the Japanese community have stronger group identification than Community bilinguals who live in the Japanese community. Yet, it could be related to the degree of ethnic mixture in each group's environment. To be specific, Individual bilinguals, who live in an ethnically diverse environment, may feel less 'different' from their peers and less pressure of peer acceptance than Community bilinguals who reside in a Japanese community which exists in a largely Anglo-Celtic neighborhood. However, because this difference is not statistically significant, a further study with more subjects may clarify this point.

With regard to the effect of covariates, it is clear from the results that Age, Grade, and Length of Residence have a significant negative influence on cultural and group identification. It should be noted, however, that the effects of Age and Length of Residence are regardless of School, but the Grade effect reflects mostly on Community bilinguals, as Individual bilinguals consist of the grade 4 subjects only. This indicates that cultural and group identification with Japan generally decreases with Age and Length of Residence in both groups of bilinguals, but also with Grade among Community bilinguals. In other words, bilinguals' identification with

Australian culture and group increases with Age and Length of Residence, while Community bilinguals' identification with Australia also increases with Grade.

However, when only ethnolinguistic group identification was analyzed regarding its relationship with Age, Grade, Age on Arrival, and Length of Residence, it was only Grade that showed a significant relationship. This shows that neither Age, Age on Arrival, nor Length of Residence affects the relative degree of group identification with Japan and Australia to any great extent. With respect to the effect of Grade, it is noteworthy that Age and Grade correlate significantly among Community bilinguals, but not among Individual bilinguals. In addition, Individual bilinguals generally had a somewhat higher identification score than Community bilinguals at the same age level. This means that the effect of Age on Community bilinguals may appear more clearly with the Grade control, as the variance would be less than the Age control. Thus, the Grade effect is more likely the effect of Age among Community bilinguals. This may also indicate that the Age effect on ethnolinguistic group identification is more significant for Community bilinguals than for Individual bilinguals.

Accordingly, the results verify the prediction: the general insignificant effect of attitudes on ability found in Section 6.3 is due to the general lack of variance in identification scores among the bilingual sample at the same age levels, as well as being due to the significant interrelationship between attitudes, Age, and Grade. Specifically, in a multiple regression analysis that used Age and School as covariates, identification scores were so similar at the same age/grade levels that the effect of attitudes on ability was insignificant.

In addition, the results substantiated another prediction regarding the significant effect of attitudes on the increase in non-standard features of *Phonology and Orthography* in the Interview Test. Specifically, it seems the effect was due to the existence of older subjects in the lower grades. There are two reasons. First, the non-standard TRL features in *Phonology and Orthography* generally occur more at an elementary stage of literacy development, that is, in the lower grades. This aspect was also the most likely aspect that shows non-standard features in the test. Second, the finding that the effect of Grade on attitudes is more significant than that of Age suggests that the subjects in the lower grades have a higher identification with Japan than their age peers in the higher grades. Since it is more likely that those in the lower grades produce more non-standard *Phonology and Orthography* features than their

age peers in the higher grades, the interrelationship of identification scores and grade may have appeared as the significant effect of attitudes on ability, when controlled for Age and School.

To summarize, the results show that the two bilingual groups' difference in the relative degree of cultural and group identification with Japan and Australia is small, regardless of the control for Age, Grade, Age on Arrival, and Length of Residence. This suggests that the existence of community does not influence one's cultural and group identification to a great extent. However, the macro-level socio-cultural context was found to be significant in influencing attitudes. Specifically, Age, Grade, and Length of Residence had a strong negative effect on General Cultural and Group Identification with Japan. The interrelationship of Age and Grade in Community bilinguals also suggested the significant negative effect of Age on ethnolinguistic group identification. At the same time, the general lack of variance in identification scores among bilinguals of the same age as well as the significant interrelationship between attitudes, Age, and Grade confirmed the predictions regarding the following issues: the general insignificant effect of attitudes on ability, in addition to the significant influence of attitudes on the increase of the non-standard *Phonology and Orthography* features in the Interview Test.

6.5 Conclusion

This chapter has examined the influence of the socio-cultural and the individual contexts on the development of Japanese literacy and general ability. The first section assessed the influence of the socio-cultural context on ability in terms of contact and community, and found that both the macro- and the micro-level socio-cultural contexts significantly affect ability. Specifically, the comparison of ability between the bilingual and the monolingual populations showed that the gap between the two is not significant at grade 2, but the difference grows significantly wider thereafter. Since the disparity is significant despite the fact that each population consists of separate groups whose micro-level socio-cultural context are different, this indicates that the bilinguals' lower stage of Japanese development is a product of the lack of wider socio-cultural support. Similarly, the comparison between Community bilinguals and Individual bilinguals in ability revealed that the number of TRL aspects that show significant inter-group differences increases with grade. Put another way,

the absence of community and the dominance of the majority language and culture discourage minority language development, and this influence becomes stronger with age. On the other hand, the comparison between Contact monolinguals and Non-contact monolinguals in ability showed that the effect of contact on Contact monolinguals' Japanese literacy is insignificant at all grade levels. This shows that the negative influence of the macro-level socio-cultural context on minority language literacy can be offset by adequate support in the micro-level socio-cultural context; that is, the influence of schooling and the associated social network is significant to the development of language and its literacy.

In the subsequent section, the influence of the individual context on ability was assessed for the bilingual population. In particular, analyses were made regarding the effect of the factors of origin, language use, and attitudes, on the specific as well as the general aspects of literacy. The results found that the relevant factors that contribute to the development of each TRL aspect are different in free writing (the Translanguage Analysis measures) and in the writing test (the Interview Test measures). Also, more factors showed a significant effect in relation to general literacy. However, the overall trend to emerge indicates that the individual context of language use is most significant in the development of literacy, followed by factors of origin. Attitudes, in contrast, showed no significant effect on either specific or general aspects of literacy, with one exception: a significant effect on the increase in the non-standard features in *Phonology and Orthography*. However, further examinations found that this was more likely due to the strong correlations between attitudes, Age, and Grade. Thus, the effect of attitudes on ability was insignificant.

The final section examined the influence of the socio-cultural context on the individual context of language use and attitudes. In particular, the comparison of the degree and the amount of language use between the two bilingual groups revealed that the presence of community significantly promotes private language use (private language use here refers to Literacy practice and Leisure—see Table 3.5), whereas the absence of community encourages visits to Japan, which would increase opportunities for public language use and exposure. Especially noteworthy is the robust between-group difference in the frequency of book reading. Another finding of interest is that while the effect of the socio-cultural context on private language use is significant, the effect on public, or interpersonal language use is small. The results thus suggest that the socio-cultural context not so much affects communicative language use as

cognitive language use. Since the use of language for analysis and cognition would be important for the development of literacy, this in turn would indicate the significance of the socio-cultural context for the development of literacy and general ability.

With respect to the influence of the socio-cultural context on attitudes, two contrasts were made: Contact monolinguals versus bilinguals, and Community bilinguals versus Individual bilinguals. The absence of significant difference between Contact monolinguals and bilinguals in the cultural and group identification scores show that the influence of the socio-cultural context on attitudes is small, when controlled for Age, Age on Arrival, and Length of Residence. However, the effects of Age and Length of Residence were significant in both groups, suggesting the strong influence of the macro-level socio-cultural context. Similarly, the comparison of attitudes between Community bilinguals and Contact monolinguals revealed that the influence of the socio-cultural context of socialization and schooling (Japanese or Australian) on attitudes does not emerge until the pre-adolescent years. In the second contrast, Community bilinguals versus Individual bilinguals, the relative degree of identification with Japan and Australia was assessed to investigate the effect of community on attitudes. The results suggest that bilinguals' cultural and group identification is not greatly affected by the presence or absence of community. This trend emerged irrespective of the control for Age, Grade, Age on Arrival, and Length of Residence. Furthermore, the fact that the effects of Age, Grade, and Length of Residence are significant regardless of group indicates that the influence of the macro-level socio-cultural context is greater than that of the micro-level socio-cultural context.

To conclude, the findings of this chapter show that both the socio-cultural and the individual contexts affect ability. The results also indicate the interrelationship between the two contexts. However, their relative degrees of influence on ability are different; the influence of the socio-cultural context on ability is greater than that of the individual context, since the former influences the latter to a larger extent. In this light, the language ability of an individual is doubly influenced by his/her surroundings, both at the micro- and the macro-levels, and at the individual and the social levels.

CHAPTER 7

SUMMARY AND CONCLUSION

7.1 Introduction

This study investigated the development and maintenance of Japanese–English bilinguals’ literacy in Japanese as a translanguage (TRL/a minority first language) based on the interdisciplinary network model of bilingualism. In light of the importance of developing minority language literacy and related registers for the attainment of higher levels of minority language ability and its maintenance, the study aimed to solve the following key issues:

1. What are the characteristics of minority language literacy developed without wider socio-cultural support?
2. What is the process and extent of development of minority language literacy in the absence of an ethnolinguistic community and bilingual education?
3. What are the influences of the socio-cultural context on minority language literacy?
4. What are the influences of the individual context (origin, language use, attitudes) on minority language literacy?
5. What are the influences of the socio-cultural context on the individual context of language use and attitudes?
6. What are the possible recommendations to realize ‘additive’ bilingualism in a minority context?

In this concluding chapter, the findings regarding the above-addressed questions (except for the last) will be summarized in the order mentioned. This is followed by a discussion of the implications of the study in relation to the last issue: achievement of ‘additive’ bilingualism in a minority context. Since this is the ultimate goal of the study, the solution is drawn from the integrated conclusions and implications of the study. Also, the discussion is accompanied by recommendations for future studies.

7.2 Summary of findings

7.2.1 Japanese as a translanguage

The first issue, the nature of TRL [Japanese], was investigated in Chapter 4. Firstly, the structure of Japanese was explained to facilitate understanding of TRL. Secondly, TRL characteristics derived from both the longitudinal and the cross-sectional analyses of bilinguals' TRL data were described together with an explanation of how and why it was assumed these TRL features occurred and how they deviated from the norm. Thirdly, in order to identify the features that are developmental or the result of transference, a comparative analysis of TRL was made with first language (L1) Japanese and interlanguage (IL) Japanese. Lastly, the degree of correspondence between oral and written modes of TRL was examined to discover the cause of each TRL type: levels of writing skills or lack of knowledge. The major findings of the investigation regarding the characteristics of TRL are as follows:

1. Bilinguals' Japanese as a TRL was characterized by two elements: 1) developmental features that are entirely shared with Non-contact Japanese monolinguals' Japanese as a first language (L1), and mostly shared with English monolinguals' Japanese as a second/foreign language (IL: interlanguage); 2) features transferred from English, which are wholly shared with English monolinguals' IL Japanese, but not with Non-contact Japanese monolinguals' L1. That is, developmental features were common to the three varieties, L1, TRL and IL, whereas transference features were shared only between TRL and IL speakers.
2. There was a connection between oral and written forms of transference TRL types, indicating that the cause of transference is not the levels of writing skills, but insufficient knowledge. In other words, this confirms the view that transference results from the need to supplement lack of knowledge in one language with another (see Section 2.5.2). Similarly, the use of counters showed a 100 per cent correspondence between oracy and literacy, which confirms the link between knowledge and the representation of knowledge. By contrast, only a minor correspondence existed between spoken and written TRL features in the aspect of phonologically related orthography. This shows that although non-standard spelling is to some extent related to non-standard

pronunciation or use of words or expressions, its main source is a limited exposure to standard orthography. Likewise, no match was found between the two modes of TRL types that are exclusively phonological or orthographical, which suggests that these TRL features are a result of their level of orthographic ability.

7.2.2 Longitudinal development and maintenance of TRL literacy

Chapter 5 examined the second issue, the way and degree of TRL literacy development among 'Individual bilinguals' residing outside an ethnolinguistic community and being schooled in the majority language. In particular, Individual bilinguals' development or deterioration in literacy during the grade 2-4 period was analyzed statistically as well as descriptively. The group's inter-grade shifts in the occurrence of non-standard TRL features were investigated first, along with the analysis of within-group variance. To be more specific, the analyses were made regarding the pattern of increase or decrease in the frequency of non-standard TRL form occurrence per 100 words (TRL rate) in particular aspects and in general. Individual differences in the TRL rate at the same grade level, and in the degree of literacy development were also assessed to see whether the lack of between-grade change at a group level in some TRL types was due to within-group variance. Subsequently, the effect of longitudinal writing practice on literacy development was analyzed to identify the contributing factors of such within-group variance. The degree of literacy development was measured by the total average occurrence rate of non-standard TRL features at grade 4, and the standardized writing test conducted at grade 4. The results of the analyses revealed the following:

1. After grade 2, Individual bilinguals' frequency of producing non-standard TRL features as a group increased in the aspect of grammar and morphology. This occurred only for a few developmental TRL types, but for wide-ranging transference TRL types. In contrast, the occurrence of transference from English as a whole decreased between grades 2 and 3, but the general pattern of shift became unclear thereafter, due to increased individual variance. The within-group variance in the production rate of non-standard features and its inter-grade shift pattern was large for phonologically related orthography and for certain developmental TRL types in grammar and morphology. In other

aspects of literacy, such individual differences were small. These show that Individual bilinguals' literacy, manifested in their writing skills, made overall little improvement over three years, though this was in part due to the moderately large within-group variance.

2. The consistency of writing practice was significantly related to the development of literacy. In other words, those who continued to write on a regular basis had developed better literacy than those who lacked such constancy. In fact, the degree of writing practice differed greatly among the sample, which eventually resulted in a fairly large within-group gap in literacy. Furthermore, the effect of consistent writing practice was much more influential than that of parentage (endogamous or exogamous families) in this sample; namely, the result did not agree with the view that children of exogamous marriages have lower rates of minority language development and maintenance (see Section 2.6). Also noteworthy is that the levels of literacy in Japanese were significantly correlated to the degree of need for English transference in using Japanese, which increases with the absence of writing practice. Similarly, the degree of transference is interrelated to the degree of engaging in writing practice; the lack of writing practice increases English transference, while English transference discourages writing practice. The results thus indicate that although initial differences can affect the degree of literacy development, consistent writing practice can help overcome such differences and prevent further dominance of English over Japanese.

7.2.3 The socio-cultural and individual context of ability

The three issues regarding the relationship between the socio-cultural and the individual contexts and ability are investigated in Chapter 6. Firstly, the influence of the socio-cultural context on ability was statistically analyzed by three types of contrast: 1) Japanese–English bilinguals versus Japanese monolinguals, 2) Individual bilinguals versus Community bilinguals, and 3) Contact monolinguals versus Non-contact monolinguals. The between-group difference in specific as well as general skills of literacy was examined in each contrast. The first and second contrasts assessed the following effects on bilinguals' Japanese ability: 1) the macro-level

socio-cultural context: the lack of wider socio-cultural support for minority language development and 2) the micro-level socio-cultural context: the absence of an ethnolinguistic community. On the other hand, the third contrast examined the relative effect of contact experience and Japanese schooling on Japanese monolinguals' ability in Japanese. Next, statistical analyses were made to identify factors of the individual context (origin, language use, attitudes) that contribute to the bilinguals' Japanese literacy development in both particular and broad aspects. Lastly, the interrelationship between the socio-cultural context and the individual context of 'language use' and 'attitudes' was examined to further illuminate the interaction between contributing factors of ability. More specifically, the two bilingual groups were compared in their degree of Japanese use and relative identification with Japanese and Australian cultures and groups, to see whether the presence of community affects these aspects of the individual context. In addition, a comparison of bilinguals and Contact monolinguals in cultural and group identification with Japan and Australia was made to assess the effect of the socio-cultural context of the primary and the secondary socialization on attitudes. The following are the main findings that emerged from these analyses:

1. The influence of the macro-level socio-cultural context was robust; the bilinguals versus monolinguals contrast of ability revealed the wide disparity between the two populations. The gap grew significantly wider after grade 2, as the acquisition of Japanese literacy stagnates in bilinguals while it flourishes in monolinguals. Since the difference exists despite the inclusion of separate groups that differ in the micro-level socio-cultural context, this shows that the influence of the socio-cultural context on bilinguals' Japanese ability is stronger at the macro-level than at the micro-level. Still, the micro-level socio-cultural context was also influential in bilinguals' literacy development. Specifically, the absence of a Japanese community hampers Japanese literacy development and such a tendency increases with age. With regard to the effect of contact on Japanese monolinguals, the contrast of Contact monolinguals against Non-contact monolinguals in ability revealed that the effect is insignificant regardless of grade. This suggests that sufficient institutional support for minority language literacy at the micro-level can counteract the undermining influence of the socio-cultural context at the macro-level. In

other words, the language medium and the culture of education, which affect the socialization process and context, have an important influence on the development of minority language literacy.

2. Analyses of the influence of the individual context on ability generally showed that the degree of language use is most important in the development of Japanese literacy. Factors of origin such as Parentage and Length of Residence were of secondary importance. On the contrary, no significant relationship existed between attitudes and ability. This is in part due to the lack of variance in the cultural and group identification scores among the bilingual sample; most identified with both Japanese and Australian cultures to a similar extent. Yet, it showed that contrary to the hypothesis, preference for Australian culture and group does not necessarily mean low levels of Japanese literacy in either specific or general aspects, or vice versa. In short, the results illuminated the foremost importance of frequent and extensive Japanese use in literacy development, while original personal circumstances are also influential.
3. An examination of the influence of the socio-cultural context on the individual context of language use and attitudes found that the effect is significant on both language use and attitudes, though only the macro-level context affects attitudes. To be specific, private language use, especially book reading, is significantly encouraged by the presence of a community. On the other hand, trips to Japan, which would provide opportunities for public language use, are promoted by the absence of community. Also revealed is that it is cognitive language use that is influenced by the community existence, not communicative language use. This suggests that the micro-level socio-cultural context of community plays an important role in promoting the development of minority language literacy, in view of the fact that the development of literacy largely depends on the cognitive and the analytical use of language. As regards the influence of the socio-cultural context on attitudes, the effects of Age and Length of Residence were significant for both Contact monolinguals and bilinguals. That is, identification with Australian culture and group becomes stronger with age and the length of residence in Australia, in contrast to the weakening identification with Japanese culture and group. This

indicates the powerful impact of the wider socio-cultural context on cultural and group identification. Conversely, the effect of the narrower socio-cultural context on bilinguals' attitudes was small. In other words, the presence or absence of an ethnolinguistic community had little effect on bilinguals' cultural and group identification.

7.3 Implications and recommendations for future studies

7.3.1 Significance of translanguage and a continuous literacy practice

The investigation of translanguage (TRL) showed that it is a unique hybrid linguistic system, possessing some features that are developmental and others that are the result of transference. The identification and explanation of such features made in this study has educational and theoretical implications. Educationally, the findings could be employed as a guide for teachers and parents in teaching Japanese to Japanese–English bilinguals in a similar context. In such a case, the developmental and transference elements may require separate teaching approaches; for example, many cases of transference features found in the study could be used in the classroom to point out the difference between English and Japanese by contrasting English and Japanese translation equivalents. Developmental elements, on the other hand, may call for richer linguistic environments and a variety of activities to promote interest in literacy in early childhood, which would increase experiences with, and exposure to, diverse language behavior models. This could be done by providing a rich home environment for Japanese literacy development, as well as by joining a community-based playgroup that offers various activities for the development of literacy. In addition, formal teaching may need to devise more focused and systematic teaching methods, as bilinguals lack the background knowledge and experiences necessary for the acquisition of standard forms. Inevitably, however, more pedagogically oriented studies will be required to discover effective teaching methods for the bilingual population in a similar context. The time constraints of in the community school are another concern, which needs to be considered in such work.

Theoretically, the study confirmed the view that bilinguals' TRL develops in a similar way as monolinguals' first language (L1) through constant modification of formerly learned knowledge, but bilinguals utilize knowledge from the two languages

instead of one. Moreover, the study showed that bilinguals' Japanese as a TRL is not the imperfect variety of native speaker's Japanese, but a distinctive system of its own, which is transitional and susceptible to their degree of language use and experiences. Another finding of interest is that the bilinguals' TRL Japanese is closer to the Japanese monolinguals' L1 than to the English monolinguals' Interlanguage (IL) Japanese. In this light, Japanese–English bilinguals would have more potential to achieve a higher level of Japanese ability than second/foreign language learners of Japanese, given the adequate support for its development.

While the occurrence of developmental features partly depends on general cognitive development related to age, one of the major causes that contribute to the occurrence of both developmental and transference features is the lack of consistent writing practice. In the case where children live outside the Japanese community, this is especially crucial. In fact, constant practice of writing could overcome initial differences in ability, the *à priori* effect of parentage, and lessen transference from English. Another contributing factor to the development of literacy is early efforts in literacy learning; those who wrote more at an earlier stage of literacy development improved their levels of literacy at a later stage. This indeed agrees with the view that early language development through literacy practice is beneficial for later literacy development (see Section 2.3.5). Accordingly, it is recommended that one of the ways to develop TRL Japanese literacy is to engage in writing activities continuously and extensively, especially at an earlier phase of literacy development.

7.3.2 Network interaction of variables in bilingual development

This study approached the issue of the development and maintenance of minority language literacy from an interdisciplinary perspective as discussed in Section 2.3. In particular, the role of social networks was regarded as providing language models and transmitting values, attitudes, and perceptions concerning the language (Hamers & Blanc, 1989). How and what kinds of language attributes individuals acquire also depends on their individual context and experience in relation to the language. Based on this conceptual framework, the study investigated the respective influence of socio-cultural context and individual context on ability, and the connection between these two contexts.

The results confirmed the network interrelationship between the socio-cultural and the individual contexts that affects minority language ability in a dynamic way. Specifically, the effects of the socio-cultural and the individual contexts are not independent of each other, though both contexts influence bilinguals' minority language development. There is also a power relationship between the types and the levels of context, where the impact of the socio-cultural context surpasses that of the individual context, and the influence of the macro-level context generally exceeds that of the micro-level. This means that where minority language development is concerned, a positive individual context is unlikely to exist without a positive socio-cultural context. In fact, it was revealed that the community existence in the immediate environment significantly encourages bilinguals' private language use, which is essential for the development of literacy and related registers. Especially noteworthy is that many instances of such private uses of language are self-motivated and for leisure. Moreover, the direction of the socio-cultural influence is not one way, but two ways. That is, a positive socio-cultural context promotes a positive individual context of language use and attitudes, which together enhance ability. This enhanced ability in turn furthers such positive individual and socio-cultural environment, which reinforces ability.

With regard to the power relationship of the macro- and the micro-level socio-cultural contexts, the findings showed that the bilinguals' Japanese ability and attitudes towards Japan and Australia were much more influenced by the large-scale environment than by the small-scale one. The effect on attitudes, however, becomes apparent only in pre-adolescent years. Accordingly, future studies on attitudes among adolescent Japanese-English bilinguals in a comparable setting may identify the difference in attitudes according to the micro-level context, as well as the dissimilar effect of attitudes on ability. On the other hand, the effect of schooling was found to be significant for the maintenance and development of minority language ability among expatriate Japanese children. While this may be partly due to the comparatively short length of residence in Australia, there is an indication that sufficient socio-cultural support for minority language development at the micro-level can overcome the general lack of encouragement in the wider society, given some collaboration at the macro-level. Since the focus of this study was not expatriate Japanese children, this point could be further clarified in future research that includes subjects with a longer length of residence.

In short, the susceptibility of minority language ability to the surroundings and interrelationships of social networks substantiates the view that the state of bilingual ability is a cognitive and developmental outcome of the socio-cultural and the individual contexts in which an individual exists, and of personal experience in relation to the languages concerned. At the same time, the findings support the notion that levels of ability in the respective languages influences the individual's surroundings for input and output opportunities for different language models and experiences through each language, which in turn affects cognitive and developmental consequences.

7.3.3 Achieving additive bilingualism in a minority context

The comparison between Japanese monolinguals and Japanese–English bilinguals in Japanese literacy revealed the increasingly wide gap with grade/age. This illustrates how difficult it is to develop minority language literacy without wider socio-cultural support. It is however noteworthy that the difference between the two populations was insignificant at an early period of literacy development, in all aspects of literacy but transference. In other words, the growing disparity coincided with the increase in the type and amount of register required for the grade-norm levels of literacy. In particular, while monolinguals gradually develop the use of formal and academic registers, including knowledge of *kanji*, bilinguals lag behind due to the lack of socio-cultural and institutional support and pressure to learn such register varieties (see Section 6.2). Especially notable is the role education plays in the acquisition of higher levels of literacy. In fact, Hatano (1995) claims that [even] for a majority of monolingual Japanese, it would be impossible to master standard Japanese literacy without schooling. The current study lends strong support for this view: it is an enormously difficult task to develop and maintain Japanese literacy in a minority context where no macro-level socio-cultural support exists for its development.

To conclude, the results of the study demonstrate the harsh reality of English predominance and the powerful force of socio-cultural pressure to conform. Even valuable private effort and strong community support was found to be insufficient in counteracting the undermining power of monolingual majority language education over minority language development. This insight is indeed consistent with the results of studies on various linguistic minorities around the world. Such consensus can be

understood considering the fact that the teaching of language through education is an embodiment of the socio-cultural pressure for its acquisition (Hatano, 1995). Furthermore, school plays an important role in the acquisition of the academic registers necessary for the attainment of higher levels of literacy, and this would be especially so for literacy in minority languages which otherwise lack opportunities to develop such linguistic aspects (Gibbons, 1999). The need of institutional support for the development of minority language literacy is also pointed out by Hamers & Blanc (2000), in that literacy development requires internalization and externalization of language functions and forms within a social network. The present findings provide sound support for these views. Consequently, in light of widely reported benefits and effectiveness, there is a strong indication that the ultimate solution for achieving a high-level of additive bilingualism would lie in bilingual education, which has not yet been realized for the relevant population under the present study or for most linguistic minorities in Australia. The current reluctant government position in catering for the genuine need for bilingual education for linguistic minorities, contradicts its multicultural advocacy and the reported acute need for LOTE (Languages Other Than English) skills that contribute to the nation's economic prosperity. Therefore, this study testifies to the urgent need of effective bilingual education for background speakers, whose potential is otherwise lost to the individuals, communities, and the nation.

APPENDIX A

The script for the oral interview and the Interview Test procedure

* This is a translation of the interview in Japanese.

1. Interview

1. What is your name?
2. How old are you?
3. When is your birthday?

4. Do you like school?
5. What do you like about it?
6. What do you do with your friends?

7. Have you been to Japan?
8. Do you like Japan?
9. What do you like/dislike about Japan?

2. Test

Section 1.

"Now, we'll do some games. If you are good, there is a prize."

*Show the pictures and let the child say the name of the item in Japanese.

After the child says the name, let him write it down in Japanese.

"Please look at the picture. What is this?"

*Items: ball, house, computer, hamburger, cake, popcorn, hospital.

"Yes. Then, can you write it down on this paper in Japanese?"

Section 2.

*Show the pictures and ask the child what is going on in the pictures.

"Please have a look at this picture. What are they doing?"

*Items: shopping, watching a movie, swimming in the swimming pool, taking an airplane, a mother waking up a child, cooking, driving a car, playing soccer, a boy giving food to a dog.

Afterward, ask the child to write down underlined words.

Section 3.

*Show a child two pictures, one with a few pigs and the other with many pigs.

"In this picture, there are only a few pigs. But, how about in this one?"

— The expected answer: "A lot/many."

*Then, ask the child to write down, "a lot/many."

Section 4.

*Show a child the picture of two people; one saying, "Come here!" and the other one saying, "Yes, I'm coming now!"

"What are they saying? Can you say that in Japanese?"

Section 5.

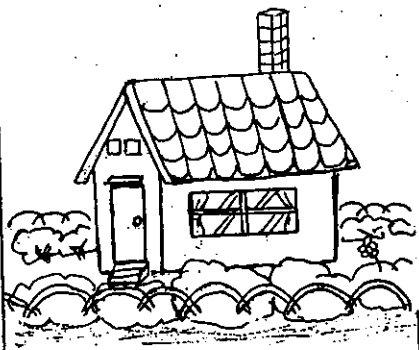
*Show a child the pictures of different items with different numbers such as the following: 6 cars, 5 dishes, 3 T-shirts, 6 fishes, 3 mice, 3 books, 2 pair of shoes, 6 pencils, 3 apples, and 2 umbrellas.

"What is this? /What are these?" "How many are they?"

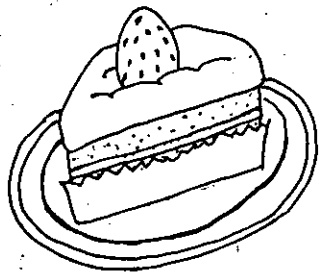
"Thank you very much. You were very good, so this is a prize for you!"

Examples of the Interview Test results

Section 1



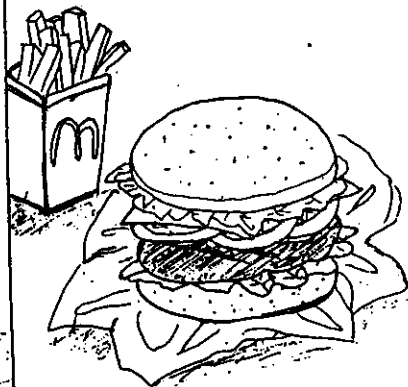
うち



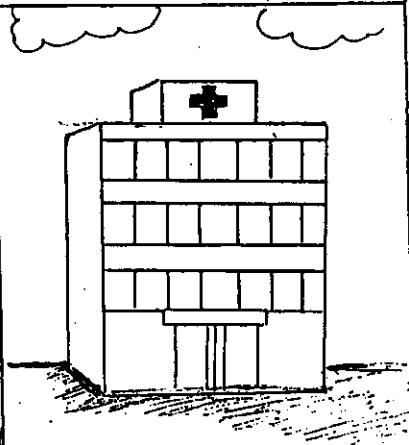
けいき



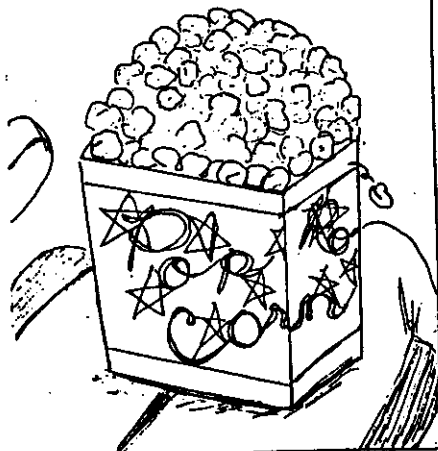
そか



はんび"おひ"



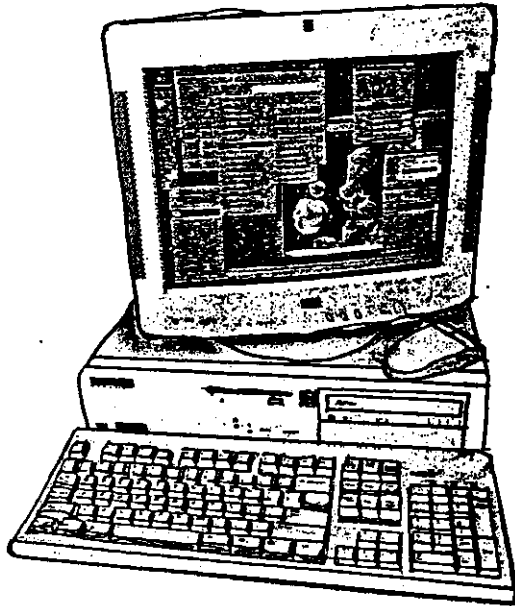
ひ"いん



ぽ"ぷ"こん

おまけクイズ

★これ何ですか？



★こたえ

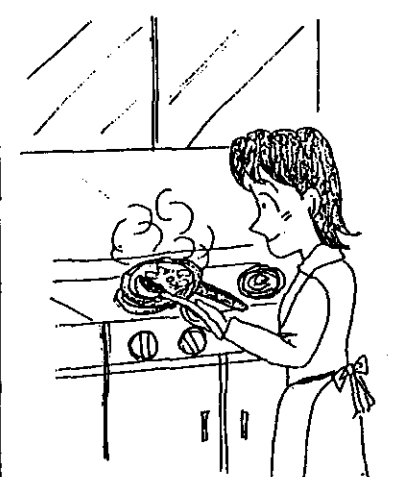
パソコン



サッカーをしている



車を運転している



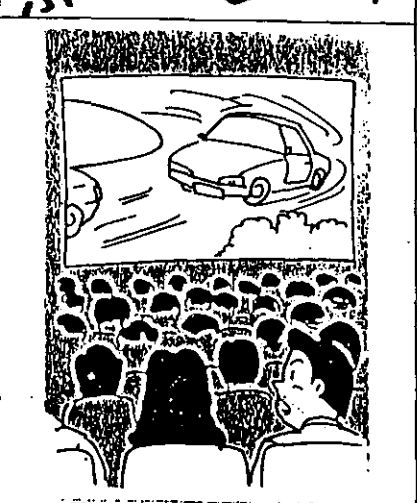
料理をしている



犬に話しかける



看病をしている



レースを観る



郵便局に行く



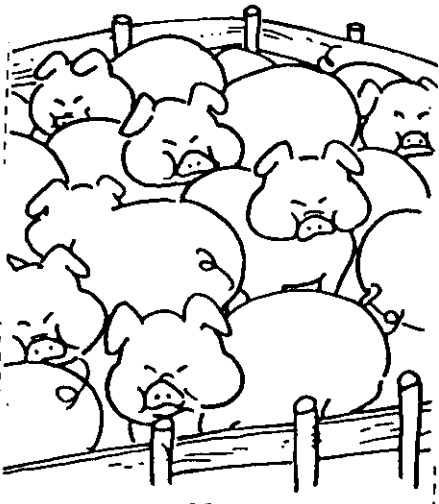
レストランに行く

Section 2

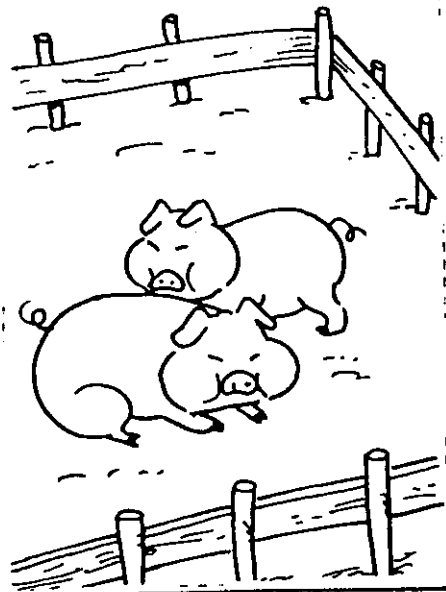


プールにおよいでいる

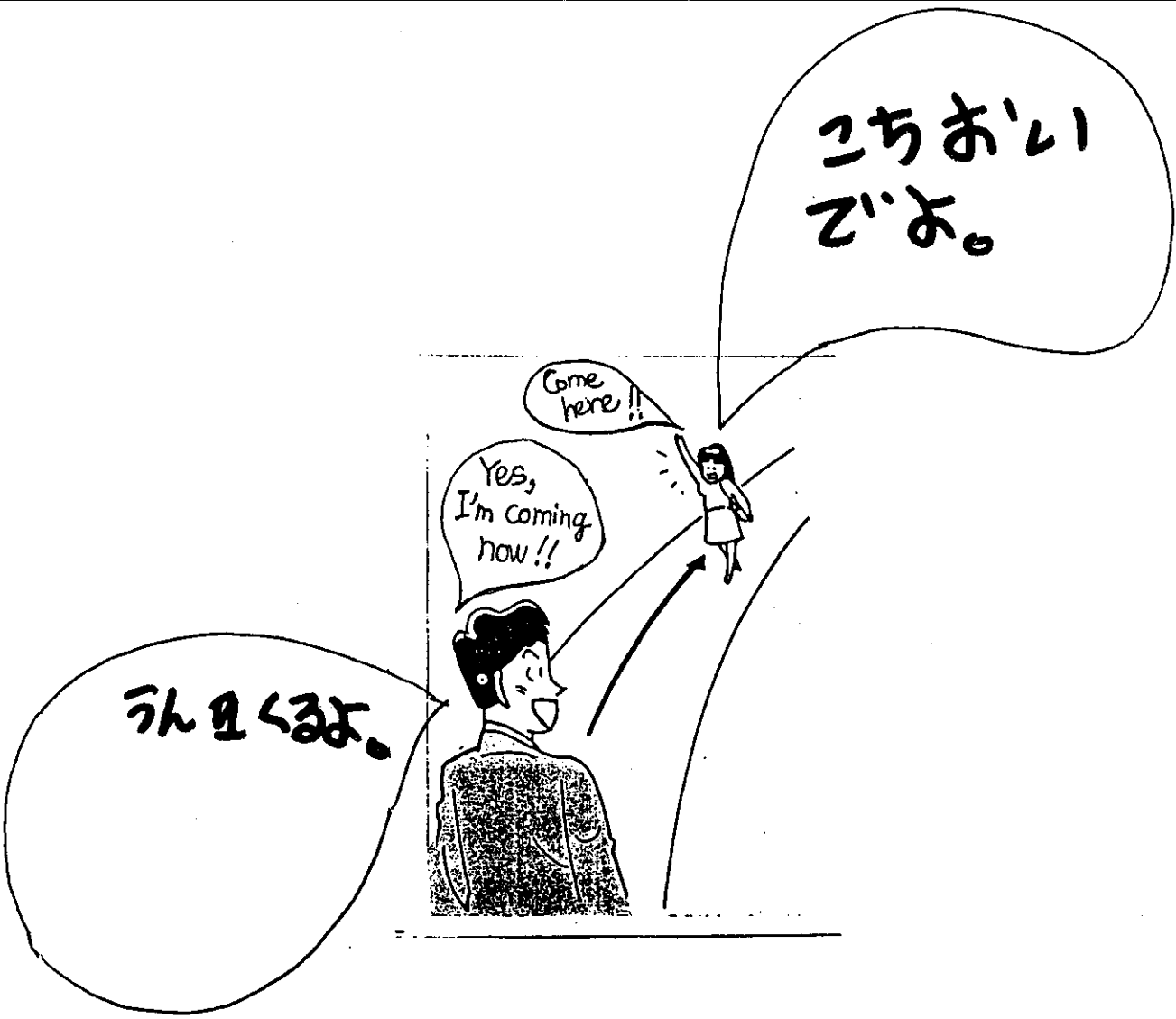
Section 3



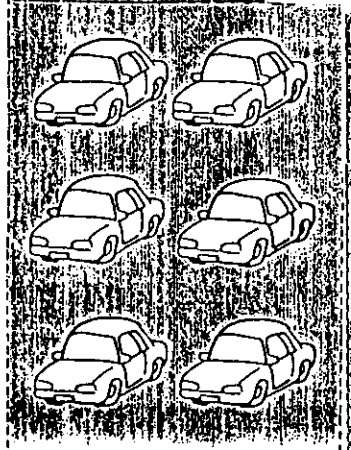
いはい



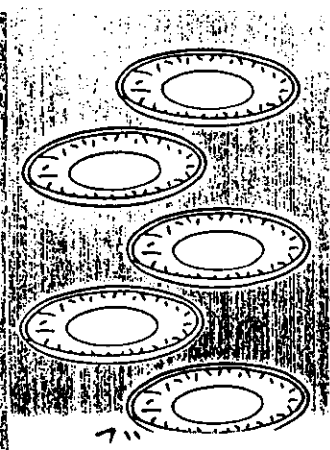
ちよと



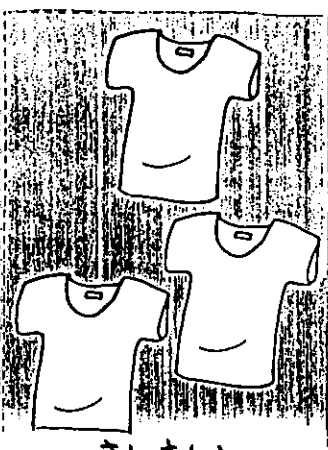
★いろいろなもの
かたがたにわけてもよう



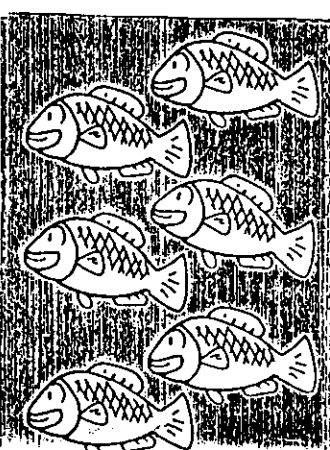
くるま



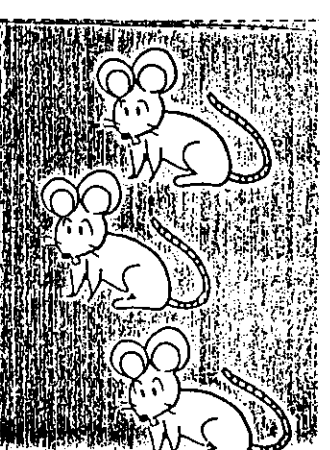
ばん



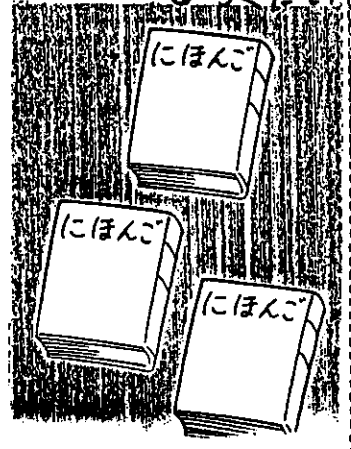
あはれ



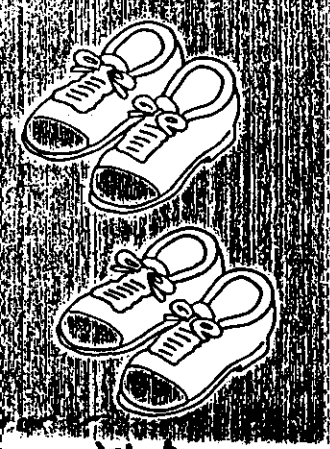
うし



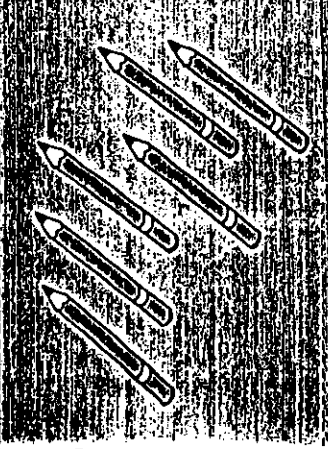
ねずみ



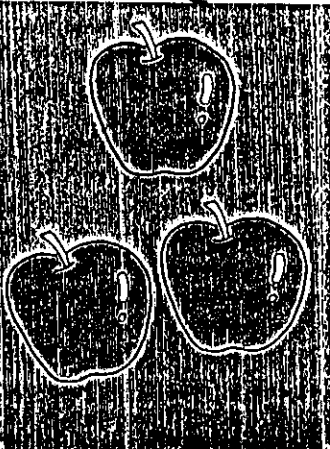
ほん



くつ



えんぴつ



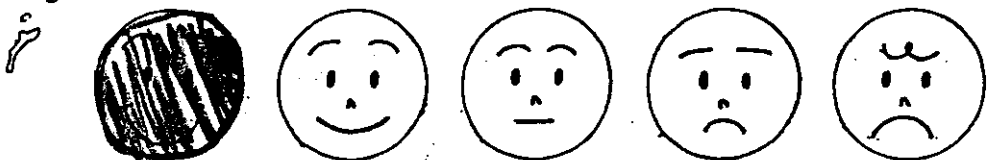
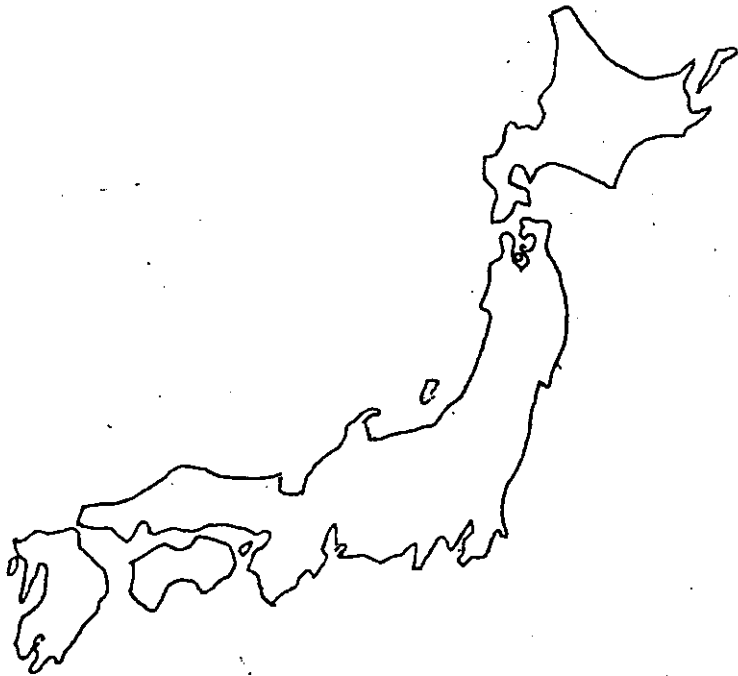
りんご

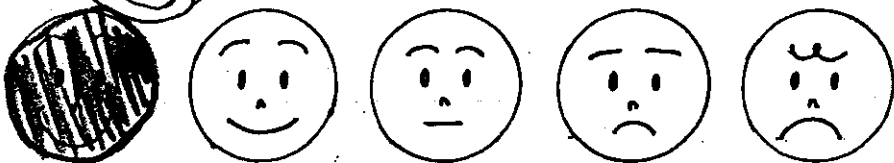
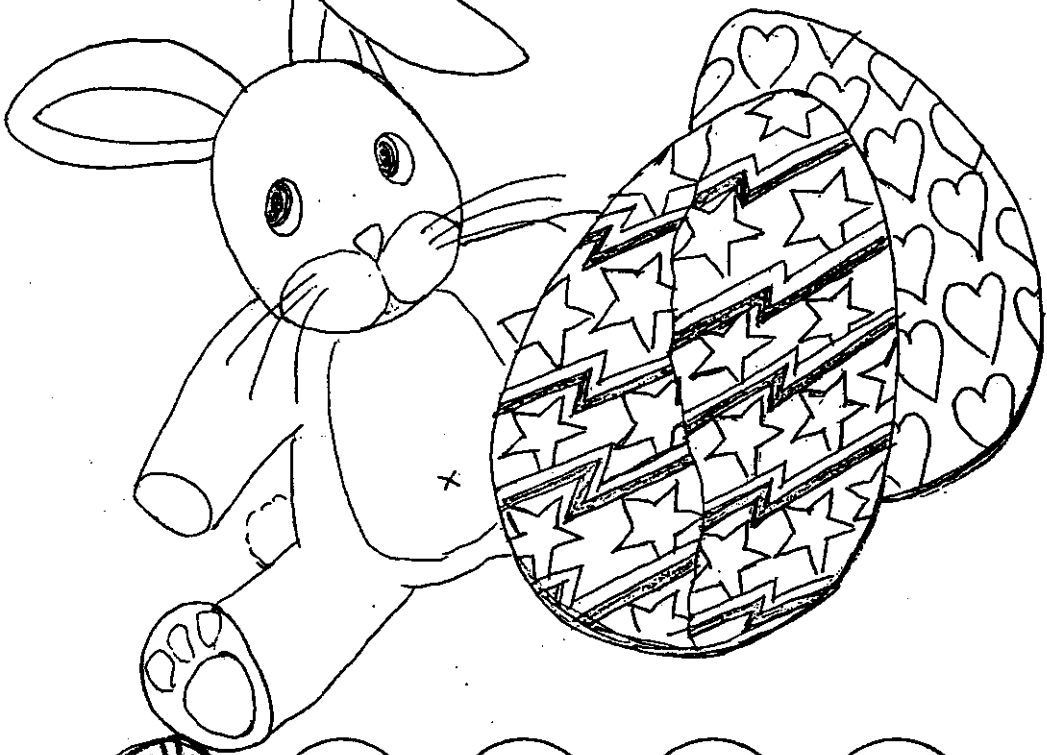


かさ

APPENDIX B

Examples of the Cultural Association Test





APPENDIX C

Language use questionnaire in Japanese

オーストラリアの日本人/日系人児童にみる 日本語維持と二言語習得
〈児童言語使用 アンケート〉

シドニー大学 言語学科博士課程
折山 香弥

保護者の皆様へ

このアンケートは、お子様の言語環境や言語使用の形態を調べようとするものです。バイリンガル児童の日本語維持の問題を研究する上での貴重な資料となりますので、どうか御協力をお願い致します。尚、お子様の氏名などプライバシーに関する情報は一切公開されないことを保証致します。できましたら、あてはまる全ての項目にご解答下さいますようお願い致します。

1. 児童氏名
2. 年齢
3. 出生地
1. 日本 2. オーストラリア 3. その他(国名)
4. オーストラリア入国の年
5. 児童の兄弟姉妹について(年齢)
兄(才) 弟(才) 姉(才) 妹(才)
6. お子様には何語で話しますか。1~5のうちで、あてはまるものを丸で囲んで下さい。
1. 日本語のみ 2. ほとんど日本語
3. 英語のみ 4. ほとんど英語 5. 日英両語 同じくらい使用
7. お子様はあなた/あなたの配偶者に何語で話しかけますか。1~6のうちで、あてはまるものを丸で囲んで下さい。
あなたに対して:
1. 日本語のみ 2. ほとんど日本語
3. 英語のみ 4. ほとんど英語 5. 日英両語 同じくらい使用
6. その他()

あなたの配偶者に対して:
1. 日本語のみ 2. ほとんど日本語
3. 英語のみ 4. ほとんど英語 5. 日英両語 同じくらい使用
6. その他()

8. あなたはあなたの配偶者に何語で話しかけますか。1～6のうちで、あてはまるものを丸で囲んで下さい。

- 1. 日本語のみ
- 2. ほとんど日本語
- 3. 英語のみ
- 4. ほとんど英語
- 5. 日英両語 同じくらい使用
- 6. その他 ()

9. お子様は兄弟姉妹に何語で話しかけますか。1～6のうちで、あてはまるものを丸で囲んで下さい。

- 1. 日本語のみ
- 2. ほとんど日本語
- 3. 英語のみ
- 4. ほとんど英語
- 5. 日英両語 同じくらい使用
- 6. その他 ()

10. あなた／あなたの配偶者のご両親はどちらにお住まいですか。a. b. c. のうちで、あてはまるものを丸で囲んで下さい。

あなたのご両親：

- a. 日本
- b. オーストラリア
- c. その他

あなたの配偶者のご両親：

- a. 日本
- b. オーストラリア
- c. その他

11. お子様と日本を訪れますか。また、どれぐらいの割合で行かれますか。1～6のうちで、あてはまるものを丸で囲んで下さい。

- 1. 一年に一回
- 2. 一年に二回
- 3. 一年に三回かそれ以上
- 4. 二年に一回
- 5. 三年に一回
- 6. その他 ()

12. あなたはなぜオーストラリアに移住しましたか。a. b. c. のうちで、あてはまるものを丸で囲んで下さい。

- a. 仕事の都合
- b. 永住のため
- c. その他 ()

最終的には、日本に戻るおつもりですか。

- a. はい
- b. いいえ
- c. わからない

13. お子様は日本語の本、雑誌を読みますか。どのくらいよくなさいますか。あてはまる数を丸で囲んで下さい。

1. 毎日
2. 毎日一日おきに
3. 週に二回か三回
4. 一週間に一度
5. 一ヶ月に一度
6. その他（明記してください）

14. どのくらいよくお子様の日本語の勉強を手伝ってあげますか。あてはまる数を丸で囲んで下さい。

1. 毎日
2. 毎日一日おきに
3. 週に二回か三回
4. 一週間に一度
5. ほとんどしない

どんな教材をお使いになりますか。

- a. 学校の教材 b. 通信教育 c. 本屋などで購入 d. 塾での教材

15. お子様は日本語のテレビ番組（ビデオを含む）をご覧になりますか。どの番組をどのくらいよくご覧になりますか。番組名とあてはまる数を丸で囲んで下さい。

- | | | |
|------------|--------------------|-----------------|
| a. NHKニュース | 1 2 3 4 5 6 () | 1. 毎日 |
| b. 漫画 | 1 2 3 4 5 6 () | 2. 毎日一日おきに |
| c. ドラマ(映画) | 1 2 3 4 5 6 () | 3. 週に二回か三回 |
| d. 歌番組 | 1 2 3 4 5 6 () | 4. 一週間に一度 |
| | | 5. 一ヶ月に一度 |
| | | 6. その他（明記して下さい） |

16. お子様は日本語の使用を要するゲームや漫画の本、おもちゃ等をお持ちですか。また、お子様はそれらをどのくらいよく使いますか。具体的なものとあてはまる数を丸で囲んで下さい。

- | | | |
|---------------|--------------------|-----------------|
| a. ゲーム | 1 2 3 4 5 6 () | 1. 毎日 |
| b. コンピューターゲーム | 1 2 3 4 5 6 () | 2. 毎日一日おきに |
| c. 漫画の本 | 1 2 3 4 5 6 () | 3. 週に二回か三回 |
| d. おもちゃ | 1 2 3 4 5 6 () | 4. 一週間に一度 |
| e. CD(歌) | 1 2 3 4 5 6 () | 5. 一ヶ月に一度 |
| | | 6. その他（明記して下さい） |

御協力どうもありがとうございました。御記入が終わりましたら、アンケートはクラスの先生にお渡し下さい。

English translation of language use questionnaire

Japanese maintenance and bilingual acquisition in Japanese/Japanese–Australian children <Pupil's Language Use Questionnaire>

Kaya Oriyama
Ph.D. course
Department of Linguistics
University of Sydney

To the parents:

This questionnaire is to investigate the use of language and language environment of your child. Your cooperation is vital in investigating the issue of Japanese maintenance in bilingual children. I guarantee that any information regarding the privacy such as the name of a child will not be disclosed. Please answer all the applicable questions if possible. Thank you for your cooperation.

1. Name of your child

2. Age

3. Birthplace of the child

1. Japan 2. Australia 3. Others (Country name:)

4. Date of Arrival to Australia

5. Siblings of the child (age)

Older brother () Younger brother () Older sister () Younger sister ()

6. What language do you use to talk to your child? Please circle the corresponding letter.

1. Japanese only 2. Mostly Japanese
3. English 4. Mostly English 5. Japanese and English to the same degree

7. In what language does your child talk to you and your spouse respectively? Please circle the corresponding letter.

To you:

1. Japanese only 2. Mostly Japanese
3. English 4. Mostly English 5. Japanese and English to the same degree
6. Other ()

To your spouse:

1. Japanese only 2. Mostly Japanese
3. English 4. Mostly English 5. Japanese and English to the same degree
6. Other ()

8. What language do you use to talk to your spouse? Please circle the corresponding letter.

- 1. Japanese only
- 2. Mostly Japanese
- 3. English
- 4. Mostly English
- 5. Japanese and English to the same degree
- 6. Other ()

9. What language does the child use to speak to his/her siblings? Please circle the corresponding letter.

- 1. Japanese only
- 2. Mostly Japanese
- 3. English
- 4. Mostly English
- 5. Japanese and English to the same degree
- 6. Other ()

10. Where do your/your spouse's parents live? Please circle the corresponding letter.

Your parents:

- a. Japan
- b. Australia
- c. Other (Please specify)

Your spouse's parents:

- a. Japan
- b. Australia
- c. Other (Please Specify)

11. Do you visit Japan with your child? How often? Please circle the corresponding number.

- 1. Once a year
- 2. Twice a year
- 3. Three or more times a year
- 4. Once in two years
- 5. Once in three years
- 6. Other ()

12. Why did you immigrate to Australia? Please circle the corresponding letter.

- a. Occupational reason
- b. Permanent immigration
- c. Other ()

Do you intend to go back to Japan eventually?

- a. Yes
- b. No
- c. Uncertain

13. Does your child read books and magazines in Japanese? How often? Please circle the corresponding number:

- 1. Everyday
- 2. Every other day
- 3. 2 or 3 times per week
- 4. Once a week
- 5. Once a month
- 6. Other (Please specify)

14. How often do you help him/her in learning Japanese? Please circle the corresponding number:

- 1. Everyday

- 2. Every other day
- 3. 2 or 3 times per week
- 4. Once a week
- 5. Rarely

What learning materials does your child use?

- a. Community school materials
- b. Correspondence materials
- c. Materials purchased at a bookshop
- d. Cram school materials

15. Does your child watch TV programs (including videos) in Japanese? Which one? How often? Please circle the names of the programs and the corresponding numbers.

- | | | |
|-----------------------|---------------|----------------------------|
| a. NHK news | 1 2 3 4 5 6 (|) 1. Everyday |
| b. Animation | 1 2 3 4 5 6 (|) 2. Every other day |
| c. Soap Opera (Movie) | 1 2 3 4 5 6 (|) 3. 2 or 3 times per week |
| d. Pop music program | 1 2 3 4 5 6 (|) 4. Once a week |
| | | 5. Once a month |
| | | 6. Other (Please specify) |

16. Does your child have games, comic books, or toys that require Japanese in order to use them? How often does he/she play with them? Please circle the items and the corresponding numbers.

- | | | |
|-------------------|---------------|----------------------------|
| a. Games | 1 2 3 4 5 6 (|) 1. Everyday |
| b. Computer games | 1 2 3 4 5 6 (|) 2. Every other day |
| c. Comic books | 1 2 3 4 5 6 (|) 3. 2 or 3 times per week |
| d. Toys | 1 2 3 4 5 6 (|) 4. Once a week |
| e. CDs (Song) | 1 2 3 4 5 6 (|) 5. Once a month |
| | | 6. Other (Please specify) |

Thank you very much for your cooperation.

Please hand in the questionnaire to the classroom teacher after filling out*.

*This sentence was added where applicable.

APPENDIX D

Translanguage-Analysis of Individual bilinguals' Diary

1. Grammatical Analysis

Phonological

1. Lack/non-standard use of voiced sound marker
2. Lack/non-standard use of small *tsu* for a geminate obstruent consonant

Phonological + Orthographic

3. *Kana* non-standard spelling
- 3a. *Kanji* non-standard spelling
4. Lack of one syllable (non-standardspelling)

Orthographic

5. *Katakana* and *hiragana* mixing
6. *Hiragana* non-standard spelling after *kanji*
7. Use of large letter instead of small letter

Grammatical + Morphological

8. Conjunctions

9. Lack/non-standard use of the topic marker *ha*/the subject marker *ga*
10. *de* (location of action, means) /*ni* (location of existence) and *O* (direct object) confusion: treatment of an indirect object as a direct object, or vice versa; treatment of an intransitive verb as a transitive verb
11. Use of the possessive marker *no* instead of the direct object marker *O*
12. *de* (means-with, *te*-form of be-verbs), *O* (direct object) and *to* (together with)/*kara* (from) confusion
13. Subject marker *ga* /sentence topic marker *ha* confusion
14. Adjective/*na*-adjective confusion, adjective inflection
15. Counters
16. *ni* (1. location or target toward which the action or motion progresses: to ; 2. location in/at which something exists, resides, etc.; 3. time: at, on, in, etc.) and *de* (1. location in/at which the action occurs or is done; 2. means) confusion
17. Verbal inflection
18. Tense confusion (present/past tense verb, present/present progressive tense verb)
19. Lack of directional verbs as auxiliaries

Morphological + Orthographic + Phonological

20. Homophonic confusion

- A. *wa/ha* (pronounced as /*wal*) confusion
 - B. *u/o* confusion
 - C. *he* (pronounced as /*e/*)/*e*, *i/e*, *yu/i* confusion
 - D. *o/O*, *ho/O*, *yo/o* confusion
 - E. Voiced sound for *chi/shi*, *su/tsu* confusion
21. Other non-standard features

2. Language Acquisition Analysis

Language transfer

1. Transference from English
2. Direct translation from English

The conventions of translanguage (TRL) description

<u>U</u> underline	Non-standard TRL forms	[translation]	Translation of the word or phrase used for the explanation of TRL examples
() after <u>U</u>	Standard forms		
(syllable)	Missing syllables	(sub.code) in the end of an example	Subject code
(<u>syllable</u>)	Extra syllables	B bold	<i>Katakana in rōmaji</i>
[pronunciation]	Pronunciation of <i>kanji</i> /Arabic numerals	/pronunciation/	Pronunciation of special syllables
'translation'	Translation of <i>kanji</i> /the original sentence or word	x number	Number of repetition per entry
('translation')	Translation of the assumed intended meaning	—	Long vowels
('[translation]')	Supplement of the translation of the intended meaning		

Note: 1) Subjects' names are in small letter; 2) There is no sound-script correspondence for the description of homophones, as the focus of the analysis is written forms of language (e.g. the topic marker 'wa' is written 'ha', and the object marker 'o' is written 'O'); 3) Descriptions of non-standard orthography are only possible in hand writing.

1. March 5 (se), April 4 (se) (a), April 12 (ke), April 19 (a), (ka), April 21 (ri)

1.

1.

tomot(d) achi (se), g(k)aitara (se), usak(g)i (se)

2.

i(p)pai (ke), waruka(t)ta (se), ga(k)ko (se), kai(t)tara (se), fu(u)rusaka(t)ta (se), urusaka(t)ta (ka), i(k)kai (ri)

3.

mo(o)i(k)kai (ri), ku(i)mu(o)chi (ri), oi(u)chi (se), kai(e)rimashita (ri)(se), chi(i)sai (se), shi(hi)to (se), saishou (a), shiiruttoberuto(shiitoberuto) (a), asu(so)bu (a)

3a.

金(金)[kin] youbi (ri)

4.

cho(u)dai (ke), (se)

5.

satsu(tsu) kaa /sakkaa/ (a), 2auto(to) (a), shiiruttoberuto(shiitoberuto) (a), robaato(to) (a), asu(so)bu (a), hou(o)muran(n) (a)

6.

hitototsu (a)

10.

sho — baggu ('show bag') de(o) kaitakute (ke), sakaa(sakkaa) o(de) asobimashita (a)

11.

su—pa—nintendo— [sûpânintendô] no(o) shita koto (yu)

12.

tomodachi de(to) asonda koto (se), gak(k)o(o) de(kara) gai(kaet)tara (se)

14. dekkaina(dekkai) (ri)
15. 11_(nin)mo shi(hi)to (se), 1_(ppiki) inu, 12_(wa) tori, 1_(wa) usaki(gi) (se)
18. sagasu(shi)ta (ke)
20. A. otouto wa(ha) (se), bokutachi wa(ha) (a), watashi wa(ha) (se)
 B. kinoo(u) (se)
 C. toko e(he) (se)
 D. watashi o(O) (se), ame o(O) (se)
2. 1. watashi_(wa) Y_(to) otoosan to okaasanwa(to) (mi), yakyuu to **ragubi_(i)** o asobi(shi)mashita (a), osoi(yukkri shita) ongaku (mi), tomodachi no ie ni kita(itta) (se), watashi ha kuru(iku) to omou to iimashita (se), basu de ki(iki)mashita (a), iimashitagakode (gakko de iimashita/said at school) (se)
2. yakyuu to **ragubi_(i)** o asobi(shi)mashita (a), otouto wa waruka(t)ta (se)
2. April 24 (mi), 26 (ri), 27 (a)(yu)(se), May 4 (mi), (yu), (ka)
1. 1. ho(bo)ku (yu)
2. da_(t)ta (se), chiisaka_(t)ta (se), o_(i)shika_(t)ta (ka), hi_(k)kosshi (a), kae_(t)te (a), tanoshika(t)ta (ka)
3. oi(u)chi (se), ju_(u)bun (se), mure(ra)saki (se), puyano(piano) (se), o_(i)shika_(t)ta (ka), su(tsu)kareta (ka)(ri), Kyuukee(i) (ri), hikiyaki (wake) (yu)
4. arima(shi)ta (a), katte moratsu(te) (ka), tote(mo) (ka), o(i)shika(t)ta (ka)
5. aran(ran) (se), mu(mu)re(ra)saki (se), toire(toire) (se), puyano(piano) (se), mitara(ra) (a), maruchi—zu(maruchi—zu) (ri), do—beruman(do—beruman) (ri)
13. boku ha(ga) **torakku** no naka ho(O) mitara(ra) (a)
20. A. aran wa(ha) (se), heya wa(ha) (se), otousan wa(ha) (se), okaasan wa(ha) (se), toire(toire) wa(ha) (se)
 C. kyuukee(i) (ri)
 D. puyano(piano) o(O) kuremashita (se), **torakku** no naka ho(O) (a)
21. **aisukuri—mu** O tabete iru tokoro(toki) wa omoshirokatta (mi)
2. 1.

koosutochii(chuu)mu (mi), odesho(oodishon) (mi), bidio(bideo) (mi),
maruchiizu(maruchi—zu) ga ari(i)mashita (ri), mukashi(mae) no ie (old house) (a),
 hutatsu ruumu dake arima_(shi)ta (hutatsu shika heya ga arimasendeshita/had only
 two bedrooms) (a), boku wa tanoshikatta(ureshikatta) (I was happy) (a), ame
ga(no) baka (stupid rain) (yu),
do—beruman(do—beruman) ga arimashita (ri)

3. May 8, 18 (yu) (mi), 15-19 (a), (ka), (ke), (ri), (se)

- 1.
2.
mo_(u)i_(k)ko (ri), ofuro hai_(t)te (ri)
3.
kon_(o)aida (a), meeka_(a) (a), ooki(i) (a), su(tsu)karete (ri), yu(i)unode (ke),
sugou(o)i (yu), meerutoru(meetoru) (ke), sensyuu(sensyu) (ke)
4.
mo_(u)i_(k)ko (ri), kurosukantori(kurosukantori—) (ke)
5.
kurosukantori(kurosukantori—) (ke), betto(betto) (ri), janpu(janpu) (ri),
pajama(pajama) (ri)
15.
12 (ji) kara (from twelve) (ke), san_(i)(ni) narimashita (ke)
19.
akachan sannin iru(ita) (mi)
21.
yoru toki(ni) (ri)
- 2
1.
(hontoo) (a), yorutoki(yoru/at night) (ri), janpushita(.)demo(,)kowaito
iimashita(jumped but said that she's scared.) (ri), 18(5)gatsu 5(18)nichi (May18)
(ri), atarashii(kondo no) tori (new bird) (se), “a, sore wa iiyo(sore ii)” (Oh, that’s
good.) (mi), insotsu shite tsuremasu(tsurete itte kuremasu/takes us there) (ke)
2.
suri—puo—ba (—)(‘sleep over’) shimashita (tomarimashita) (ri), janburuseeru
(jumble sale) (ka), kurosukantori(kurosukantori—)(‘cross country’) (ke)

4. May 20 (se), (a), (yu), 24 (ri), (ka), 25 (mi)

- 1.
2.
sho_(p)pingu (ka), ka_(t)ta (mi), i_(t)ta (se)
3.
chikankebabu(chikinkebabu/chicken kebab) (mi), chikkin(chikin/chicken)
(yu), hamubuugaa(hanbaagaa/hamburger) (yu), cha(o)kotto shitara (se), motto
takara(ku) janpu(janpu) (ri)
- 3a.
金(金)[kin] youbi (ri)

4. maaketto_(ni) ikimashita (ka), **goorudo**_(O) kaimasu (ka)5.
paraseiringu(**paraseiringu**) (se)

5. **janpu**(**janpu**) (ri), **makudonarudo**(**makudonarudo**) (se)

8. okaasan_(to) shoppingu ni ikimashita (mi)

18. kaimasu(**shita**) (ka)

20. A. watashi wa(ha) (se)
D. raion kingu o(O) (se)

21. 多 [many](大 [big])ookikunattemo (a)

2. 1. **hayai** ongaku (mi), M tachi ga ouchi ni **iki**(ki)mashita (ri)

2. **uiingu**(hane/wing) (ri), **biichi**(umi/beach) (se), **rokukuraimin**(**rokku kuraimingu**/rock crimbing) (se), inu no **tabemono**(**esa/doggu fuudo**/dog food) (mi), **goorudo**(kiniro/gold) (ka)

5. June 9 (ko), (ka), 15 (mi), (se), (a), (ri)

1. 1. otomota(da)_(chi) (ka), itta **ge**(ke)**to**(do) (ri)

2. iretta(ireta) (mi), **be**_(t)**to** (ri), **mitsu**ttsu (a)

3. **ho**_(pop)puka(ko)on (**poppukoon**/pop corn) (se), **shi**(u)ppatsu (ko), **su**(tsu)kamaru (ri), **be**_(t)**to** (ri), **su**(tsu)kareta (ri), **iru**(re)mashita (a)

4. otomota(da)_(chi) (ka)

5. **ragubi**(**ragubii**) o **mi**(mi)niiku (se), **popukaon**(**poppukoon**) (se), **santojooji** (**sento jooji**) (se), **aran**(**ran**) (se), **torai to**(to) (a), se(se)**nto** (a), **toraito**(to) (a)

6. [i](ki)mashita (a)

9. watashi_(ha) **suupaafamikon** o yatta (mi)

10. gakkō o(de) asobimashita (se), shippo ni(O) hipparimashita (ri)

13. watashi **ga**(ha) mama no **be**_(t)**to** ni itta **ge**(ke)**to**(do) (ri)

16. **fasutotaimu de**(ni)...**go**—**ru iru**(re)mashita (a)

17. ashi O kanshita(da) (ri)

20.

B. po_(p)puka(o)on o(O) (se)

C. kahe(e)ttekitara (se)

2.

1.

hayai ongaku (mi), kore o(ga) hoshii (yu), mirutoki(to) (ri), **futtobooru O asobi(shi)mashita** (a)

2.

puraggu(konsento/**puragu**) (mi), **buasu**(tai)('versus') (a), **fasutotaimu**(zenhan) (a)

6. May 28 (mi), June 29 (yu), July 7 (a), July 14 (se) (ko) (ka)

1.

1.

geemu te(de) asonda (ko), **skeetojoo te**(de)ha (a)

2.

o(a)sondatto(to)ki (se), kou(o)_ (c)chatta (se), hai_(t)ta (mi), **ma_s**shuruumu (mi), kou(o)_ (t)te (a)

3.

me(mi)emashita (se), o(a)sondatto(to)ki (se), **makudonaruzu**(do) (mi), kigai(e)mashita (mi), tanoshii(shi)katta (ko), **komu**(ma)ndo (ko), suno_(o)i (i)mau (n)ten (a)

4.

sute_(e)ji (mi), conpyuuta_(a)geemu (ko)

5.

su(su)gu (se), **sura**(ra)idingu (a), tanoshii**ka**(ka)tta (ko)

6.

[mi](ma)shita (a)

8.

otousan to okaasan to yuuta ha(to) naranda (mi), **nagetto**_(to)atsui **chippusu** (mi)

9.

watashi_(ha) **dansu fesutibaru** ni (mi)

14.

tanoshiika(ka)tta (ko)

15.

shichigatsu 9_() (se), 12**gikan**(gi) kara (a)

16.

shichigatsu 9 de(ni) (se), notta tokoro ni(de) (mi)

18.

aru(tta/rimashita) (mi)

20.

B. kou(o)tte (se), kou(o)chatta (se), kou(o)_ (t)te (a)

2.

1.

28(5)gatsu**5**(28)niichi (mi), hayai ongaku (mi), **suteeji** ni nottatokoro(toki) (mi)

2.

paakingu(chuusha) (a)

7. July 4 (yu), 10 (mi), 31 (se)

1.

1.

ho(bo)ku (yu)

3.

kon(no)aida (se), mo_(u)_(i)kkai (se), **shuutin_(gu) geemu** (yu),
kaaseru(kyasuru/castle) (yu), **jappiingu(janpingu)** (yu)

4.

fi_(i)rudo (se), tsuisutaa_(O) mitatoki (se), senta_(a) (mi)

8.

kedo(node) (se), ga(to) (mi)

8. July 27 (yu), August 2 (ko), 3 (mi), 4 (ke) (ka)

1.

1.

tomota(da)chi (ko)

2.

okashika(t)ta (ko)

3.

otanjoi(ubi) (ko), **fishu e(a)ndo chippusu** (ko), omou(i)mashita (ka), konpyuuta
(a) (mi), yu(i)tta (mi), eegaa(ga) (yu)

4.

mikki (i) (ri), undo_(u)kai_(O) yatta (ke), me(e)toru (ke), hahha(ppya)ku (ke),
ki(n)youbi (ko)

5.

karibu(karibu) (ka), me(e)toru(**me**toru) (ke)

14.

hayaikatta(hayakatta) (ri), kireikatta(datta) (ri), sugoi(ku) haya(i)katta (ri)

2.

1.

sugoi(ku) (ri), kireika(da)tta (ri), sugoi(ku) (ke)

2.

hanbun nihonjin(nikkei jin/haafu no) (ka), tsugi_(ni) (ri), 3(8)gatsu8(3)nichi (mi),
hayai to osoi(yukkuri shita) ongaku (mi)

* Ka became able to describe things in time order.

9. August 17 (ka), 10, 17, 24 (mi), 10, 17, 24 (yu), 11 (ke), 2, 17 (ri)
22 (ko), 23 (se)(a)

1.

1.

byoukika(ga) (ko), shito(do)nii (ko), otomota(da)chi (ka)

2.

shi(chi)_(p)pusu (yu), bishi(su)ke_(t)to (mi)

3.

mia(ya)giken (ko), CDro—(ro)mu (ke), shi(chi)_(p)pusu (yu),

a(o)uchi (ri), huhe(ne) (se), ナ(七 [nana]) (mi), [i](ki)mashita (a), [ta](be)ta (a),
koko(kukka)bara (**kukkabara**)(se), **bishi**(su)ke (t)to (mi), [ta](be)ta (mi),
kowa(goha)n (mi)

3a. 金(金 [kin]) (ri)

4. obaachi(cha)n (ko), be_(n)kyou (ko), ha_(shi)rimashita (ka), tsukarerimashita (ka)

5. geemu(**geemu**) (ri), **pikuni**(ni)kku (se), koko(kukka)bara (**kukkabara**)(se),
[juu]**byo**(byo)_(o) (ri)

6. [ta](be)ta(te) kara (mi)

7. biyo(yo)oin (byooin) (ko)

8. nomumonomo(to) taberumono O (mi)

16. soto ni(de) asobimashita (ri), ouchini(de) (mi)

17. ganbaruritai (ganbaritai) (ka)

18. gakko owaru(tta) toki (ri), [ta](be)ta(te) kara (mi)

21. datte mama ga kimashita(ta kara desu) (ri), me O shimete(tsumutte/tsubutte/tojite)
(ri), sugu mitsuke(kari/katteshimai)mashita (ri), kaeri(i)mashita (mi)

2. 1. BIGMAC, COKE (yu), geemu mo asobi(shi)mashita (ri), okaimono(**shoppingu**
sentaa) deta ato (yu), 10(8)gatsu 8(10)nichi (mi), watashi_(ha) yuuta_(to,)okaasan
to otoosan ha(no) otetsudai_(O) yarimashita (mi)

2. okaimono O yari(shi)mashita (yu), nani asonda ka shiranakatta(wasureta) ('I don't
know what I played') (ri), geemu mo asobi(shi)mashita (ri), kakurenboo_(O
shite)asonda (ri), hayai ongaku to osoi(yukkurishita) ongaku (mi), CDro—(ro)mu
(ke)

10. September 2 (ko), 7 (se), 8 (ke), 9 (ri) (ka)

1. 3. ee(i)go (se), saigou(go) (ko), ishitsu (itsusho/isscho) (ka), ojii(ji)san (ka), kai(ka)yoobi
(ke)

5. honya(ya) (se)

7. oriyo(yo)ori (oryoori) (ka)

9. okaasa_(n) (ka), netei_(ru)toki (ka), na_(ma)e (ka)

21.
mitsuke(kari)mashita (ri)

2.
1.
me O shimete (tojite) (ri), attaa! (ita)! (There you are!) (ri), ojiisan
neru(tomatta)koto (sleepover) (ka)

11. September 10 (yu), 11 (a), (ri), (se) 14 (ko), (mi), (ka)

1.
2.
gak_(k)oo (se)
3.
konsue(saa)to (yu), oupa(pu)ndei (oopundei) (se), benkyo_(u) (se),
chu(cho)kotsu(tsu)to (se), kai(e)tta (se), ba(bo)oshi (se), ima(ki)mashita (ka), sha
(shi)n (ka)

5.
oupandei(oopundei) (se), oopundei(dei) (se), keeki(keeki) (se)

7.
chukotsuto(chokotto) (se)

9.
boku_(ha) (a), watashi_(ha) yuuta, otoosan to okaasan_(to) (mi)

12.
sorede(kara) (a)

15.
mittsu(san satsu)hon (a), san__(satsu) hon O (se), san(mittsu) keeki (se)

16.
yorude(ni) (yu), suiyoobide(ni) (se), hooru ni(de) (ri)

17.
tsukuru_(no)O (ko)

21.
[juu ichi ni]chi([juu ichi nichii]) (se)

2.
1.
gakkoo_(no)koorasu (school chorus) (ka), watashi_(ha) Y, otoosan to okaasan_(to)
(mi), osoi ongaku to hayai ongaku (mi)

2.
infantsu(infants/youji) (a), openday (oopundei) (ri), poteto (jagaimo) (ko)

12. September 18 & 29 (yu), 19 (ri), (ka), 21 & 29 (mi), 22 (se), (a), (ka)

1.
1.
po(bo)oru (yu)
3.
kiuno(nou) (ka), tsukamau(e)ni ikoo (yu), sentoujou(o)ji (a), soishuu(saisho) (a),
kaO(o) O kaki mashita (se), o(a)sobimashita (se)

4. **oosutorari(ri)**_(a)jin (yu), omatsuri_(O)mi ni (ka), **daarinhaaba**_(a) (ka), otomodachi_(to) issho ni (ka), yoroko_(n)de (ka), benkyo(u) (se)
5. **oosutorari(ri)**_(a)jin (yu), **sentoujouji to** (to)**naasu** (a), **sentoujouji(ntojooji)/sentoujiouji** (ntojooji) (se)
9. watashi_(ha) otetsudai O shi mashita (mi), watashi_(ha) ippai **puuru** de oyoida (mi), watashi_(ha) geemu_(de) ippai katta (mi), watashi_(ha) Y, otousan to okaasan ha(to)(mi), watashi_(ha) Y to okaasan ha(to)(mi)
12. aran ga hata to(de) o(a)sobi mashita (se)
13. boku ha onna no ko tachi ha(ga) (a)
16. watashi no heya ni(de) asobi mashita (ri)
17. mikare(‘mitsukara/mikkara[intransitive verb]’)(mitsukerare/mikkerare[transitive verb]) nakatta (ri)
20. A. watashi wa(ha) (se)
21. “tsukamau(e) ni ikoo.” “hai”(“un”) (yu), **poppukoon to juusu O tabemashita*** (**poppukoon** O tabete, **juusu** O nomimashita) (ka) *both ‘taberu’ [to eat] and ‘nomu’[to drink] can be expressed with ‘have’ in English.
2. 1. futtobooru O_(shite) asonda (yu), otomodachi ha (boku to onnaji) nihonjin to **oosutoraria** jin boku to onnaji (‘my friends are Japanese and Australian like me.’)(yu), kakurenboo O_(shite) asobi tai (played a seek and hide)(ri), 21 gatsu(nichi)⁹ nichi(gatsu) (mi)
2. **indoaa**(shitsunai) **puuru** (yu), osoi ongaku to hayai ongaku O kikumashita (mi)

13. October 6 (mi), (yu), 1, 7 (ri), 8 (a), 3 (ko), (ka)

- 1.
2. yat(ri)ta ka(t)ta (ri)
3. ouishi katta (yu), yan(mu)chaa (ri), yat(ri)ta ka(t)ta (ri), **haaba**_(a) (mi), kikinou (a), makun(d)od(n)arudo (a), saishoo (a), **hoosu rato(i)dingu** (ka), ippaai (yu)
5. karaoke(**karaoke**) (ri)
6. [ta](be)mashita (ri)
8. kaze hite (irukara) oisha san ni ikou yo (ri)

9. eki ha(ni) tsuku to (ko)
15. (sakana) mittsu(sanbiki) (a)

16. ohiru de(ni) (yu)
17. utai(wa) nakatta (ri)

20. C. **makunodarudo** e(he) (a)

2.

1.

geemu O__(shite) asobi mashita (ri)

2.

ohiru toki(ni) ('at lunch time') (ri), yoru toki(ni) ('at night time') (ri),
haaba(minato) (mi), **ranchi**(ohiru) O tabe mashita (mi), **computer**(**konpyuutaa**
de) asobi mashita (ko),

14. October 20 (ri), (ka), 19 (mi)

1.

3.

outouto (ka)

4.

fa_(a)mu (mi)

9.

watashi (ha) ippai katta (mi)

15. October 27 (ri), 24(ko), 28(yu), 26(mi), 27(a), (ka), (ke)

1.

2.

zu(t)to (ka)

3.

zuuto mae toki(ni) (ka), ee(i)ga (yu), **matirudaa** (mi), omia(ya)ge (ke), yonbanme
no gu(ku)mi (a)

4.

koue_(n) (ri), sense_(i) (ka), ikima(shi)ta (ka)

5.

arufoozu pointo(to) (ke), **terusutora**(teresutora) tawaa (ke)

7.

kotsu(tsu)kai (ke)

9.

watashi (ha) chigau sense ni naraimashita (ka)

12.

minnato(de) gohan O tabe mashita (fu)

16.

eiga no tokoro ni(de) mi mashita (mi)

20.

A. kotoshi wa(ha) (a)

21.

boku ha(ta)chi ha (a)

2.

1.

eega(kan) de tabemashita (‘[we] ate at the movie’) (yu)

2.

MATILDA(**machiruda**) (yu)

16. November 1(yu), 2(mi), (ri), (ka), 3(ko), (a)

1.

1.

nike(ge) mashita (a)

2.

ressunggo (ka), o(a)ruite i(t)ta (mi)

3.

okainomono (mi), o(a)ruite (mi), asobimamashita (ri), tsukae(i) mashita (a), tokora(ro) (a)

4.

konshu(u) (ka)

6.

[otoko] to [ko](otoko) (ri), [sakana]na([sakana]) (a), [i](ki)masu (a)

9.

kyoo watashi ha, yuuta, otousan to okaasan ha(to) (mi), boku (ha) sakanatsuri ni (a), ookina sakana (ha) nike(ge)mashita (a)

13.

mini(i)feito ha(ga) arimasu (ko), watashi ga(ha) “moo ii yo” to ii mashita (ri), boku ha(ga) mittsu sakana O tsureru toki (a)

15.

[mit]tsu([san]biki/sanbiki) sakana O (a), futatsu(ni hiki) (a)

17.

sakana O tsureru(tta) toki (a)

21.

moo, (asobu no O yamete) gakko no, heya(kyooshitsu) ni iki mashita (ri), oyogu no(koto) ga deki mashita (ka)*

* ‘no’: to nominalize verbs; verb + ‘no’ = noun (not interchangeable with koto, when it is used in ‘set phrases’ as: ‘koto ga dekiru’ [it is possible to..., can...])

2.

1.

boku to(ha) okaasan to M to otousan ha(to) (I, my mum, M, and my dad went to) (yu), 2(11) gatsu 11(2) nichu (mi), oekaki O (shite) asobi mashita (ri), gakko no, heya(kyooshitsu) (class room) (ri)

2.

HOCKE(**hokkee**) (yu), NINTENDO(**nintendoo**) (yu)

17. November 9 (ka), (ko), (mi), (yu), 10 (a), (ke)

- 1.
 1. da(ta)bemono (mi)
 2. kae_(t)(ta) (yu)
 3. otetsudai O ka(ya)ri mashita (mi), saishoo(saisho) (a), piizaa(pizza)
 5. dooshite ka(ka) to iu to (a)
 8. suki (da) kara (mi)
 9. hebi(ga) kirai na node (ko), watashi(ha), yuuta,otousan to okaasan ha(to) (mi), watashi (ha) aruite (mi), watashi (ha) otetsudai (ga) suki (mi)
 19. tanjoobi no **purezento** ni yooyoo O katta(katte moratta) (ke)
 21. kyoo made tata(kakara) nakatta (a), **geemu booi** de asonde **konpyuutaa** mitai na mono*(da) to omoi mashita (yu)
- *mitai na mono is used twice in the diary entry, but has never been used before. It can be considered an overuse, caused by an attempt to use a newly learned phrase.

18. November 16 (a), (mi), (fu), September 16 (yu) 14 (ko)

- 1.
 1. ke(ge)emu (a)
 2. **puuru** ni haitta (mi)
 3. saishou(saisho) (a), you(o)you(o) (yu), renshuu shiyo_(u) (fu)
 5. puroheshi(fessho)naru (yu)
 7. kiyoyo)u (kyoo) (a)
 9. kyoo ha watashi wa (fu)
 10. **monopori** O(de/o shite) asobu (a)
 19. okaasan kara (katte) moratta (yu)
 21. ie O 作(造)[tsuku]ri hajime mashita (a), okaasan kara(ni) (katte) moratta* ('I got it from my mum') (yu) *His mother bought a yo—yo at the supermarket.
- 2.
 1. 16(11) gatsu 16(16) nichii (mi)

19. November 11 (ke), 26 & 29 (ri), 30 (mi), (fu), (yu), (ka)

- 1.
1. ichiha(ba)n (ka), suraito(do) (ri)
2. kae(t)tekite (yu), ko(c)chi (fu)
3. **biichu**(chi) (yu), **baabaa**(be)kyu(u) (yu), oishiikatta (ri), onigokkou (ri), **keeki**iii (ri), yuu (iu)node (fu), a(o)basan (yu), **mou**(o)teru (yu), saishou (ri)
4. **bai**(o)rin (ka), **paate**(i)e (ri)
5. karaoke(karaoke) (ri), aisukuriimu(aisukuriimu) (ri), suraito(suraido) (ri), juusu(juusu) (mi)
9. mou, watashi no imouto ga(ha) (ri)
12. kuruma kara(de) ikimashita (ri)
14. omoshiroi datta (katta) (ri) ex. kirei datta
16. naka ni(de) tabemono O tabeyooyo (ri), ouchi ni(de) asobi mashita (ri)
17. kiki(i)te (ri), shaberi mashi(t)te (ri)
21. otomodachi (no ie) ni asobi ni iki mashita (ka), mou, watashi no imouto ga(ha) tsukare (te shimai) mashita (ri), **mouteru mitai** (da) to omoi mashita (yu)
2. 1. oni gokkou O (shite) asobi mashita (ri), **hokkee** O (shite) asonda (ke), otomodachi ga ippai atta(ita) (ri), zenbu ha(subete ga) tanoshi katta/(everything was fun) (yu)
2. kantan (rakushou)deshita (ke), **ROLLER BLADE** (rooraabureido) (ri), **biichi** (umi) (fu), suraito(suberidai) (ri)

20. December 2 (yu), 7 (ri)

- 1.
2. **ku**(k)ki— (ri)
3. suu(u)ikonjatta (yu)
4. kujira no kuchi kara tonde (i)ki mashita (yu)
9. mama ga osoto ni iku toki rina to erika ga(ha) kukkii O tabe mashita(te imashita). (ri)

18.
mama ga osoto ni iku toki **rina** to **erika ga**(ha) kukkii O tabe mashita(te imashita).
(ri)

21. December 21, Jan. 31 (fu), Jan. 11 (yu), Feb. 2 (ri)

1.
2. burasaga(tsu)tete (fu)
3. saishou (yu)
4. **supe**—**su ji**(ya)**mu** (fu), yuume(i) na (fu), **de**(i)**zuni**— (fu)
5. **saaka**(ka)**su** (ri), orenji (**orenji**) (ri), nekkuresu(**nekkuresu**) (fu)
10. ookii norimono O (ni) notta (yu)
14. ookiikatta (ri)
17. oyogi (geru)yooni naritai (fu)
21. otomodachi no uchi de nenne shita*(tomatta) *infant language (yu)
2.
1. hikouki O (no) norikae O shimashita/('we changed airplanes.') (yu)
nagoyakou de (no) suizokukan de ippai mimashita/('we saw a lot at an aquarium at the Nagoya port.') (yu)

22. December 26 (mi), Feb. 15 (yu), (mi), (ko)

1.
2. maketet(i)ta (yu), ta(k)kyu (mi)
3. u(o)too(u)san (yu), **haafutai**(i)**mu** (yu), tsuyokujite (yu), i(s)shu(u)kan (ko)
4. **futtobo**(o)**ru** (yu), okaasan (no) tomodachi (mi)
5. **raamen**(n) (mi)
16. jitensha de (ni) norou (fu)
20. A. konaida wa(ha) (fu)
2.
1. 26(12) gatsu 12(26) nichi (mi)

23. Feb. 19(te), 21(yu), 22(fu), (mi), (ri)

1.

2.

ya(tsu)tsukerenakatta (fu), **tranpuriin** (mi), **kapuchin(kyaputen)** (te)

3.

sha(sa)isho (fu)

5.

karaoke(karaoke) (ri)

6.

[i](ku)to (fu)

9.

sensei O(ga) iimashita (te), boku no **chiimu** O(ha) makemasen (te), boku no **chiimu** O(ha) 243 no hashitekoto O yarimashita (te)

10.

kapuchin(kyaputen) O(ni) narimashita(te)

12.

tomodachi O(to) asonda (te)

18.

boku no chiimu O(ha) makemasen(deshita) (te)

21.

学合学 ([gakugougaku])(学校/[gakkoo]) (te)

2.

1.

19(2)gatsu2(19)nichi (te), makemashita no(maketa) **chiimu**(the team that lost) (te)

2.

sensei ha sukoshi benkyou agemashita(O ataemashita/sasemashita)[the teacher gave us some work] (te), 89 no hashite(ru)koto ('89's runs') (te)

24. Feb. 28 (te), March 1 (mi), (te), (ko), 7 (ri), (fu), 15 (yu)

1.

2.

kae(tsu)tara (ri), cho(tsu)todake (fu)

3.

shi(u)chi (te), goorukii(—)pa(—) (te), to(ta)noshikattadesu (te), ta(to)modachi (te), ei(ga) (te), matsukudonalzu(do) (te), konpu(pi)yu—ta— (konpyuutaa) (yu), shi(hi)to (yu)

4.

senta(—/a) (te), hai(ri)mashita (ri), otomoda(chi) (ko)

6.

[kae](e)ru (fu), [ta](be)mashita (fu)

8.

edii kun no **ressun** ga **owatta** toki(owatte) **puuru** kara orita toki(agatte) sugu kaeru toki cho(tsu)to dake asobitakatta (fu), okaasan ha(ga) kyouryuu no tenji ni ikou to itte(ittara) miki ha ikitakunai to naite ita (yu)

9. gakkou O(ga) owarimasu (te), boku no **chiimu** O(ha) makemasen (te)
10. kutsu de(O) kai ni ikimashita (te), **goorukiipa(a)** de(O) yatte kudasai (te), minna kuruma O(ni) hairimashita (te)
13. okaasan ha(ga) kyouryuu no tenji ni ikou to itte miki ha ikitakunai to naite ita (yu)
14. kakkui no (kakkoi) kutsu (te)
21. takusan no hito ga 見imashita (fu), 不[fu](下 [shita]) (fu)
- 2.
1. shougakkou kara(no) tomodachi desu (friends from school) (ko), ei(ga) he ikimashita to(soshite) **maikuru** O mimashita (We went to the movie and saw Michael.) (te), boku no gakkou O owarimasu to shi(u)chi he kaerimashita ('I finished my school and went back home.') (te), 1(3) [gatsu] 3(1) [nichi] (te), minna kuruma O(ni) hairimashita(norimashita) (Everybody got in the car.) (te)
2. dorinku(nomimono) to tabemono (mi)

25. March 14 (te), 15 (fu) (mi) (yu)

- 1.
3. sha(sa)isho (fu)
4. **goorukiipa(a)** (te)
6. [i](ki)mashita (ikimashita) (fu), [mi](ma)shita (mimashita) (fu), [ka](i)mashita (kaimashita) (fu)
8. boku to boku no tomodachi to(ha) asobumono O motte ikimashita (te)
13. kyou ha yoji kara ojiichan to obaachan ha(ga) boku tachi no ouchi ni kimashita (yu)
16. basu ni(de) gakkou he kaerimashita (te)
21. **geemu** (O) sankai shimashita (lack of object marker) (fu)
- 2.
1. 15(3)gatsu 3(15)nichi (mi)

26. March 15 (ri), 19 (te), 21 (fu), 22 (yu)

1.

2.

kae(t)ta (te)

3.

renshu(u) (te), hari(ji)marimashita (te), saishou(saisho) (yu), **pa(pe)i dei** (yu)

5.

toire(toire) (ri), **toranpurin(toranpurin)** (fu), **abiriteji(i—)** (yu)

6.

o[**uchi**]chi (o[uchi])(fu)

10.

toranpurin Q(de) asobimashita (fu), **kiiboodo Q**(de) asonde imashita (fu), maru no naka ni(de) atteru yatsu O nuru no (yu)

18.

[tano]shikatta node ~ nakanaka [kae]rimasen (deshita) (fu)

21.

eigo a(O) shimashita (yu), sakkaa renshu ni(ha) owarimashita (te), okaasan ni(ga) **paaku** ni kita (ni&ha/ga confusion) (te), **ge—mu ni**(ga) hari(ji)marimashita (te)

2.

2.

kakurenbou asobimashita ('I played seek and hide') (ri)

27. April 14-19 (ri) (fu) (yu) (te)

1.

1.

doku(gu)mo (fu)

3.

fu(wa)nda(a)rando (ri), saishou (ri), **sakkaa** renshu(u) (te), **paaku** (te), minaasan (te)

5.

karupisu (**karupisu**) (fu)

6.

[omo](i)mashita (fu)

9.

norimono ga(ni) noritakatta (fu)

10.

norimono Q(ni) norou (fu), **booru ni**(O) ashi ni(de) kikku ni(O) yatte ikimashita (te)×3, nuigurumi Q(de) asobimashita (fu), saru Q(de) asonde (fu), inu Q(de) asobimashita (fu)

16.

paaku ni(de) hashitte yarimashita (te), **booru ni** ashi ni(de) **kikku** (te)

17.

ake(ki)mashita (ri) *intransitive verb/transitive verb confusion
imouto ha no(ra)nakatta (ri)

21.

itten **hairete**(irete) sugokatta to omotta (yu)

gakkou no(ga) owatta tokini (te) *use of the possessive marker “no” instead of the subject marker “ga”

28. April 23 (te), 25 (yu), (fu), (ko)

- 1.
1. se(ze)nbu (yu)
2. ga(k)ko(u) (ko)
3. wando(da)rando (fu), beezubooru (te), oma(mo)shirokatta (te), ga(k)ko(u) (ko)
4. haji(me)mashita (te), renshu(u) (ko)
9. boku no sensei (ha) ... to iimashita (te), hantai no **chi—mu** 2(ten) ni dekimashita(ire mashita) (te)
10. hikouki O(ni) noru (fu), **geemu** ni(O) haji(me)mashita (te), benkyou ni(O) yarimashita (te), mawari O(de) shimashita (ko)
14. takaino **batto** (te)
15. 8 mai(ten) (te), 2(ten) ni dekimashita(ire mashita) (te)
- 2.
1. 8 mai(ten) no hashitte dekimashita(ire mashita) (‘we made eight runs’) (te)

29. May 1 (ri), 2 (te), 3 (yu) (mi) (ke)

- 1.
1. watashi ka(ga) ikimashita (ri), tahe(be)ta (ri), do(to)modachi (ke)
2. shuuta(**shuuto**) shitsu/tta (ke), misu(**misu**) shitsu/tte (ke), goorukitsu/**p(i)paa** (ke), hai(tsu/t)ta (mi) (ke), getsu/mmu(**geemu**) (ke), **gorru**(**go—ru**) (ke)
3. maikoanjo(**mikeranjero**) (te), ma(o)moshirokatta (te), paatee(i)i (ri), po(**boo**)ru (ke), keka(to)bashite (ke), hai(ire)ta (ke), boku nogumi(tokui?) ni omotta desu (te)
4. renshu(u) (te)
5. shirubenia(**shirubenia**) (ke), shuuta(**shuuto**) (ke), misu(**misu**) (ke)
8. Doushite dakara(ka to iuto) (yu), tabeta to(ri) nonda(ri shita) (ri), owattara(ato) (ri)
9. e ha(O) kakimashita (te)

10. kouen ni(de) shimashita (ri), **geemu** O(de) asobimashita (ri)

11. e no(O) kakimasu (te)

14. tanoshiikatta (ri)

21. **gorru**(go—ru) ni haita(ireta) (ke)

2. 1. 3(5) gatsu 5(3) nichi (mi)* *month/date order confusion

2. bankstown(**bankusutaun**) (ke)

30. May 8, 23 (yu), 4, 9 (mi), 9 (ri), 10 (te), 11 (ke), 24 (fu) (te)

1. 3. **supooto**(tsu)kaa (fu), **bidioo**(bideo) (mi), **taainzoomu**(taimuzoon) (mi), ame no furi(amefuri) (te), koc(u)cha (ke)

5. **pure**(re)i (yu)

9. boku no **sakkaa chiimu** (ha) **paaku** ni ikimashita (te), tabemono ga(O) tsukutta (te), kyou ha boku ha okimashita (te), otousan (ha) boku ni (te), kyou ha boku to okaasan ha (yu)

10. otousan (ha) boku ni(O) **geemu** O(ni) totte (tsurete) ikimashita (te), **geemu** ni(O) hajimemashita (te), **baiku** O(de) asobimashita (fu), **booringu** O(shite) asobimashita (ri), **konpuutaa** O(de) asobimashita (fu)

13. **bidioo**(bideo) ga(ha) okashikatta to omotta desu(mi)

15. 14(nin) ka 13(nin) no kodomo (ri)

16. hantai no **chiimu** de(ni) gooru yarimashita (te), ~ **booringu** ni(de) shimashita (ri)

18. boku ha **geemu** O(ga) tanoshikunai(nakatta) (te)

2. 1. boku ha **geemu** O(ga) tanoshikunai(nakatta)/(I didn't enjoy the game.) (te), otousan (ha) boku ni(O) **geemu** O(ni) totte (tsurete) ikimashita/('My father took me to the game.') (te), ame ni(no naka de) matte iru/(We were waiting in the rain.) (te)

31. May 30 (yu) (mi), 31 (te) (fu)

- 1.
2. hai(t)ta
3. eiga (ni) torette(tsurete) ikimashita (te), rosutoOre(waaru)do (te), pisutoru O kyouryuu ni ya(u)tta (te), haire(ri)sou de hairanakatta (yu)
4. kanji renshu(u) (te)
5. takkuru(**takkuru**) (ke), kurouru(**kurouru**) (mi)
9. otousan (ha) eiga (ni) torette(tsurete) ikimashita (te), takusan kyouryuu (ga) imashita (te), kyouryuu ni(ga) booto ni hai(t)ta (te), otousan to boku he(ha) uchi ni kaerimashita (te)
10. kurouru ni(O) oyoide ikimashita (mi)
15. daibu O ikko(ikkai) yarimashita (mi)
19. torette(tsurete) ikimashita(itte kuremashita) (te), hon no yomi yatte yari(kure)mashita (te)
2. 1. sakkaa no owari(owatta ato)/(After succer) (te)

32. May 28 (ri), June 7 (yu) (te) (fu), 10 (mi)

- 1.
2. hai(t)ta (mi), hai(t)te (mi)
3. ra(ro)sutowaarudo (yu), okaaimono (yu), minini ikimashita (yu)
4. ippa(i) tabeta (yu)
5. pazuru(**pazuru**) (fu), doa(**doa**) (mi),
9. boku ni(ha) mata asobimasu (te), kyou ha miki ha (yu)
10. geemu O(de) asobimashita (te)
21. sore O(ga)* owatta node ('after we finished it') (mi) *ga/O confusion
2. 1. watashi no okaasan*/('my mum') (fu) *too many repetitions of 'watashi no' in one entry

33. June 8 (ri), 12 (mi), 14 (fu) (te) (yu), 20 (yu), 21 (te) (mi)

- 1.
 2. cho(t)(to) (fu), sho(p)ping (te)
 3. kyo=(u)ryu=(u) (ri), osootte kimashita (ri), **bidi(de)o** (mi), **enta—teg(i)mento** (yu), **fuo(wa)rudo** (mi), **su(tsu)kutta** (te), **toretta**(tsurete itte kuremashita) (te), **minini** ikimashita (yu)
 4. sho(p)ping senta(—) (te)
 5. **goru(go—ru)** (te), **su—mo—**(sumou) (mi)
 9. kyou watashi(ga) gakkou ni itta toki (fu), watashi no tomodachi (ga) kimashita (fu), boku no otousan (ha) **sakkaa geemu** O (te), **geemu** (ha) sugu haji(mari)mashita (te), boku no **chiimu** de(ha) baka desu (te), boku no **chiime** de(ha) mata makemashita (te), okaasan (ga) niku...**su(tsu)kutta** (te)
 10. yoru **de(ni) su—mo—**(sumou) O mini (yu), **su—mo—**(sumou) **ni(O)** mini ikimashita (mi)
 17. **goru(go—ru) yatta**(shite) ikimashita (te)
 19. otousan (ha) (boku O) **sakkaa geemu O(ni) toretta**(tsurete itte kuremashita) (te)
 21. chippusu (O) tabeta (fu), kurasu (ni) haitta (fu), watashi ga akachan no **tokoro**(toki) no (mi), **go—ru** (O) iremashita (yu), otomodachi (O) mitsukemashita (fu), kome to **meron** (O) **su(tsu)kutta** (te)
- *overuse of “sono ato”/(After that) 7 times in one entry [ex. **Sono ato aisukuri—mu** ga cho(t)to kitanakatta desu (fu)]
2.
 1. **su—mo—**(sumou) (yu), **su—mo—**(sumou) (mi), **progura—mu** (mi)
 2. **sukipinguro—pu**(nawatobi) (fu)

34. June 18 (mi), (yu), July 7 (ri)

- 1.
2. nani suru no ka shi(t)te masu (ri)
3. **supiichi** (mi)
4. teppo(u) (ri)
5. garasu(garasu) (ri), **suuuto**(shiyuuto/syuuto) (ri)

9. watashi ga(ha) shichi ban ni natta (ri)
14. kuruma mitai (na) mono ni notte (ri)
16. sannin ni(de) ikimashita (ri)
17. arimashisu (ri)
2. 1. teiketto(tiketto) (ri), datte omoshiroi kao O shita (kara)/('Because (he) made a funny face.') (mi)

35. July 7 (ri), 24 (fu), 26 (ko), 27 (mi)

1. 2. tomaru koto ni na(t)ta (ko)
3. umu (**chiimu**) (ke), yu(i)tta (mi), **konpu**(**pi**)yutaa (yu), to yu(i)u **geemu** (yu), **kijiroo**(**kiro**) (fu)
4. kyouso(u) (fu)
5. uiwararu(**uiwararu**) (ke), shirubeinia(**shirubeinia**) (ke)
6. [na](ma)e (ko)
9. watashi O(ga) katta (mi)
16. uiwararu(**uiwararu**) ni(de) **sakkaa** O asonda(shita) (ke), boku no umu (**chiimu**) ni(de) hidari no ushiro ni(de) asonderu (ke)
21. **kaanibaru** (ni) ikimashita (fu), 2-1(de) katta (ke), sonna(totemo) muzukashikatta desu (ke)
2. 2. boku no umu(**chiimu**) ni(de) hidari no ushiro ni asonderu(hidari no kouei/hidari ushiro no mamori O shiteiru) ('I play left back in my team.') (ke)

36. July 29 (mi), August 1 (fu), 2 (yu)

1. 2. sho(p)pingu (fu)
3. **kaana**(**ni**)fu(**ba**)ru (yu), **riirye**(**re**)e (mi), mini ni kimashita (yu), **meetoru**u (mi), **bidi**(**de**)og (mi), kimamashita (fu), goi(chi)sou (fu)

- kaana(ni)fu(ba)ru ni 入(行)[i]tta (yu)
4. me(e)toru (yu)
5. roku(ku)on (fu)
10. baabii O(de) asobimashita (fu)
21. nijikan yari(mi)mashita (fu)
- 2.
1. kakurenbou O (shite) asobimashita (fu)

37. July 27, August 8 (ri), 9 (yu) (fu)

- 1.
1. shi(ji)densha (ri), osuberidai (fu)
3. ko—(u)en (fu), kakurenbo—(u) (yu), konpu(pi)yu—ta— (yu), asa(so)bimashita (yu)
4. kae(ra)nai to dame datta (ri)
5. tenesu(tenisu) (ri)
6. [mizu](zu) (fu)
8. kondo ni (fu)
10. shi(ji)densha O(ni) norimashita (ri)
16. osoto ni(de) notte yarimashita (ri), suna no naka ni(de) asobimashita (fu)
21. okashi (O) tabemashita (ri) [lack of object marker]
chigau hito no otomodachi (no ie) ni ikimashita (ri)
- *overuse of “soshite”[and] (fu): 16 times in one entry

38. August 12 (mi), 15 (yu), 16 (fu)

- 1.
3. hokkeee (yu), konpu(pi)yuutaa (yu), konpu(pi)yu_(u)taa (fu)
4. konpyu_(u)taa (fu)
5. rokkuO(o)n (yu), botan(botan) (fu)

9. tori no e O(ga) okashikatta desu (mi), otomodachi no **konpu(pi)yuutaa_ga**(ha) subarashii (yu), kyou watashi (ha) (fu)
17. tanoshikatta no deshita(desu) (fu), mitsuke(ra)renai (fu), tanoshikatta no desu (fu)
21. hakubutsukan (ni) ikimashita (fu), funづ(づ)[zu]keru (fu)
 *cir(c)us (fu) [non-standard spelling in English]
 *overuse of “soshite”[and] (fu): 10 times in one entry

39. August 20 (yu), 22 (ri), 23 (mi), (fu)

- 1.
2. naccha(t)ta kara (ri)
3. saishou (yu), kaeku(tsu)teku(ki)te (yu), yuugata i(ni) naccha(t)ta (ri)
4. **busshi(yu)/[bussyu]** (yu)
5. taka(ka)ka(ka)tta (yu)
8. **sutaato** (ni) narimashita (fu)
13. kyou watashi ga(ha) (fu)
14. attakaida(ka)tta (ri)
17. itteta(itta) (yu), oyogena(i) kara (ri), matanakucha iki(ke)masen (fu)
21. shokuji (O)* tabemashita (fu) *the lack of the object marker
 mama no te O mottete(ta). (ri)
- 2.
1. watashi ga kazoku no (naka de) ichiban deshita/(‘ I was the second of my family ’)
 (fu)
2. **dorinku**(nomimono) to tabemono (mi)

40. August 30 (yu), (ri)

- 1.
2. midori ni hai(t)ta (mi)
3. **kantorii feg(a)** (yu)
4. **syo(o)baggu** (yu)

2.

2.

chigau hito to otomodachi dekite(ni natte)('made friends with different people') (ri)

41. September 5 (mi), (ko), 6 (fu), (yu)

1.

3.

kaanaburu (kaanibaru) (mi), ka(kya)puten (yu)

10.

geemu O(de) midori ni hai(t)ta (mi), buranko O(de) asobimashita (fu)

17.

yoku yarimashita(yatta) to omotta(omoimashita) (yu)

20.

A. midori no guruupu wa(ha) (yu)

21.

watashi no (hou) ga ipaa*i* okashi O sagashimashita (fu)

42. September 13 (yu) (mi) (ri), 14 (fu)

1.

2.

ga(k)ki (fu)

3.

puragizu (yu), chijmu (mi)

5.

konpyuutageemu(konpyuutageemu) (ri), dansu(dansu) (fu)

6.

[ka](i)mashita (yu)

8.

katta tokoro(toki) ha, omoshirokatta desu (mi), maketa tokoro(toki) ha, nakitakatta (mi)

9.

chijmu O(ga) katta (mi), konpyuutageemu(konpyuutageemu) O(de) asobimashita (ri), gakk*i* O(de) asobimashita (fu)

13.

kyou, watashi ga(ha) otomodachi no ie ni ikimashita (ri)

2.

1.

ga(k)ki O(de) asonde(ensou shite) (fu)

43. September 19 (yu), 20 (mi)

- 1.
3.
shiya(a)i (yu), nakkatta (yu), nendou (yu), 太(犬) [inu] (yu), raki(rakkii) (yu),
o(a)sonda (mi), bideio (mi)
8.
chairo to(de) senaka ni sen ga arimasu (yu)
- 2.
1.
tookyoo(toukyou) (mi) **katakana* use for a Japanese location name

44. September 30 (ko), October 4 (yu), 10 (fu), 11 (mi)

- 1.
2.
puuru ni hai(t)ta (mi), mo(u)i(k)kai (ko)
3.
kon—puuna(konpyu—ta—) (ko), konpuvuta(piyu—ta—/pyu—ta—) (ko),
jangu—(ru) (fu), biyo(byou)ki (fu), wainnari(—) (yu)
9.
kyou ha, boku to miki ha (yu), koma—sharu ga(O) yatte imashita (fu), watashi
to(ha)...otousan to, ...ni ikimashita (mi), onna no hito ga asa ni onna ga okite (fu)
10.
konpuvuta(piyu—ta—/pyu—ta—)ge—mu O(de) asonde (ko), onna no hito ni(O)
beddo ni nosete (fu)
17.
asobe(bi)mashita (ko)
21.
kuru kuru kuru(kuru kuru) mawashite (fu), onna[female] (no hito)('woman') (fu),
doresu O haitete(kiteite) (fu), onna no hito no koto* O tasukete agemashita (fu)
*[overuse of "no koto"]
- 2.
2.
ko—rumain(tankou) (yu)

45. October 22 (fu), 25 (yu)

- 1.
3.
kigai(e)te (fu), da—to(tsu) (yu), kaa(tsu)pu (yu)
4.
pa—tei(—) [paatii] (yu)
9.
sorekara aichan (ga) kite (fu), watashi to(ha)...imouto no miki chan to
... ikimashita (fu)

10.

pu—ru O(he) ikimashita (fu), same(gokko) O (shite) asobimashita (fu)

17.

hairimashita(tta)no desu (fu), tanoshikatta *no desu *[overuse of “...no desu” (fu)

21.

saki *he(ni) **pu—ru** O(he) ikimashita (fu) *[*ni*: time(at, on, in, etc.)/*he*:direction(to, toward) confusion]

2.

1.

gakkou no ato no toki(gakkou no ato)/('When school had finished') (fu), same(gokko) O (shite) asobimashita/('play sharks') (fu)

2.

HUNGRYJACKS(hanguri—jakkusu) (yu)

46. October 31 (te), November 1 (fu)

1.

2.

yobu(t)te iimashita (fu)

3.

uta(chi) (te), **konpuvu**(piyu/pyu)—ta(—) (te), **piji**(za) (te), kai(e)ri ni (fu)

4.

koue(n) (fu), **konpuvu**(piyu/pyu)—ta(—) (te)

6.

[oo](o)kina (te)

9.

boku to tomodachi (ha) (te), watashi to(ha) okaasan to imouto no M chan to...ikimashita (fu)

14.

suzume —(mi)tai(na) tori (fu)

16.

gohan de(ni) (te) **piji**(za) O tabemashita (te)

17.

boku no otousan (ga) kita to(kite) boku ha kaerimashita (te), koue(n) ni ikou to omou(iku) to omottara ikimasen deshita (fu)

21.

konpuvu(piyu/pyu)—ta(—) (de)* asonda (te) *the lack of de(means/with) suzume —(mi)*tai(na) tori (fu) *non-standard use of *kanji*

2.

1.

boku no tomodachi[oo]okina uchi ima. (boku no tomodachi ha ima ha ookina uchi ni imasu./('My friend is in a big house now.')) (te)

boku no otousan (ga) kita to(kite) boku ha kaerimashita. [My father came and I went home.')] (te)

47. November 7 (ri), 8 (fu)

- 1.
2. noborrimashita (fu)
3. kashuu (ri), myu—jian(mu) (fu), hae(i)rimashita (fu)
- 3a. 家(家) [ie] (ri)
4. konpyu—ta(—) (fu), kuchi(no)naka (fu)
5. terebi(terebi) (ri)
10. konpyu—ta(—) O(de) ippai asobimashita (fu)
14. ookiina kuchi(no)naka ni (fu)
16. heya ni(de) terebi(terebi) O mimashita (ri)

48. November 5 (yu), 12 (te), (fu)**, 15 (mi), 16 (ri), (yu)

- 1.
1. gu(ku)mi (te), 74 da(ta)i 56 (te)
2. hottochi(p)pusu (yu)
3. supo—to(tsu) (te), kapputan(kyaputen) (te), 19 raa—nzu(raundo) (te), otanjoubi(pa—ti—) ni ikimashita (yu)
- 3a. 食(食) [ta]beta (yu)
4. dansu he i(ki)mashita (fu)
5. pinku(pinku) (ri)
8. ookii no (mo) attashi chiisai (no) mo atta (ri)
9. kyou ha(,) boku to(ha)...okaasan ha(to) (yu), boku no chi—mu (ga) katta dasu(kachi mashita) (te), watashi (wa) gakkou no kaeri ni (fu), watashi to(ha)...otousan wa(to) (mi), ookii no (ga) suki datta (ri)
12. itoko no aka chan de(to) asonde ita (mi)
13. boku no gu(ku)mi no supo—to(tsu) ga(ha) kuriketto desu. (te)
14. chiisai (no) mo atta (ri)

17.

katta desu(kachimashita) (te), owaru mae ni sugoku ookina hanabi datta(ga deta)
(ri)

21.

kyou, (watashi to(ha)...otousan ha(to))* watashi no otousan no oneesan no tanjoubi
datta (mi)/*irrelevant sentence structure

2.

1.

boku ha kyou ha omoshirokatta desu. ('I had a fun today.') (te)

**more *kanji* use by fu; ex. *kanji* use for her first name and [kaa] san

49. November 22 (fu), (te), (mi), (yu)

1.

3.

hant(ta)i chi—mu (te), gu(ru)—pu (yu)

4.

kyo(u)shitsu (yu)

5.

omoshiro(ro)katta (te)

9.

watashi (wa) nan ni mo tsukure nakatta kara (fu), boku to(ha) boku no tomodachi
(to) kuriketto de (te), watashi to(ha) ... yuuta no otomodachi ha(to) (mi)

13.

boku ga(ha) kajiki to iu gu(ru)—pu ni haitte imasu (yu)

15.

futatsu(ni kai) ranzu(raundo) (te)

17.

boku no mokuhyou ha ni hyaku me—toru O oyogitai.(oyogeru you ni naru/oyogu
koto desu.) (yu)

21.

hiruma no(ohiru) gohan (fu), do(土)[do] 曜日 [youbi] (te), boku no tomodachi
(to) kuriketto de (te)

2.

1.

mai('my')(boku no) hant(ta)i no chi—mu (no) bo—ru auto dekimashita (te)

2.

indo—a(shitsunai) pu—ru (yu)

50. December 1 (te), 6(mi) (yu)

1.

1.

boku no gu(ku)mi (te)

3.

nainu(n) (mi), pui(pii)ko (mi), kaiyoubi (te), ichiban haihai(hayai) (te), baatafurai
(te), buru(re)sutorooku (te)

4. **suima**(—) (te), **furi**(—)**sutairu** (te), o(mo)shirokatta desu (te)
5. boku no **gu**(ku)mi (te)
8. boku ha ...miki to okaasan **ha**(to) (yu)
10. obaachan to jiotensha **O**(ni) noritai (yu)
15. koinu ha san **nin**(biki) (yu), **futari**(ni hiki) (yu)
19. watashi ni **kau no**(katte kureru no) (mi)
2. san **nin**(biki) **kara**(no uchi) **futari**(ni hiki) dake, **mada ikiteru**(ikinokotte iru/ru) (yu)
(‘Only two out of three have been still alive.’)
2. boku no gakkou **ni**(no) **suimingu puuru** he ikimashita(te)
(‘I went to a swimming pool at my shool.’)
- bakkusutorooku**(seoyogi) (te), **buressutosutorooku**(hiraoyogi) (te)

51. December 7 (fu), 12 (yu), 13 (te), (mi)

- 1.
2. **mitta** (yu), **hai**(t)te (mi)
3. kinou **no** katta (te), **taaun** (te), **shuukudai** (te), **ko**—**npyuta**—(**konpyu**—**ta**—)
(mi)
4. **shidoni**(—) (te), nihongo (no) **shuukudai** (te), **o**—**punin**(gu) (fu)
5. **jaku**(ku)**son** (fu), **santa**(**santa**) san (fu)
6. [**roku**](**ku**) nen (yu)
9. minna (ga) chiisakatta toki (yu), boku ha kyou **ha**(te), watashi **to**(ha)...kaasan to
(fu)
16. mokuyoubi **de**(ni) (yu)
17. deta(te) kara (mi), hajimashi(ri) mashita (fu)
20. C. [**roku**]**ku** nensee(i) (yu)
21. **shuukudai** (O) yarimashita (te) *Lack of object marker
- 2.
2. **baibai**(owakare) **pa**—**ti** (yu), **dainaso**—(kyouryuu) (fu)

52. February 21(yu), (mi), 27(ri), (fu), (se)

- 1.
3.
tei(chi)—**mu** (se), jiyobun(jibun) (se), asai ho—(u) (se)
4.
oryo(u)ri (fu), yasashiii (mi)
5.
re(re)—**su** (se), 3nense(se)i (se), ge(ge)—**mu** (se)
10.
ookii **pu—ru** O(de) oyogimashita (se)
13.
watashi **wa**(ga) atama toka itakattara (mi), okaasan **ga**(ha) okoru toki mo arushi (yu)
16.
ie **ni**(de) asobimashita (ri), saigo **de**(ni) kigaete (se)
20.
A. re(re)—**su wa**(ha) (se), kodomo tachi **wa**(ha) (se), watashi tachi **wa**(ha) x 2 (se)
C. **pu—ru e**(he) (se), gakkou **e**(he) (se)
21.
okoru no ga ippai desu(yoku okorimasu) (mi)
2.
1.
ge(ge)—**mu** O (shite) asobimashita ('played a game') (se)
2.
kakurenbo (O shite) asobimasita ('played seek and hide') (ri)
kukkingu(ryouri) (mi)

53. March 14 (mi), (yu), (fu), (se)

- 1.
1.
tsuki(gi) ni (se)
2.
i(s)sho ni (fu), cho(t)to (fu)
3.
ka—nibu—(baru) (fu), kiy_o(yo)u (se), **biggudabuyu—(ru)** (se),
本 [hon](ho)ruda(—) (se)
5.
toire(toire) (yu), **kimuchi(kimuchi)** (fu), **efuwan(n)** (se), datta **ke(ke)**do
8.
atama O **buttara**(temo) okon nai desu (fu)
9.
kimuchi(kimuchi) O(ga) haitte imashita (fu)
13.
otousan **ga**(ha) boku to asonde kuremasu (yu), otousan **ga**(ha) **kuriketto** ga suki desu (yu)
16.
jiten **ni**(de) mimashita (fu)

17.
itsumo neru no desu(nete imasu) (mi), gohan O tsukutte(ite) isogashikatta no desu(fu)

21.
tousan ha negi no ue ni ochi(otoshi)mashita ('[my] father dropped it on top of a spring onion.') *transitive/intransitive verb confusion & direct translation

54. March 22 (mi), (yu), (se), (fu)

1

3.

konpu(pi)yu—ta— (fu), sa ↓(↓/i)n (se), supa ↓(↓/i)su (se),

4.

ba—bi(—) (fu)

8.

soreka(ra) (mi), kono(kou iu) subarashii koto ga atte(aru kara) ii desu (yu)

9.

watashi ha(ni) ji—ni— ga ite (fu), benkyou ga(O) ippai yaru no ga (fu)

21.

watashi no yume ha...naritai(naru koto desu) (mi)*, saigo no negai ha...nacchau(koto desu) (fu)* *subject-verb disagreement
watashi ga ji—ni— ni(to) issho ni nichiyou gakkou ni ittara (fu)

55. May 2 (yu), (fu), (se), (mi)

1.

1.

oyoite(de) imashita (fu)

3.

chupa(c)cha(p)pu (fu), ↓(↓/i)—suta(—) shi E(E/yo)— /iisutaâshô/(se),
shi E(E/yo)—baggu /shôbaggu/ (se), do—(u)butsu (se)

4.

ge—mubo(—)i (yu), mizu (no) toko (fu), bishonure ja(n/nai) (fu),
↓(↓/i)—suta(—) (se), ko—na(—) (se)

5.

Kya(ya)npu (mi)

6.

[hyak](tsu)ko (fu), [ka](i)mashita (fu), [ka](ki)tai (fu), [futa](ta)tsu (se)

7.

saishiyo(yo) [saisho] (se), fue(e)a—(mi)

8.

saisho wa uma, sorede(soshite) ushi (se)

9.

watashi (ha) kani ga(O) mie(mitsuke)*mashita (fu) [*tran/intran. verb confusion],
kyou ha, watashi to(ha)...okaasan ha(to) (mi)

10.

...no naka ni(O) arukimashita (mi)

14.
bishonure (ni) natta (fu)

17.
ge—mu O owari(oe)*mashita (yu) [*tran/intran. verb confusion], aruite (iki),
kurabu de (mi)

20.
kai(e)rimashita (se), (mi)

56. June 9, (fu), (mi)

1.
8.
saisho ha ... O katte, soshite saisho ha (fu) *overuse of "saisho ha"

9.
kyou (ha), watashi to(ha)... okaasan ha(to), okaimono ni ikimashita (mi)

21.
ge—mu (O) yarimashita (fu)

57. June 26, (fu), (mi), (ri), (se), (yu)

1.
2.
sakka— ni i(t)te (se), zuu(t)to (se), **pettosh**(p)pu (ri)

3.
saishou (se), (yu), isshou (se), e—(i)ga kan (se), oni(i)chan (se), O(a)sonde (ri),
yu(i)ttara (fu), yu(i)tte (fu), tsuretete(itte) (mi)

4.
koma(—)sharu (fu), e(i)ga (se), **ge—mubo**(—)i (se), **monsuta**(—) (se), **da—**
rinha—ba(—) (se)

5.
sa—(sa—)bu (yu), ma—me—ido (mi), ei(ei)ga (fu), atarashii ei(ei)ga
(kan) ni ikimashita (fu), ya(ya)mucha (se), pu(pu)rin (se), chierushi— (cherushi—)
(se), ka(ka)erimashita (se), ge(ge)—mu (se)

6.
[hito](to) (ri), [kuruma](ma) (ri), [oo](tsu)kii (ri)

9.
watashi to(ha) kaasan to imouto no mikichan to . . . mini iku to
kangaemashita(tsumori deshita) ga (fu), aimakusu (ha) eiga kan mitai (se), otousan
ga shigoto ni itte, oniichan ga(ha) **sakka—** ni itte (ri), **koma—sharu** ga(O) sugoku
ippai yatte tsukaremashita (fu)*, Doberumann(**do—beruman**) ga(O)
motteta(katteta) (ri)*, **maruchi—zu** ga(O) motte(katte) imasu (ri)* *ga/O
confusion

13.
kinou no yoru ha watashi no kaasan ha(ga) watashi no kami no ke O mitsuami ni
shimashita (mi)

14.
[oo]tsu kii deshita(katta desu) (ri)

15. [hito]ri(ittou) no zousan (se)
16. asa de(ni) HARLSTONE (ha—rusuton) de (yu), eigo ni(de) yu(i)ttara (fu), sho—no naka ni(de) tatakaimashita (fu)
17. e—(i)ga kan mitai (da)kedo (se), pecchanko (da)kara desu (ri), kaou to shimai(shi)mashita (ri), sakka— ni itekimashita(itte shimaimashita) (se)
18. mae, petto shoppu ni iku(itta) toki. . . koinu ga imashita (ri)
19. okaasan ga asa ni watashi (O) bake—shon ke— ni tsuretete(itte) age(kure)mashita (mi), risa— to iu hito ha watashitachi (O) eiga ni tsureta(tsurete itte kureta) (mi), tenisu ko—chingu O kure(shite morai) mashita (yu)
20. B. ou(o)kii (se)
C. kai(e)tte kite (se) ×2, yu(i)ttara (fu), yu(i)tte (fu)
21. asa ni* (mi) *hyper-correction/overuse of “ni” for marking time
watashi (O)* bake—shon ke— ni tsuretete(itte) age(kure)mashita (mi),
watashitachi (O)* eiga ni tsureta(tsurete itte kureta) (mi), inu (O)* motte
imashite(ta) (ri) *lack of the object marker “O”
kazari O bakkari (O) kaitai (fu), ichiban suki no(na)* pa—to(tokoro) ha
kore(koko) desu (fu) *na-adjective/noun confusion
2.
1. mainichi mitai ni(itsumo ha) (‘usually’) okaimono ni iku no ni (se), watashi no,
ichiban suki no(na)* pa—to(tokoro) ha kore(koko) desu (‘my favorite part is this.’)
(fu), minna no suri—ninja—zu tachi(suri—ninja—zu tachi minna) ga (‘all the
three ninja’s ’) (fu), tenisu ko—chingu O kure(shite morai mashita) (‘gave me
tennis coaching’) (yu), kuruma kara(ni) hikarete shinjatta (‘died from being run over
by a car/(it) was run over by a car and died’) (ri)
2. ichiban suki no(na)* pa—to(tokoro) (‘my favorite part’) (fu), anta no ga—ru
furendo ni natte(shite) (‘make [me] your girl friend’) (fu)

58. August 16 (mi)

1.
9. watashi₁(ha) ippai utta (mi), watashi₁(ha) tenisu (O) yaru no ga suki (mi)
13. jin to iu hito ha(ga) ko—chi datta (mi)
21. tenisu (O) yaru no ga suki (mi), ge—mu (O) ippai yarimashita (mi)
2.
2. tenisuko—chingu(tenisu no renshuu) ni ikimashita (mi)

59. August 29 (fu), (se)

- 1.
1. tsuki(gi) wa (se)
2. owa(t)ta toki (se)
3. ga—do(de)n (fu), sono hagehage no tori otousan__ (mi)tai (fu), rie(re)—su (se), saishou (se)
4. kuja(ku) (fu)
5. re(re)—su (se), narimase(se)n deshita (se), arimase(se)n (se)
6. [ona](ji) no (fu)
20. A. tsugi wa(ha) (se), re(re)—su wa(ha) (se)
C. taikai e(he) ikimashita (se)
21. kawaii no [tori] ga ippai arimashita(imashita) (fu)
furaffi— to __ [ona] no*(onaji) me (fu) *adjective/noun confusion
- 2.
2. ishi no ga—don(niwa) (fu), onna no pi—kokku(kujalu) (fu)

60. October 17 (fu), (mi), (se) November 4 (fu), (mi), (ri), (se), (te), (yu)
November 14 (se), (te)

- 1.
2. osoku na(c)chau (fu), pen(tsu)toshiyo(tsu)pu (ri), jiyān(tsu)kuraseru (ri), [ha]i(t)te (yu), kae(t)te kite (se), [i]i(t)te (te)
3. saishou (se), __ (mi)te (se), watashitashitachi (se), hajimashi(ri)mashita (fu), Anjiu(yu)ra (fu), pen(tsu)toshiyo(tsu)pu (ri), jiyān(tsu)kuraseru (ri), a(o)watta (ri), kaimonono ga (ri), naishou (se), wani(ta)shi (se), teru(re)bi (se), byoukin ni naru (te), nihongou (te), hoshii (te)
- 3a. [yon]([juu])[go][kan]([fun]) ni hajimaru (fu)
4. oha(na)shi (se), isu(tsu)mo (se), oheya(ya)n (naka) hairu to (se), konpyu(—)ta— (te)x4, honto(u) (te), suie(i) (se)x2
5. ei(ei)ga (fu), tabemase(se)n (se), ze(ze)nbu (se), ya(ya)tto (se), oheya(ya) (se) x3, ya(ya)ritakatta (se), ya(ya)tto (se), omi ya(ya)ge (se), oka(ka)asan (te), ikimase(se)n (se)x2, benkyou ya(ya) (se)

6. [kae](ru) toki (fu), [oyo](gi)mashita (fu), [omo](mo)tte (te), [i]i(t)te (te)
8. **teru(re)bi** (O mitari) to(toka) watashi ga yaritai mono ga dekimasen (se), tabetakunai (to) [omo]motte demo (te), [i]i(t)te demo (te), to(soshite) hitori no ~ko to asobimasu (se)
9. futari tomo ga (fu), oka(ka)asan (ga) [i]i(t)te demo (te), watashi ga(ha) ~kigaeta ato ~o [kaa]san ni kou iimashita (fu), watashi ga(ha)*₁ hetakuso deshita (fu), boku no(ha) **konpyu**
(—)ta— ha(ga) ~daisuki (te), **konpyu**(—)ta— to ~(ga) suki (te), gakkou no(ga) owatte no jikan (te)
10. ei(ei)ga O(ni) iku yo (fu), okaasan O(ni) itsumo shika(ra)reru (te)
13. **konpyu**(—)ta— ha(ga) ~daisuki (te)
14. kawaiikatta (ri)
16. **furi**—sutairu O **bi**—toban ni(de) yarimashita (fu), **konpyu**(—)ta— ni(de) asonde iru (te)x2
17. kinou oniichan ga ~he itte [moku youbi] made kai(e)tte konai deshita(konai no desu/kimasen) (se), shika(ra)reru (te), inai dakara (te), ikimase(se)n desu (se)
20. A. watashitashitachi wa(ha) (se)
B. ou(o)gami sensei (te)x3
C. kai(e)rimashita (se), kai(e)tte konai (se), kimochi warui (to) yu(i)u (te)
21. oha(na)shi ga shiri(wakari)masen deshita ('didn't know(understand)') (se), boku tachi hyouzan ni butsuke[hit/transitive] (butsukara [hit/intransitive])nai kana (fu), tsume (O) taberu (te), byoukin ni naru (to) [i]i(t)te demo (te), kimochi warui (to) yu(i)u (te), tsume (O) taberu (te), gakkou no(ga) owatte(owatta ato) no jikan (te), hyaku ten tesuto hoshii desu(tesuto de hyaku ten toritai desu) (te), tonari no (ie no) hito tachi (mi), gakkou (he) ikimasu (te)
2. 1. nazeka (to iu to) ('because') dareka ga ~ iimashita (fu), kyou ha itsumo to no(itumo to onaji) hi desu ('today is a usual day/today is a day as usual') (se)*₂, hitori no otomodachi dake ('only one friend')(otomodachi ha hitori dake) imasu (se), boku no(ha) **konpyu**(—)ta— ha(ga) honto(u) ni daisuki ('I really like my computer.') (te)
2. ichiban suki na pa—to(tokoro) ha saigo no pa—to(tokoro) desu (fu) ('[my] favorite part is the last part.')
- Macquarie-Fields-High School(makko—ri fi—rudo haisuku—ru) (yu)

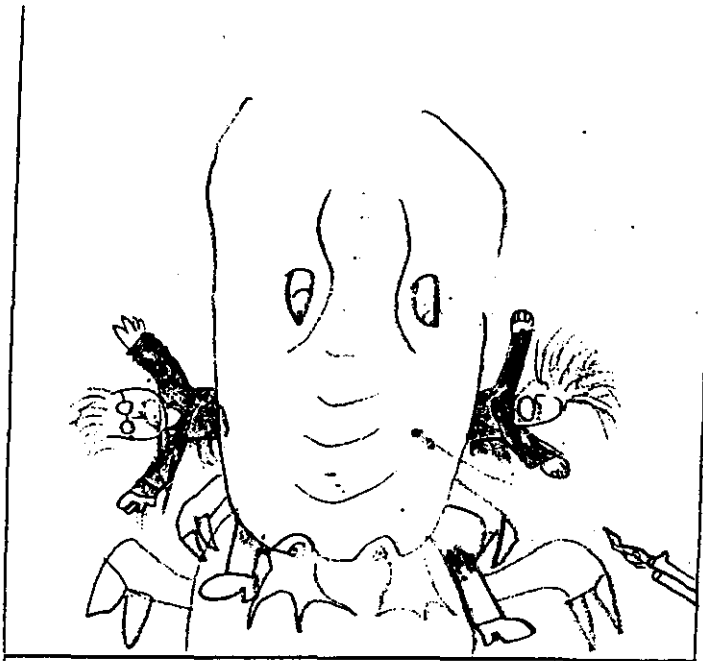
*₁ The use of "ga" as an emphasis marker that follows such a word as "ichiban"[the most/the best] seemed to be confused with the topic marker "ha". The writing of a sentence, "watashi ga ichiban jouzu deshita"[I was the best.] just beforehand might

have triggered the non-standard use in this sentence, “watashi ga(ha) hetakuso deshita”[I was not good at], which is similar in meaning.

*₂ “Usual” was translated as “isumo to,” just like the translation of “the same as usual”[itsumo to onaji].

Example of diary entries

いっ・ぱれと・キリン
 (KIRIN) (KIRIN) (KIRIN)
 (KIRIN) (KIRIN) (KIRIN)



い
え
い
が
 ()月 ()日 ()曜日
 TE

		さう		す	か	こ	し	お	電	ま	に	み	た	ま	く	
		い	漢	。	。	ほ	た	と	に	し	ホ	ん	。	し	の	を
		後	字			こ	く	ど	う	が	た	。	た	た	お	よ
		ほ	もし			。	に	し	。	。	ト	の	く	。	と	う
		ど	よい			。	。	こ	ん	た	み	に	人	さ	ぼ	う
		う	く			ま	ん	こ	。	。	ん	は	を	ん	く	さ
●		な	書	日		し	じ	は	ほ	お	な	い	た	。	は	ん
		り	け	で		た	。	。	ん	く	。	。	。	。	。	。
		ま	ま	し		。	。	。	。	。	。	。	。	。	。	。
		し	し	た		ほ	し	た	う	。	。	。	。	。	。	。
		た	た	ね		く	。	。	。	。	。	。	。	。	。	。
		。	。	。		は	と	。	。	。	。	。	。	。	。	。
		え	恐			す	本	し	か	た	ト	。	。	。	。	。
		い	竜			ぐ	の	。	。	。	。	。	。	。	。	。
		が	と			な	。	。	。	。	。	。	。	。	。	。
		の	い			ま	。	。	。	。	。	。	。	。	。	。

Week 31

APPENDIX E

Note on dummy variables and contrasts used in a regression model

A linear regression model is of the form $y = \alpha + \beta * x_1 + \text{error}$; namely, the dependent variable = the intercept + slope * the independent variable + error. The three contrasts discussed in Section 6.2 are fitted into this regression model as the independent variables. For example, when one of the contrasts, Individual bilinguals vs. Community bilinguals (COMBIL) is fitted into a regression model as the independent variable, β is exactly the contrast of interest (Individual bilinguals vs. Community bilinguals):

$$y = \alpha + \beta * \text{COMBIL}$$

For this regression analysis, each sample group is given a particular score on a dummy variable that we define so that its β ends up as exactly the contrast of interest:

Individual bilinguals,	School = 1:	we make COMBIL = 0.5
Community bilinguals,	School = 2:	we make COMBIL = - 0.5
Contact monolinguals,	School = 3:	we make COMBIL = 0
Non-contact monolinguals,	School = 4:	we make COMBIL = 0.

We can then fit the regression model $y = \alpha + \beta * \text{COMBIL}$, and ask: what does the β associated with COMBIL mean?

Individual bilinguals,	School = 1:	$y = \alpha + 0.5 \beta$
Community bilinguals,	School = 2:	$y = \alpha - 0.5 \beta$
Contact monolinguals,	School = 3:	$y = \alpha$
Non-contact monolinguals,	School = 4:	$y = \alpha$

The contrast of interest is then obtained by subtracting one bilingual group from another:

$$\begin{aligned} & (\text{Individual bilinguals, School} = 1) - (\text{Community bilinguals, School} = 2) \\ &= (\alpha + 0.5 \beta) - (\alpha - 0.5 \beta) \\ &= \beta. \end{aligned}$$

That is, β 's meaning is the contrast of interest. Accordingly, we can define dummy variables (like COMBIL) so that their β -values end up as the contrasts of interest.

Thus, β is in fact the contrast of Individual bilinguals vs. Community bilinguals (COMBIL) as wished. The same method was applied for the other two contrasts using appropriate dummy variables.

APPENDIX F

Descriptive statistics of the individual context predictor variables

Inclusion criteria: Individual bilinguals & Community bilinguals

	Mean	Std. Dev.	Std. Error	Count	Minimum	Maximum	Label
Parentage	2.38	0.49	0.06	64	2.00	3.00	2 = Endogamous family 3 = Exogamous family
Age on Arrival	1.50	2.33	0.31	57	0.00	10.00	Age on Arrival in months
Length of Residence	7.96	3.30	0.44	57	1.00	15.00	Length of Residence in months
Number of Older Siblings	0.45	0.57	0.07	58	0.00	2.00	Count of Older Siblings
Number of Younger Siblings	0.66	0.58	0.08	58	0.00	2.00	Count of Younger Siblings
Child Language Use with the Japanese Parent	12.49	6.61	0.89	55	0.00	20.00	10 = 'Japanese only', 8 = 'mostly Japanese', 5 = 'half Japanese, half English', 2 = 'mostly English', 0 = 'English only'
Child Language Use with English-speaking Parent	1.08	2.57	0.52	24	0.00	10.00	
Japanese Parent Language Use with Child	13.60	6.19	0.82	57	2.00	20.00	
English-speaking Parent Language Use with Child	0.87	2.32	0.48	23	0.00	8.00	
Child Language Use with Siblings	5.15	3.41	0.47	53	0.00	10.00	
Japanese Parent Language Use with Japanese Parent	19.64	1.17	0.20	33	16.00	20.00	
Japanese Parent Language Use with English-speaking Parent	3.04	6.68	1.36	24	0.00	20.00	
Number of Visits to Japan	2.84	1.36	0.18	55	0.00	6.00	6 = 'three times or more per year', 5 = 'twice a year', 4 = 'once a year', 3 = 'once in two years', 2 = 'once in three years', 1 = 'once in four or five years'
Frequency of Japanese Book Reading	3.38	1.64	0.22	55	0.00	5.00	5 = 'every day', 4 = 'every other day', 3 = 'two or three times a week', 2 = 'once a week', 1 = 'once a month'
Frequency of Parental Help with Japanese Learning	2.87	1.32	0.18	54	0.00	5.00	
Number of Study Materials	3.60	1.18	0.16	55	2.00	7.00	2 points per material
Variety of Japanese TV Programs Watched	1.57	1.21	0.16	54	0.00	4.00	Count of variety

Frequency of Watching Japanese TV Programs	4.39	3.68	0.50	54	0.00	12.00	Count of TV variety x either of: 1 = once a month, 2 = once a week, 3 = 2 or 3 times a week, 4 = every other day, 5 = everyday
Number of Japanese Entertainment Items	2.20	1.61	0.22	54	0.00	5.00	Count of items
Frequency of Use of Japanese Entertainment Items	6.07	5.40	0.73	54	0.00	25.00	Count of items x either of: 1 = once a month, 2 = once a week, 3 = 2 or 3 times a week, 4 = every other day, 5 = everyday
Total Language Use	70.76	31.51	4.29	54	7.00	121.00	Total of language use score
General Cultural and Group Identification Score	101.06	7.83	1.36	33	83.33	118.33	The total average 'Japanese minus Australian CAT scores'
Ethnolinguistic Group Identification Score	99.24	11.19	1.95	33	70.00	120.00	The 'Japanese minus Australian CAT scores' for questions 4 and 10

APPENDIX G

Summary statistics of the multiple regression analyses in Section 6.3

Note: 1) p-value in Bold with * = $p < .01$; p-value in Bold = $p < .05$; p-value with * = $p < .10$
 2) Only significant or near significant effects are shown (e.g. the results regarding the effects of covariates are omitted where their effects are insignificant).
 3) For labels of each predictor, see Appendix F.

<i>Translanguage Analysis</i>		TRL Categories			
Predictors (with Age & School as covariates)		Phonology	Phonology & Orthography	Kana Orthography	Kanji Orthography
Origin					
n=62 JJORAJ: Parentage	<i>B</i>	0.32	0.65	0.76	-0.14
	p-value	0.420	0.356	0.07*	0.619
Age	<i>B</i>	-0.16			0.18
	p-value	0.06*			0.004*
School (Individual bilinguals = 1, Community bilinguals = 2)	<i>B</i>		-2.18		
	p-value		0.06*		
n=54 AOA: Age on Arrival	<i>B</i>	-0.11	-0.22	-0.06	-0.02
	p-value	0.208	0.190	0.560	0.798
Age	<i>B</i>				0.20
	p-value				0.004*
School	<i>B</i>		-2.01		
	p-value		0.094*		
n=54 LOR: Length of Residence	<i>B</i>	0.10	0.21	0.06	0.01
	p-value	0.235	0.194	0.565	0.869
Age	<i>B</i>	-0.24			0.19
	p-value	0.041			0.034
School	<i>B</i>		-2.02		
	p-value		0.093*		
n=49 NOS: Number of Older Siblings	<i>B</i>	0.04	-0.07	-0.45	0.09
	p-value	0.914	0.909	0.245	0.742
Age	<i>B</i>	-0.16			0.19
	p-value	0.086*			0.006*
School	<i>B</i>		-2.31		
	p-value		0.054*		
n=55 NYS: Number of Younger Siblings	<i>B</i>	0.09	0.53	0.26	-0.09
	p-value	0.789	0.431	0.520	0.732
Age	<i>B</i>	-0.16			0.19
	p-value	0.087*			0.006*
School	<i>B</i>		-2.40		
	p-value		0.046		

Translanguage Analysis

TRL Categories

Predictors (with Age & School as covariates)		Phonology	Phonology & Orthography	Kana Orthography	Kanji Orthography
Language Use					
n=52 CLUWJP: Child Language Use with the Japanese Parent	<i>B</i>	-0.05	-0.06	-0.03	0.01
	p-value	0.137	0.335	0.358	0.714
Age	<i>B</i>				0.18
	p-value				0.005*
n=55 JPLUWC: Japanese Parent Language Use with Child	<i>B</i>	-0.03	-0.07	-0.05	0.02
	p-value	0.376	0.285	0.209	0.357
Age	<i>B</i>				0.18
	p-value				0.010
School (Individual bilinguals = 1, Community bilinguals = 2)	<i>B</i>		-2.15		
	p-value		0.074*		
n=45 CLUWS: Child Language Use with Siblings	<i>B</i>	-0.10	-0.23	-0.07	0.03
	p-value	0.133	0.046	0.314	0.512
Age	<i>B</i>	-0.18			0.19
	p-value	0.058*			0.004*
n=52 NOVTJ: Number of Visits to Japan	<i>B</i>	-0.24	-0.47	-0.11	0.05
	p-value	0.149	0.118	0.542	0.651
Age	<i>B</i>				0.18
	p-value				0.004*
School	<i>B</i>		-2.85		
	p-value		0.026		
n=51 FOJBR: Frequency of Japanese Book Reading	<i>B</i>	0.10	-0.33	-0.36	-0.01
	p-value	0.541	0.256	0.040	0.941
Age	<i>B</i>				0.18
	p-value				0.004*
n=51 FOPHWJL: Frequency of Parental Help with Japanese Learning	<i>B</i>	0.20	-0.43	-0.04	-0.04
	p-value	0.266	0.198	0.828	0.721
Age	<i>B</i>				0.17
	p-value				0.018
School	<i>B</i>		-2.18		
	p-value		0.075*		
n=52 NOSM: Number of Study Materials	<i>B</i>	-0.06	0.00	-0.04	-0.04
	p-value	0.752	0.991	0.851	0.783
Age	<i>B</i>				0.18
	p-value				0.008*
School	<i>B</i>		-2.23		
	p-value		0.082*		

<i>Translanguage Analysis</i>		TRL Categories			
Predictors (with Age & School as covariates)		Phonology	Phonology & Orthography	Kana Orthography	Kanji Orthography
n=51 VOJTV: Variety of Japanese TV Programs Watched	<i>B</i>	-0.16	-0.53	-0.30	-0.05
	p-value	0.420	0.122	0.160	0.715
Age	<i>B</i>				0.19
	p-value				0.005*
n=51 FOJTV: Frequency of Watching Japanese TV Programs	<i>B</i>	-0.047	-0.131	-0.119	0.056
	p-value	0.452	0.241	0.079*	0.164
Age	<i>B</i>				0.182
	p-value				0.004*
n=46 NOJEI: Number of Japanese Entertainment Items	<i>B</i>	-0.11	-0.27	-0.16	0.21
	p-value	0.473	0.314	0.336	0.024
Age	<i>B</i>				0.14
	p-value				0.022
n=46 FOUJEI: Frequency of Use of Japanese Entertainment Items	<i>B</i>	-0.05	-0.09	-0.08	0.04
	p-value	0.220	0.259	0.087*	0.182
Age	<i>B</i>				0.16
	p-value				0.018
n=51 LANGUSE: Total Language Use	<i>B</i>	-0.01	-0.02	-0.01	0.00
	p-value	0.234	0.134	0.072*	0.319
Age	<i>B</i>				0.18
	p-value				0.006*
Attitudes					
n=33 AVCAT: General Cultural and Group Identification Score	<i>B</i>	0.07	0.00	-0.01	0.00
	p-value	0.080*	0.994	0.594	0.903
Age	<i>B</i>				0.45
	p-value				0.009*
School (Individual bilinguals = 1, Community bilinguals = 2)	<i>B</i>		-2.73		1.03
	p-value		0.027		0.055*
n=33 CAT4&10: Ethnolinguistic Group Identification Score	<i>B</i>	0.02	-0.01	-0.02	0.00
	p-value	0.441	0.896	0.185	0.842
Age	<i>B</i>	-0.30			0.42
	p-value	0.061			0.003*
School	<i>B</i>		-2.78		0.98
	p-value		0.028		0.073*

Translanguage Analysis

TRL Categories

Predictors (with Age & School as covariates)		Grammatical & Morphological Development	Homophone	Grammatical & Morphological Acquisition	English Transference
Origin					
n=62 JJORAJ: Parentage	<i>B</i>	0.27	-0.27	0.47	-0.01
	p-value	0.583	0.191	0.026	0.979
School (Individual bilinguals = 1, Community bilinguals = 2)	<i>B</i>	-2.89	-0.38	-0.45	0.01
	p-value	0.000*	0.252	0.183	0.978
n=54 AOA: Age on Arrival	<i>B</i>	0.04	0.02	-0.05	-0.05
	p-value	0.696	0.667	0.359	0.323
Age	<i>B</i>	0.20			
	p-value	0.08*			
School	<i>B</i>	-2.88			
	p-value	0.001*			
n=54 LOR: Length of Residence	<i>B</i>	-0.04	-0.02	0.04	0.03
	p-value	0.677	0.676	0.454	0.471
Age	<i>B</i>	0.24			
	p-value	0.098			
School	<i>B</i>	-2.88			
	p-value	0.001*			
n=49 NOS: Number of Older Siblings	<i>B</i>	0.03	0.28	-0.25	-0.11
	p-value	0.939	0.142	0.202	0.587
Age	<i>B</i>	0.20			
	p-value	0.075*			
School	<i>B</i>	-2.85		-0.59	
	p-value	0.001*		0.103	
n=55 NYS: Number of Younger Siblings	<i>B</i>	-0.08	-0.03	-0.06	-0.04
	p-value	0.867	0.899	0.768	0.834
Age	<i>B</i>	0.20			
	p-value	0.075*			
School	<i>B</i>	-2.83			
	p-value	0.001*			
Language Use					
n=52 CLUWJP: Child Language Use with the Japanese Parent	<i>B</i>	-0.02	0.02	-0.04	-0.01
	p-value	0.697	0.218	0.030	0.591
School	<i>B</i>	-2.84			
	p-value	0.001*			
n=55 JPLUWC: Japanese Parent Language Use with Child	<i>B</i>	-0.02	0.02	-0.04	0.00
	p-value	0.624	0.244	0.023	0.919
School (Individual bilinguals = 1, Community bilinguals = 2)	<i>B</i>	-2.85			
	p-value	0.001*			

Translanguage Analysis

TRL Categories

Predictors (with Age & School as covariates)		Grammatical & Morphological Development	Homophone	Grammatical & Morphological Acquisition	English Transference
n=4 5	CLUWS: Child Language Use with Siblings	<i>B</i> -0.08	-0.01	-0.06	0.00
		p-value 0.305	0.869	0.087	0.976
	School	<i>B</i> -2.77			
		p-value 0.001*			
n=5 2	NOVTJ: Number of Visits to Japan	<i>B</i> 0.08	-0.10	0.05	-0.09
		p-value 0.710	0.279	0.597	0.307
	School	<i>B</i> -2.79			
		p-value 0.002*			
n=5 1	FOJBR: Frequency of Japanese Book Reading	<i>B</i> -0.14	-0.04	0.01	0.15
		p-value 0.469	0.671	0.956	0.072*
	Age	<i>B</i> 0.19			
		p-value 0.098*			
	School	<i>B</i> -2.49			
		p-value 0.013			
n=5 1	FOPHWJL: Frequency of Parental Help with Japanese Learning	<i>B</i> -0.26	-0.15	0.03	0.02
		p-value 0.257	0.127	0.742	0.844
	School	<i>B</i> -2.88			
		p-value 0.001*			
n=5 2	NOSM: Number of Study Materials	<i>B</i> 0.07	0.05	-0.11	-0.17
		p-value 0.776	0.664	0.346	0.114
	School	<i>B</i> -2.96			
		p-value 0.001*			
n=51	VOJTV: Variety of Japanese TV Programs Watched	<i>B</i> -0.26	-0.09	-0.11	-0.10
		p-value 0.276	0.395	0.283	0.340
	Age	<i>B</i> 0.20			
		p-value 0.083*			
	School (Individual bilinguals = 1, Community bilinguals = 2)	<i>B</i> -2.49			
		p-value 0.006*			
n=51	FOJTV: Frequency of Watching Japanese TV Programs	<i>B</i> -0.093	-0.008	-0.037	0.008
		p-value 0.208	0.819	0.280	0.799
	School	<i>B</i> -2.505			
		p-value 0.005*			

Translanguage Analysis

TRL Categories

Predictors (with Age & School as covariates)		Grammatical & Morphological Development	Homophone	Grammatical & Morphological Acquisition	English Transference
n=46 NOJEI: Number of Japanese Entertainment Items	<i>B</i>	-0.16	0.01	-0.15	-0.20
	p-value	0.365	0.896	0.064*	0.011
Age	<i>B</i>	0.21			
	p-value	0.077*			
School	<i>B</i>	-2.57			
	p-value	0.005*			
<hr/>					
n=46 FOUJEI: Frequency of Use of Japanese Entertainment Items	<i>B</i>	-0.081	0.03	-0.05	-0.05
	p-value	0.122	0.148	0.055*	0.029
Age	<i>B</i>	0.239			
	p-value	0.046			
School	<i>B</i>	-2.418			
	p-value	0.006*			
<hr/>					
n=51 LANGUSE: Total Language Use	<i>B</i>	-0.01	0.00	-0.01	0.00
	p-value	0.279	0.421	0.027	0.679
Age	<i>B</i>	0.19			
	p-value	0.093*			
School	<i>B</i>	-2.66			
	p-value	0.002*			
<hr/>					
Attitudes					
<hr/>					
n=33 AVCAT: General Cultural and Group Identification Score	<i>B</i>	-0.09	0.01	0.03	0.03
	p-value	0.061*	0.513	0.243	0.383
Age	<i>B</i>		0.09		
	p-value		0.064*		
School	<i>B</i>	-3.26			
	p-value	0.000*			
<hr/>					
n=33 CAT4&10: Ethnolinguistic Group Identification Score	<i>B</i>	-0.03	0.00	0.00	0.01
	p-value	0.225	0.868	0.943	0.505
Age	<i>B</i>		0.07		
	p-value		0.070*		
School (Individual bilinguals = 1, Community bilinguals = 2)	<i>B</i>	-3.26			
	p-value	0.000*			

Note: In the following analyses of the TRL type occurrence in the Interview Test, the effects of Age and School as covariates for each predictor were not significant, and thus omitted from the summary.

<i>Interview Test (n=33)</i>		TRL Categories			
Predictors (with Age & School as covariates)		Phonology	Phonology & Orthography	Kana Orthography	Kanji Orthography
* Neither Age nor School by itself has significant effects on these 4 TRL categories.					
Origin					
JJORAJ: Parentage	<i>B</i>	-0.72	1.28	0.80	-0.04
	p-value	0.170	0.393	0.428	0.688
AOA: Age on Arrival	<i>B</i>	-0.08	-0.34	-0.16	-0.01
	p-value	0.472	0.261	0.459	0.659
LOR: Length of Residence	<i>B</i>	0.08	0.33	0.14	0.01
	p-value	0.463	0.253	0.467	0.601
NOS: Number of Older Siblings	<i>B</i>	-0.24	-1.29	-0.77	0.09
	p-value	0.614	0.345	0.406	0.333
NYS: Number of Younger Siblings	<i>B</i>	0.29	-0.01	0.37	-0.06
	p-value	0.557	0.993	0.691	0.501
Language Use					
CLUWJP: Child Language Use with the Japanese Parent	<i>B</i>	0.04	-0.15	-0.17	0.00
	p-value	0.361	0.242	0.052*	0.815
JPLUWC: Japanese Parent Language Use with Child	<i>B</i>	0.05	-0.22	-0.16	0.01
	p-value	0.312	0.090*	0.068*	0.440
CLUWS: Child Language Use with Siblings	<i>B</i>	0.12	-0.07	-0.26	0.00
	p-value	0.179	0.768	0.138	0.929
NOVTJ: Number of Visits to Japan	<i>B</i>	-0.60	-0.63	-0.69	0.07
	p-value	0.463	0.257	0.214	0.143
FOJBR: Frequency of Japanese Book Reading	<i>B</i>	0.14	-0.47	-0.21	0.03
	p-value	0.454	0.361	0.556	0.263
FOPHWJL: Frequency of Parental Help with Japanese Learning	<i>B</i>	0.23	0.17	0.08	0.05
	p-value	0.328	0.795	0.862	0.161
NOSM: Number of Study Materials	<i>B</i>	-0.17	-0.77	-1.10	-0.01
	p-value	0.640	0.450	0.109	0.841
VOJTV: Variety of Japanese TV Programs Watched	<i>B</i>	0.15	-1.55	-0.67	0.07
	p-value	0.634	0.065*	0.254	0.136
FOJTV: Frequency of Watching Japanese TV Programs	<i>B</i>	-0.11	-0.47	-0.16	0.01
	p-value	0.857	0.007*	0.375	0.610
NOJEI: Number of Japanese Entertainment Items	<i>B</i>	-0.15	-1.04	-0.40	0.03
	p-value	0.477	0.068*	0.313	0.342

<i>Interview Test (n=33)</i>		TRL Categories			
Predictors (with Age & School as covariates)		Phonology	Phonology & Orthography	Kana Orthography	Kanji Orthography
FOUJEL: Frequency of Use of Japanese Entertainment Items	<i>B</i>	-0.03	-0.30	-0.12	0.00
	p-value	0.559	0.052*	0.250	0.797
LANGUSE: Total Language Use	<i>B</i>	0.01	-0.04	-0.02	0.00
	p-value	0.439	0.153	0.204	0.648
Attitudes					
AVCAT: General Cultural and Group Identification Score	<i>B</i>	0.08	0.23	0.06	-0.01
	p-value	0.051*	0.033	0.429	0.313
CAT4&10: Ethnolinguistic Group Identification Score	<i>B</i>	0.04	0.15	0.03	0.09
	p-value	0.079*	0.035	0.606	0.312
<i>Interview Test (n=33)</i>		TRL Categories			
Predictors (with Age & School as covariates)		Grammatical & Morphological Development	Homophone	Grammatical & Morphological Acquisition	English Transference
Age	<i>B</i>		-0.05	-0.09	
	p-value		0.074*	0.062*	
School (Individual bilinguals = 1, Community bilinguals = 2)	<i>B</i>	-4.11		-1.30	-3.94
	p-value	0.068*		0*	0.000*
Origin					
JJORAJ: Parentage	<i>B</i>	2.91	-0.07	0.11	2.19
	p-value	0.105	0.505	0.532	0.007*
AOA: Age on Arrival	<i>B</i>	-0.63	0.01	-0.01	-0.30
	p-value	0.086*	0.593	0.787	0.082*
LOR: Length of Residence	<i>B</i>	0.60	-0.01	0.01	0.27
	p-value	0.084*	0.603	0.797	0.098
NOS: Number of Older Siblings	<i>B</i>	-0.09	-0.04	0.03	-0.14
	p-value	0.957	0.666	0.864	0.860
NYS: Number of Younger Siblings	<i>B</i>	-2.54	0.00	-0.09	-0.45
	p-value	0.127	0.960	0.553	0.570

<i>Interview Test (n=33)</i>		TRL Categories			
Predictors (with Age & School as covariates)		Grammatical & Morphological Development	Homophone	Grammatical & Morphological Acquisition	English Transference
Language Use					
CLUWJP: Child Language Use with the Japanese Parent	<i>B</i>	-0.16	-0.01	-0.02	-0.17
	p-value	0.298	0.509	0.089*	0.015
JPLUWC: Japanese Parent Language Use with Child	<i>B</i>	-0.27	0.00	-0.02	-0.22
	p-value	0.085*	0.843	0.270	0.002*
CLUWS: Child Language Use with Siblings	<i>B</i>	-0.04	-0.02	-0.02	-0.37
	p-value	0.868	0.167	0.485	0.006*
NOVTJ: Number of Visits to Japan	<i>B</i>	-2.03	-0.01	-0.16	-0.64
	p-value	0.032	0.830	0.082*	0.153
FOJBR: Frequency of Japanese Book Reading	<i>B</i>	-0.99	-0.05	-0.11	-0.66
	p-value	0.101	0.187	0.068*	0.015
FOPHWJL: Frequency of Parental Help with Japanese Learning	<i>B</i>	0.60	-0.02	0.00	0.28
	p-value	0.444	0.667	0.982	0.447
NOSM: Number of Study Materials	<i>B</i>	-0.14	-0.12	-0.05	0.09
	p-value	0.908	0.091*	0.672	0.875
VOJTV: Variety of Japanese TV Programs Watched	<i>B</i>	-0.78	-0.04	0.03	-1.01
	p-value	0.459	0.467	0.792	0.030
FOJTV: Frequency of Watching Japanese TV Programs	<i>B</i>	-0.30	-0.01	-0.03	-0.26
	p-value	0.393	0.526	0.200	0.056*
NOJEI: Number of Japanese Entertainment Items	<i>B</i>	-1.05	-0.04	0.02	-0.45
	p-value	0.130	0.336	0.800	0.160
FOUJEI: Frequency of Use of Japanese Entertainment Items	<i>B</i>	-0.29	0.00	0.00	-0.15
	p-value	0.124	0.660	0.802	0.085*
LANGUSE: Total Language Use	<i>B</i>	-0.05	0.00	0.00	-0.04
	p-value	0.117	0.621	0.203	0.005*
Attitudes					
AVCAT: General Cultural and Group Identification Score	<i>B</i>	0.22	0.00	0.01	0.03
	p-value	0.097	0.687	0.533	0.683
CAT4&10: Ethnolinguistic Group Identification Score	<i>B</i>	0.13	0.00	0.01	0.00
	p-value	0.224	0.487	0.421	0.969

Interview Test (n=33)

Predictors (with Age & School as covariates)		Interview Test Score	Total TRL type Occurrence
Origin			
JJORAJ: Parentage	<i>B</i>	-7.76	7.71
	p-value	0.025	0.079*
Age	<i>B</i>	2.74	
	p-value	0.005*	
School (Individual bilinguals = 1, Community bilinguals = 2)	<i>B</i>	10.26	-13.31
	p-value	0.018	0.018
AOA: Age on Arrival	<i>B</i>	1.57	-1.57
	p-value	0.025	0.079*
Age	<i>B</i>	2.55	
	p-value	0.008*	
School	<i>B</i>	8.22	-11.58
	p-value	0.059*	0.042
LOR: Length of Residence	<i>B</i>	-1.48	1.49
	p-value	0.025	0.080*
Age	<i>B</i>	3.97	-2.62
	p-value	0.001*	0.068*
School	<i>B</i>	8.16	-11.21
	p-value	0.061*	0.051*
NOS: Number of Older Siblings	<i>B</i>	2.37	-3.92
	p-value	0.471	0.336
Age	<i>B</i>	2.84	
	p-value	0.007*	
School	<i>B</i>	11.65	-15.29
	p-value	0.014	0.010
NYS: Number of Younger Siblings	<i>B</i>	1.72	-1.55
	p-value	0.608	0.710
Age	<i>B</i>	2.91	
	p-value	0.006*	
School	<i>B</i>	10.95	-14.31
	p-value	0.020	0.015
Language Use			
CLUWJP: Child Language Use with the Japanese Parent	<i>B</i>	0.69	-0.82
	p-value	0.015	0.023
Age	<i>B</i>	2.48	
	p-value	0.012	
School	<i>B</i>	9.38	-12.61
	p-value	0.031	0.024

<i>Interview Test</i>		(n=33)	
Predictors (with Age & School as covariates)		Interview Test Score	Total TRL type Occurrence
JPLUWC: Japanese Parent Language Use with Child	<i>B</i>	0.83	-1.03
	p-value	0.005*	0.006*
Age	<i>B</i>	2.91	
	p-value	0.003*	
School (Individual bilinguals = 1, Community bilinguals = 2)	<i>B</i>	11.08	-14.54
	p-value	0.009*	0.007*
CLUWS: Child Language Use with Siblings	<i>B</i>	1.02	-0.92
	p-value	0.064*	0.183
Age	<i>B</i>	3.46	-2.40
	p-value	0.004*	0.092
School	<i>B</i>	10.65	-15.09
	p-value	0.022	0.012
NOVTJ: Number of Visits to Japan	<i>B</i>	4.59	-4.83
	p-value	0.011	0.037
Age	<i>B</i>	2.61	
	p-value	0.008*	
School	<i>B</i>	14.07	-17.58
	p-value	0.003*	0.005*
FOJBR: Frequency of Japanese Book Reading	<i>B</i>	2.47	-2.96
	p-value	0.032	0.042
Age	<i>B</i>	2.64	
	p-value	0.010	
FOPHWJL: Frequency of Parental Help with Japanese Learning	<i>B</i>	-1.55	0.92
	p-value	0.310	0.635
School	<i>B</i>	9.80	-12.84
	p-value	0.044	0.039
NOSM: Number of Study Materials	<i>B</i>	1.70	-3.01
	p-value	0.475	0.314
Age	<i>B</i>	2.70	
	p-value	0.019	
School	<i>B</i>	8.51	-10.88
	p-value	0.091*	0.084
VOJTV: Variety of Japanese TV Programs Watched	<i>B</i>	3.91	-4.83
	p-value	0.047	0.051*
Age	<i>B</i>	2.33	
	p-value	0.024	

Interview Test (n=33)

Predictors (with Age & School as covariates)		Interview Test Score	Total TRL type Occurrence
FOJTV: Frequency of Watching Japanese TV Programs	<i>B</i>	1.054	-1.275
	p-value	0.065*	0.076*
Age	<i>B</i>	2.366	
	p-value	0.024	
NOJEI: Number of Japanese Entertainment Items	<i>B</i>	2.18	-3.59
	p-value	0.104	0.030
Age	<i>B</i>	2.29	
	p-value	0.030	
FOUJEI: Frequency of Use of Japanese Entertainment Items	<i>B</i>	0.69	-1.03
	p-value	0.059*	0.021
Age	<i>B</i>	2.08	
	p-value	0.047	
LANGUSE: Total Language Use	<i>B</i>	0.15	-0.19
	p-value	0.012	0.012
Age	<i>B</i>	2.49	
	p-value	0.013	
School (Individual bilinguals = 1, Community bilinguals = 2)	<i>B</i>	7.97	-10.67
	p-value	0.069*	0.053
Attitudes			
AVCAT: General Cultural and Group Identification Score	<i>B</i>	-0.39	0.61
	p-value	0.150	0.064*
Age	<i>B</i>	1.99	
	p-value	0.080*	
School	<i>B</i>	9.92	-12.52
	p-value	0.031	0.026
CAT4&10: Ethnolinguistic Group Identification Score	<i>B</i>	-0.22	0.37
	p-value	0.206	0.077
Age	<i>B</i>	2.51	
	p-value	0.016	
School	<i>B</i>	9.52	-11.67
	p-value	0.044	0.042

BIBLIOGRAPHY

- ABS (1991) *Census of the Commonwealth of Australia*. Canberra: Australian Bureau of Statistics.
- ABS (1996) *Census of the Commonwealth of Australia*. Canberra: Australian Bureau of Statistics.
- Akita, K. & G. Hatano (1999) Learning to Read and Write in Japanese. Harris, M. & G. Hatano eds. *Learning to Read and Write*. Cambridge: Cambridge University Press. 214-235.
- Association for Japanese-Language Teaching. (1994) *Japanese for Busy People*. I, Revised edition, Tokyo: Kodansha International
- Au, S. Y. (1988) A critical appraisal of Gardner's social-psychological theory of second-language (L2) learning. *Language Learning*, 38, 75-100.
- Australian Embassy (1993) *The Australia-Japan Relationship*. 12th edition, Tokyo (in Japanese)
- Australian Government Publication Service. (1991) *Australia's Language: the Australian language and literacy policy*. Canberra
- Baker, C. (1993) *Foundations of Bilingual Education and Bilingualism*. Clevedon, Avon, England: Multilingual Matters.
- Baker, C. & S. Prys Jones (1998) *Encyclopedia of Bilingualism and Bilingual Education*. Clevedon, Avon, England: Multilingual Matters.
- Baynham, M. (1995) *Literacy Practices: Investigating Literacy in Social Contexts*. London: Longman.
- Berthold, M. ed. (1995) *Rising to the Bilingual Challenge: ten years of Queensland secondary school immersion*. Canberra : National Languages and Literacy Institute of Australia.
- Bettoni, C. & Gibbons, J. (1988) Linguistic purism and language shift. *International Journal of the Sociology of Language* 72, 15-35.
- Bialystok, E. (1987a) Influences of bilingual on metalinguistic development. *Second Language Research* 3 (2), 154-166.
- Bialystok, E. (1987b) Words as things: Development of word concept by bilingual children. *Studies in Second language Learning* 9, 133-140.
- Bialystok, E. (1991) Metalinguistic dimensions of bilingual language proficiency. E. Bialystock ed. *Language Processing in Bilingual Children*. Cambridge: Cambridge University Press. 113-141
- Bloomfield, L. (1935) *Language*. London: Allen and Unwin.
- Bostwick, M. R. (1995) After 30 years: The immersion experiment arrives in Japan. *The Language Teacher*. Vol. 19, No. 5, Tokyo: The Japan Association for Language Teaching, 3-6.
- Butcher, L. S. (1995) *Mother Tongue Literacy Maintenance Among the Children of Recent Chinese Immigrants in Brisbane*. Adelaide: Helios

- Carringer, D. C. (1974) Creative thinking abilities of Mexican youth: the relationship of bilingualism. *Journal of Cross-Cultural Psychology*, 5, 492-504.
- Cazabon, M. T., Nicoladis, E. & W. E. Lambert (1999) Becoming bilingual in the Amigos two-way immersion program. *Digest*, December '98 [On-line]. Washington, DC: Center for Applied Linguistics. Available Internet at: <http://www.cal.org/ericcll/>
- Chapelle, C. & C. Roberts (1986) Ambiguity tolerance and field independence as predictors of proficiency in English as a second language. *Language Learning*, 36, 27-45.
- Clarke, H. D. B. & M. Hamamura (1981) *Colloquial Japanese*. 5th edition, London: Routledge
- Clarkson, P. C. & P. Galbraith (1992) Bilingualism and mathematics learning: Another perspective. *Journal for Research in Mathematics Education* 23 (1), 34-44.
- Clyne, M. (1968) The maintenance of bilingualism. *The Australian Journal of Education*, 12, 125-30.
- Clyne, M. (1972) *Perspectives on Language Contact: based on a study of German in Australia*. Melbourne: Hawthorn Press.
- Clyne, M. (1991) *Community Languages: the Australian experience*. Cambridge: Cambridge University Press.
- Clyne, M. & S. Kipp (1996) Language maintenance and language shift in Australia, 1991. *Australian Review of Applied Linguistics*. 19. 1, 1-19.
- Clyne, M., Fernandez, S., Chen, I. M. & R. Summo-O'Connell (1997) *Background Speakers: Diversity and its Management in LOTE Programs*. ACT: Language Australia.
- Cohen, A. D. (1975) *A Sociolinguistic Approach to Bilingual Education: experiments in the Southwest*. Rowly, Mass.: Newbery House.
- Cohen, A. D. (1989) Attrition in the productive lexicon of two Portuguese third language speakers. *Studies in Second Language Acquisition*, 11, 135-149.
- Conklin, N. & M. Lourie (1983) *A Host of Tongues*. New York. The Free Press.
- Corder, S. P. (1967) The significance of learners' errors. *International Review of Applied Linguistics* 5, 161-9.
- Corder, S. P. (1981) *Error Analysis and Interlanguage*. London; New York: Oxford University Press.
- Corson, D (1998) *Changing Education for Diversity*. Buckingham [England]; Philadelphia: Open University Press,
- Corson, D (1999) *Language Policy in Schools: a resource for teachers and administrators*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Coulmas, F. (1999) The Far East. *Handbook of Language & Ethnic Identity*. Fishman, J. A. ed. New York: Oxford University Press. 399-413.
- Crookes, G. & R. Schmidt (1991) Motivation: Reopening the research agenda. *Language Learning*, 41(4), 469-512.

- Cummins, J. (1976) The influence of bilingualism on cognitive growth: A synthesis of research findings and explanatory hypothesis. *Working Papers on Bilingualism* 9, 1-43.
- Cummins, J. (1978) Bilingualism and the development of metalinguistic awareness. *Journal of Cross-Cultural Psychology*, 9, 131-149.
- Cummins, J. (1979) Cognitive/academic language proficiency, linguistic interdependence, the optimum age question and some other matters. *Working Papers on Bilingualism*, No. 19, 197-205.
- Cummins, J. (1980a) Psychological assessment of immigrant children: logic or intuition. *Journal of Multilingual and Multicultural Development*. 1, (2), 97-111
- Cummins, J. (1980b) The construct of language proficiency in bilingual education. James, E. A. ed. *Current Issues in Bilingual Education*. Washington, DC: Georgetown University Press.
- Cummins, J. (1981a) *Bilingualism and Minority Language Children*. Ontario: Ontario Institute for Studies in Education.
- Cummins, J. (1981b) The role of primary language development in promoting educational success for language minority students. California State Department of Education ed. *Schooling and Language Minority Students: a theoretical framework*. Los Angeles: Evaluation, Assessment and Dissemination Center, California State University.
- Cummins, J. (1983) *Heritage Language Education: a literature review*. Ontario: ministry of Education.
- Cummins, J. (1984a) *Bilingualism and special education: issues in assessment and pedagogy*. Clevedon, Avon, England: Multilingual Matters.
- Cummins, J. (1984b) Wanted: A theoretical framework for relating language proficiency to academic achievement among bilingual students. Rivera, C. ed. *Language Proficiency and Academic Achievement*. Clevedon, England: Multilingual Matters. 2-19.
- Cummins, J. (1987) Bilingualism, language proficiency and metalinguistic development. P. Homel, M. Palić & D. Aaronson eds. *Childhood Bilingualism: aspects of linguistic, cognitive and social development*. Hillsdale NJ: LEA.
- Cummins, J. (1989) Language and literacy acquisition in bilingual contexts. *Journal of Multilingual and Multicultural Development*, 10, (1), 17-31
- Cummins, J. (1991) Interdependence of first-and second-language proficiency in bilingual children. Bialystok, E. ed. *Language Processing in Bilingual Children*. Cambridge: Cambridge University Press. 70-90
- Cummins, J. (1992) Heritage language teaching in Canadian schools. *Journal of Curriculum Studies* 24 (3), 281-286.
- Cummins, J. (2000) *Language, Power and Pedagogy: bilingual children in crossfire*. Clevedon, Avon, England: Multilingual Matters.
- Cummins, J. & Danesi, M. (1990) *Heritage Languages: the development and denial of Canada's linguistic resources*. Toronto: Our Schools/Ourselves Education foundation & Garamond Press.

- Cummins, J. & M. Gulutsan (1974) Some effects of bilingualism on cognitive functioning. Carey, S. T. ed. *Bilingualism, Biculturalism and Education*. Edmonton: The University of Alberta Press.
- Cummins, J., J. Lopes & M. L. King (1987) The language use patterns, language attitudes, and bilingual proficiency of Portuguese Canadian children in Toronto. B. Harley, P. Allen, J. Cummins & M. Swain eds. *The Development of Bilingual Proficiency*. Vol. III: *Social context and age*. Final report submitted to the Social Sciences and Humanities Research Council. Toronto: Ontario Institute for Studies in Education. 23-50.
- Cummins, J. & K. Nakajima (1987) Age of arrival, length of residence, and interdependence of literacy skills among Japanese immigrant students. B. Harley, P. Allen, J. Cummins, & M. Swain eds. *The Development of Bilingual Proficiency*. Vol. III: *Social context and age*. Final report submitted to the Social Sciences and Humanities Research Council. Toronto: Ontario Institute for Studies in Education. 183-192.
- Cummins, J. & R. Mulcahy (1978) Orientation to language in Ukrainian-English bilinguals. *Child Development*, 49, 479-82
- Cummins, J. & M. Swain (1984) Analysis-by-rhetoric: reading the text or the reader's own projections? A reply to Edelsky *et al.* *Applied Linguistics* 4 (1), 23-41.
- Cummins, J., Swain, M., Nakajima, K., Handscombe, J., Green, D., & T. Chau (1984) Linguistic interdependence among Japanese and Vietnamese immigrant students. Rivera, C. ed. *Communicative Competence Approaches to Language Proficiency Assessment: research and application*. Clevedon, England: Multilingual Matters. 60-81.
- Dawe, L. C. (1983) Bilingualism and mathematical reasoning in English as a second language. *Educational Studies in Mathematics* 14 (1), 325-353.
- Dawkins, J. (1991) *Australia's Language: the Australian language and literacy policy*. Canberra: Australian Government Publishing Service.
- De Bot, K., Gommans, P. & C. Rossing (1991) L1 loss in an L2 environment: Dutch immigrants in France. Seliger, H. W & R. M. Vago eds. *First Language Attrition*. Cambridge: Cambridge University Press. 87-98.
- De Houwer, A. (1987) Gender marking in a young Dutch-English bilingual child. *Proceedings of the 1987 Child Language Seminar*. York: University of York. 53-65
- De Houwer, A. (1988) Word order patterns in the speech production of a three-year-old. *ABLA Papers*, 12, 189-206.
- De Houwer, A. (1990) *The Acquisition of Two Languages from Birth: a case study*. New York: Cambridge University Press.
- De Houwer, A. (1996) Bilingual language acquisition. Fletcher, P. & B. Macwhinney eds. *The Handbook of Child Language*. Oxford: Blackwell. 219-250.
- Diaz, R. M. (1985) Bilingual cognitive development: Addressing three gaps in current research. *Child Development* 56, 1376-88.
- Diaz, R. M. & C. Klinger (1991) E. Bialystok ed. *Language Processing in Bilingual Children*. Cambridge: Cambridge University Press.

- Department of Immigration and Multicultural Affairs (DIMA), Australia (1999) *Immigration Update, June Quarter*. Canberra: Australian Government Publishing Service.
- Dodson, C.J. (1983) Living with two languages. *Journal of Multilingual and Multicultural Development* 4, 401-14.
- Dorian, N. C. (1981) *Language Death: the life cycle of Scottish Gaelic dialect*. Philadelphia: University of Pennsylvania Press.
- Döpke, S. (1992) *One Parent One Language: an interactional approach*. Amsterdam: John Benjamins.
- Döpke, S., T. F. McNamara & T. J. Quinn. (1991) Psycholinguistic Aspects of Bilingualism. Liddicoat, A. J. ed. *Bilingualism and Bilingual Education*. Melbourne: National languages Institute of Australia. 21-81.
- Edwards, J. (1985) *Language, Society and Identity*. Oxford: Blackwell.
- Ellis, R. (1994) *The Study of Second Language Acquisition*. Oxford: Oxford University Press.
- Ellis, R. (1997) *Second Language Acquisition*. Oxford: Oxford University Press.
- Ervin, S. M. & C. E. Osgood. (1954) Second language learning and bilingualism. *Journal of Abnormal and Social Psychology*. Supplement, 49, 139-146.
- Fishman, J. A. (1991) *Reversing Language Shift*. Clevedon, Avon, England: Multilingual Matters.
- Fries, C. (1945) *Teaching and Learning English as a Foreign Language*. Ann Arbor: The University of Michigan Press.
- Fukushima, C. (1995) From Japanese to English: a case study of the bilingual acquisition of a young Japanese child. *The Language Teacher*. Vol. 19, No. 5. Tokyo: The Japan Association for Language Teaching, 21-25.
- Gale, K., McClay, D., Christie, M. & S. Harris (1981) Academic achievement in the Milingimbi bilingual education program. *TESOL Quarterly* 15 (3), 297-314
- Galambos, S. J. & K. Hakuta (1988) Subject-specific and task-specific characteristics of metalinguistic awareness in bilingual children. *Applied Psycholinguistics* 9, 141-162.
- García, E. (1983) *Early Childhood Bilingualism*. Albuquerque: University of New Mexico Press.
- Gardner, R. C. (1979) Social psychological aspects of second language acquisition. Giles, H. & R. St. Clair eds. *Language and Social Psychology*. Oxford: Blackwell.
- Gardner, R. C. (1985) *Social Psychology and Second Language Learning*. London: Edward Arnold.
- Gardner, R. C. (1988) The socio-educational model of second-language learning: assumptions, findings, and issues. *Language Learning*, 38, 101-26.
- Gardner, R. C. & Lambert, W. E. (1972) *Attitudes and Motivation in Second Language Learning*. Rowly, Mass.: Newbery House.
- Garton, A. & C. Pratt (1998) *Learning to be Literate*. 2nd edition, Oxford: Blackwell.

- Gass, S. & L. Selinker eds. (1992) *Language Transfer in Language Learning*. Amsterdam/Philadelphia. John Benjamins.
- Gatt-Rutter, J. (1992) *Transgenerational Language Maintenance? Policy Options For Australia*. Brisbane: Griffith University.
- Genesee, F. (1983) Bilingual education of majority-language children: The immersion experiments in review. *Applied Psycholinguistics*, 4, 1-45.
- Genesee, F. (1987) *Learning Through Two Languages*. Cambridge, MA: Newbury House.
- Genesee, F. (1989) Early bilingual development: One language or two? *Journal of child Language* 16 (1), 161-79.
- Genesee, F. ed. (1994) *Educating Second Language Children: the whole child, the whole curriculum, the whole community*. Cambridge: Cambridge University Press.
- Geracitano, P. (1977) Bilingual-bicultural education in a multicultural society. Bowen, M. ed. *Australia 2000: the ethnic impact*. Armidale: University of New England. 109-128.
- Gibbons, J. (1987) *Code-Mixing and Code Choice – a Hong Kong Case Study*. Clevedon: Multilingual Matters.
- Gibbons, J. (1994) Depth or breadth? some issues in LOTE teaching in Australia. *Australian Review of Applied Linguistics*, 17, 1, 1-22.
- Gibbons, J. (1997) Australian bilingual education. Corson, D. & J. Cummins eds. *Encyclopedia of Language & Education, Vol.5: Bilingual Education*. Dordrecht; Boston : Kluwer Academic Publishers. 209-215.
- Gibbons, J. (1999) Register aspects of literacy in Spanish. *Written Language and Literacy*, Vol.2 (1), 63-88.
- Gibbons, J & Lascar, E. (1998) Operationalising academic language proficiency in bilingualism research. *Journal of Multilingual and Multicultural Development*, Vol.19, No.1, 40-49.
- Gibbons, J., Lascar, E. & M. I. Morales (1999) The role of social class and home literacy practices in proficiency in a group of Chilean Adolescents. *Language and Literacies: British Studies in Applied Linguistics*, 14 Clevedon: Multilingual Matters.
- Gibbons, J., White, W. & P. Gibbons (1994) Combating educational disadvantages among Lebanese Australian children. Skutnabb-Kangas, T. & R. Phillipson eds. *Linguistic Human Rights: overcoming linguistic discrimination*. Berlin; New York: Mouton de Gruyter. 253-262.
- Gibson, M. (1991) Minorities and schooling: some implications. Gibson, M. & J. Ogbu eds. *Minority Status and Schooling: a comparative study of immigrant and involuntary minorities*. New York: Garland. 357-381.
- Giles, H., Bourhis, R. & D. Taylor (1977) Towards a theory of language in ethnic group relations. Giles, H. ed. *Language, Ethnicity and Intergroup Relations*. London: Academic Press.

- Giles, H. & P. Johnson (1987) Ethnolinguistic identity theory: A social psychological approach to language maintenance. *International Journal of the Sociology of Language*, 68: 256-269.
- Goodman, K., Smith, E., Meredith, R. & Y. Goodman (1987) *Language and Thinking in School*. New York: Richard C. Owen.
- Goodz, N. (1989) Parental language mixing in bilingual families. *Infant Mental Health Journal*, 10, 25-44.
- Goodz, N. (1994) Interactions between parents and children in bilingual families. Genesee, F. ed. *Educating Second Language Children*. Cambridge: Cambridge University Press.
- Gorrel, J. J., Bregman, N. J., McAllistair, H. A. & T. J. Lipscombe (1982) A comparison of spatial role-taking in monolingual and bilingual children. *Journal of Genetic Psychology*, 140, 3-10.
- Grin, F. ed. (1999) Economics. *Handbook of Language & Ethnic Identity*. Fishman, J. A. ed. New York: Oxford University Press. 9-24.
- Grosjean, F. (1982) *Life with Two Languages*. Cambridge, MA: Harvard University Press
- Gudykunst, W. B. & K. L. Schmidt eds. (1988) *Language and Ethnic Identity*. Clevedon, England: Multilingual Matters.
- Halliday, M. A. K. (1989) *Spoken and Written Language*. 2nd ed. Oxford: Oxford University Press.
- Halliday, M. A. K. & J.R. Martin. (1993) *Writing Science: literacy and discursive power*. London: Falmer Press.
- Halliday, M. A. K. & C. M. I. M. Matthiessen. (1999) *Construing Experience Through Meaning : a language-based approach to cognition*. London: Cassell.
- Hamers, J. F. (1981) Psychological approaches to the development of bilinguality. Baetens Beardsmore, H. ed. *Elements of Bilingual Theory*. Brussels: Vrije Universiteit te Brussels.
- Hamers, J. F. & M. Blanc. (1989) *Bilinguality and Bilingualism*. Cambridge: Cambridge University Press.
- Hamers, J. F. & M. Blanc. (2000) *Bilinguality and Bilingualism*. 2nd edition, Cambridge: Cambridge University Press.
- Harding, E. & P. Riley. (1986) *The Bilingual Family: a handbook for parents*. Cambridge: Cambridge University Press.
- Harris, Z. (1954) Transfer grammar. *International Journal of American Linguistics*, 20, 259-270.
- Hasan, R & J. R. Martin. eds. (1989) *Language Development: learning language, learning culture*. Norwood, NJ: Ablex Pub. Corp.
- Hatano, G. (1995) The psychology of Japanese literacy: expanding 'the practice account'. Martin, L. M.W., Nelson, K. & E. Tobach eds. *Sociocultural Psychology: theory and practice of doing and knowing*. New York: Cambridge University Press.

- Hatch, E. & A. Lazaraton. (1991) *The Research Manual*. New York: Newbury House Publishers.
- Haugen, E. (1953) *The Norwegian Language in America*, vol. 1, 11, Philadelphia: Univ. of Penn. Press.
- Hermann, G. (1980) Attitudes and success in children's learning of English as a second language: The motivational versus the resultative hypothesis. *English Language Teaching Journal*, 34, 247-254.
- Hongô, M. (1994) Bogo de kawaru oshiekata no pointo—eigo hen [The point of teaching according to mother tongue: English]. *Gekkan Nihongo*, 8, '94.
- Howard, E. & M. Loeb (1998) In their own words: Two-way immersion teachers talk about their professional experiences. *Digest*, December '98 [On-line]. Washington, DC: Center for Applied Linguistics. Available Internet at: <http://www.cal.org/ericcl/>
- Huter, I. J. (1996) Atarashii no kuruma and other old friends—the acquisition of Japanese syntax. *Australian Review of Applied Linguistics*. 19. 1, 39-60
- Ianco-Worrall, A. D. (1972) Bilingualism and cognitive development. *Child Development* 43, 1390-400.
- Ienaga, S. (1960) *Nihon bunka shi*. [The Japanese culture history]. Tokyo: Iwanami Shinsho.
- Ikeda, M. (1972) Nikkeijin no nihongo: nihongo shūtoku ni mirareru mondai. [Japanese of a person of a Japanese descent: problems observed in Japanese acquisition]. *Gengo Seikatsu*, 250, 23-31. Tokyo: Chikuma Shobo.
- Ito, K. (1996) *Kodomo no kotoba—Shūtoku to sōzō*. [Child Language: Acquisition and Creation.] Tokyo: Keiō Shobō.
- Iwasaki, M. (1981) A study of sociological and developmental factors in first language maintenance and second language acquisition of kaigaishijo in New York. Unpublished master's thesis. University of Hawaii.
- Jordens, P. (1992) Discourse functions in interlanguage morphology. Gass, S. & L. Selinker eds. *Language Transfer in Language Learning*. Amsterdam: John Benjamins.
- Joseph, J. E. & T. J. Taylor. eds. (1990) *Ideologies of Language*. London; New York: Routledge.
- Juarez, M. (1983) Assessment and treatment of minority-language-handicapped children: the role of the monolingual speech-language pathologist. *Topics in Language Disorders*, June 1983, 57-66.
- Kalantzis, M. (1985) *The Cultural Deconstruction of Racism: education and multiculturalism*. Annandale, N.S.W.: Common Ground.
- Kalantzis, M. Cope, B. Noble, G. & S. Poynting (1990) *Cultures of Schooling: pedagogies for cultural difference and social access*. London: The Falmer Press.
- Kessler, C. (1984) Language acquisition in bilingual children. *Bilingualism and Language Disability*. Miller, N. ed. London & Sydney: Croom Helm. 26-54

- Kessler, C. & M. E. Quinn (1987) Cognitive development in bilingual environments. Hartford, B., Valdman, A. & R. Foster eds. *Issues in International bilingual Education: the role of the vernacular*. New York: Plenum Press.
- Kipp, S., M. Clyne & A. Pauwels (1995) *Immigration and Australia's Language Resources*. Canberra: Australian Government Publishing Service.
- Kloss, H. (1966) German American language maintenance efforts. Fishman, J. A. ed. *Language Loyalty in the United States*. Mouton: The Hague.
- Kondo, K. (1998) Japanese language learning, academic achievement and identity: voices of new second generation Japanese American university students in Hawaii. Unpublished doctoral dissertation. University of Hawaii.
- Kwong, W. Y. (1981) Ethnic identity and language: a look at language use among Chinese in Sydney. *Australian Review of Applied Linguistics*. 4, 2, 64-76.
- Lado, R. (1957) *Linguistics across Cultures*. The University of Michigan Press.
- Lambert, R. D. & B. F. Freed eds. (1982) *The Loss of Language Skills*. Rowley, Mass: Newbury House Publishers
- Lambert, W. E. (1955) Measurement of the linguistic dominance in bilinguals. *Journal of Abnormal and Social Psychology*, 50, 197-200
- Lambert, W. E. (1974) Culture and language as factors in learning and education. *Cultural Factors in Learning*. F. E. Aboud & R. D. Meade eds. Bellingham: Western Washington state College.
- Lambert, W. E. (1977) The effect of bilingualism on individual: cognitive and sociocultural consequences. Hornby, P. A. *Bilingualism: psychological, social and educational implications*. New York: Academic Press. 5-27
- Laurén, U. (1987) The linguistic competence of mono- and bi-lingual pupils in Swedish in the Finland-Swedish school. *Journal of Multilingual and Multicultural Development* 8, 83-94
- Li, W., Milroy, L. & Ching, P. S. (1992) A two-step sociolinguistic analysis of code-switching and language choice: an example of a bilingual Chinese community in Britain. *International Journal of Applied Linguistics*, 2 (1), 63-86.
- Liebkind, K. (1999) Social psychology. *Handbook of Language & Ethnic Identity*. Fishman, J. A. ed. New York: Oxford University Press. 140-151.
- Liddicoat, A. ed. (1991) *Bilingualism and Bilingual Education*. Melbourne: National languages Institute of Australia.
- Lightbown, P. M. & Spada, N. (1993) *How Languages Are Learned*. Oxford: Oxford University Press.
- Lindholm, K. & A. Padilla (1978) Language mixing in bilingual children. *Journal of Child Language* 5 (2), 327-35.
- Lo Bianco, J (1987) *National Policy on Languages*. Canberra: Australian Government Publishing Service.
- Lo Bianco, J (1997) English and pluralistic policies in Australia. Eggington, W & H. Wren eds. *Language Policy*. Canberra: Language Australia. 107-120.

- Luke, A. & Kale, J. (1997) Learning through difference: cultural practices in early childhood socialization. Gregory, E. ed. *One Child, Many Worlds: early learning in multicultural communities*. New York: Teachers College Press. 11-30.
- Lüdi, G. (1997) Towards a better understanding of biliteracy. Pontecorvo, C. ed. *Writing Development: an interdisciplinary view*. Philadelphia: John Benjamins. 206-218.
- Lyon, J. (1996) *Becoming Bilingual: language acquisition in a bilingual community*. Clevedon: Multilingual Matters.
- Mackie, V. C. (1982) *Japanese Children and Politeness*. Papers of the Japanese Studies Centre, 6 Melbourne: Japanese Studies Centre.
- Macnamara, J. (1966) *Bilingualism and Primary Education: a study of Irish experience*. Edinburgh: Edinburgh University Press.
- MacNamara, T. F. (1987a) Language and social identity: Israelis abroad. *Journal of language and Social Psychology* 6, 3&4: 215-228.
- MacNamara, T. F. (1987b) Language and social identity: some Australian studies. *Australian Review of Applied Linguistics* 10, 2: 33-58.
- MacNamara, T. F. (1988) Language and social identity. Gudykunst, W. B. & K. L. Schmidt eds. *Language and Ethnic Identity*. Clevedon, England: Multilingual Matters. 59-72.
- Makin, L., Campbell, J. & C. J. Diaz (1995) *One Childhood, Many Languages: guidelines for early childhood education in Australia*. Pymble, NSW: HarperEducational.
- Makino, S & M. Tsutsui (1989) *A Dictionary of Basic Japanese Grammar = Nihongo kihon bunpo jiten*. Tokyo: Japan Times.
- Martin, S. M. (1988) *A Reference Grammar of Japanese*. Rutland, Vt.: C.E. Tuttle Co.
- Martin-Jones, M. & Romaine, S. (1986) Semilingualism: a half-baked theory of communicative competence. *Applied Linguistics*, Vol.7, No.1, 26-38.
- Meisel, J. M. (1989) Early differentiation of languages in bilingual children. Hyltenstam, K. & L. Obler eds. *Bilingualism Across the Lifespan: aspects of acquisition, maturity and loss*. Cambridge: Cambridge University Press, 13-40
- Meisel, J. M. (1990) Grammatical development in the simultaneous acquisition of two first languages. Meisel, J. ed. *Two First Languages: early grammatical development in bilingual children*. Dordrecht: Foris, 5-22
- Mikes, M. (1990) Some issues of lexical development in early bi- and trilinguals. ContiRamsden, G. & C. Snow eds. *Children's Language*, vol. 7, Hillsdale, NJ: Lawrence Erlbaum Associates, 103-20
- Milroy, L. (1980) *Language and Social Networks*. Oxford: Blackwell.
- Ministry of Foreign Affairs. (1998) *Annual Report of Statistics on Japanese Nationals Overseas*. Tokyo: Ministry of foreign Affairs.
- Ministry of Foreign Affairs. (1999) *Annual Report of Statistics on Japanese Nationals Overseas*. Tokyo: Ministry of foreign Affairs.

- Mizutani, N. (1994) *Jitsurei de manabu goyō bunseki no hōhō*. [The Error Analysis Methodology with Actual Examples.] Tokyo: Aruku.
- Mizutani, N. (1997) Goyō bunseki II [Error analysis II]. Meijishoin kikaku bu ed. *Nihongo goyō bunseki* [Error Analysis of Japanese]. Tokyo: Meijishoin.
- Mohan, B. A. & W. A. Lo (1985) Academic writing and Chinese students: transfer and developmental factors. *TESOL Quarterly*, 19 (3), 514-34.
- Mohanty, A. K. & N. Babu (1983) bilingualism and metalinguistic ability among Kond tribals in Orissa, India. *The Journal of Social Psychology*, 121, 15-22
- Muranaka, H. (1999) Some aspects of Japanese-English childhood bilingualism: Do parental input and the strong language affect the child's language acquisition pattern? Unpublished master's thesis. University of Sydney.
- Nagaoka, Y. (1998) A descriptive study of Japanese biliterate students in the United States: Bilingualism, language-minority education, and teachers' role. Unpublished doctoral thesis. University of Massachusetts Amherst.
- Nagara, S. ed. (1990) *Japanese for Everyone*. Tokyo: Gakken
- NMAC (the National Multicultural Advisory Council) (1999) *Australian Multiculturalism for a New Century: Towards Inclusiveness*. Canberra: Australian Government Publishing Service. Available Internet at: <http://www.immi.gov.au/package/multicul.htm>
- Neville, G. (1987) Minority languages in contemporary France. *Journal of Multilingual and Multicultural Development*, Vol.8, No. 1&2, 147-157.
- Nieto, S. (1993) Linguistic diversity in multicultural classrooms. Shapiro, H. S. & D. E. Purpel eds. *Critical Social Issues in American Education*. New York: Longman. 194-211.
- Nieto, S. (1996) *Affirming Diversity*. 2nd edition, New York: Longman.
- Niyekawa, A. (1983) Biliteracy acquisition and its sociocultural effects. Chu-chang, M. ed. *Asian-and Pacific-American Perspectives in Bilingual Education: comparative research*. New York: Teacher's College, Columbia University. 97-119.
- Noguchi, M. G. (1995) The immersion factor: An interview with Dr. Fred Genesee. *The Language Teacher* Vol. 19, No. 5, Tokyo: The Japan Association for Language Teaching, 9-10.
- Noguchi, M. G. & M. Yamamoto eds. (1995) Bilingualism. *The Language Teacher* Vol. 19, No. 5, Tokyo: The Japan Association for Language Teaching, 21-25.
- Noguchi, S. (1998) Returning to the homeland: perception of linguistic change among overseas Japanese instructors. Bramley, N. & N. Hanamura eds. *Issues in the Teaching and Learning of Japanese*. (Australian Review of Applied Linguistics, Series S, No.15), 105-123
- Obgu, J. (1991) Immigrant and involuntary minorities. Gibson, M. & J. Ogbu eds. *Minority Status and Schooling: a comparative study of immigrant and involuntary minorities*. New York: Garland. 3-33.
- Okada, M. (1993) *Nyūyōku Nihon-jin Kyōiku Jijō*. [Educational Situations of Japanese in New York]. Tokyo: Iwanami Shinsho.

- Okamura-Bichard, F. (1985) Mother tongue maintenance and second language learning: A case of Japanese children. *Language-Learning* 35, 1, March 63-89.
- Oller, J. W., Jr. (1981) Research on the measurement of affective variables: Some remaining questions. Anderson, R. W. ed. *New Dimensions in Second Language Acquisition Research*. 14-27. Rowley, Mass: Newbury House.
- Olshtain, E. (1989) Is second language attrition the reversal of second language acquisition? *Studies in Second Language Acquisition*, 11, 151-165.
- Olshtain, E & M. Barzilay (1991) Lexical retrieval difficulties in adult language attrition. Seliger, H. W & R. M. Vago eds. *First Language Attrition*. Cambridge: Cambridge University Press. 139-150.
- Oshitani, Y. (1998) On the bilinguality of Japanese children in the United States. Unpublished doctoral dissertation. University of Houston Clear Lake.
- Padilla, A. (1999) Psychology. *Handbook of Language & Ethnic Identity*. Fishman, J. A. ed. New York: Oxford University Press. 109-121.
- Padilla, A. & E. Liebman (1975) Language acquisition in the bilingual child. *Bilingual Review*, 34-55.
- Paulston, C. (1982) *Swedish Research and Debate about Bilingualism*. Scoloverstyrelsen: National Swedish Board of Education
- Pearl, E. & W. E. Lambert (1962) The relation of bilingualism to intelligence. *Psychological Monographs* 76 (27), 1-23.
- Pérez, B. & M. E. Torres-Guzmán (1992) *Learning in Two Worlds*. New York: Longman
- Pfaff, C. (1992) The issues of grammaticalization in early German second language. *Studies in Second Language Acquisition*, 14, 273-96.
- Phillipson, R. (1999) Political science. *Handbook of Language & Ethnic Identity*. Fishman, J. A. ed. New York: Oxford University Press. 94-108.
- Pienemann, M. (1998) *Language Processing and Second Language Development: Processability Theory*. Amsterdam; Philadelphia: John Benjamins.
- Poplack, S., Wheeler, S. & A. Westwood (1989) Distinguishing language contact phenomena: Evidence from English-Finish bilingualism. Hyltenstan, K. & L. Obler eds. *Bilingualism across the Lifespan*. Cambridge: Cambridge University Press.
- Portes, A. & R. G. Rumbaut (1990) *Immigrant America: a portrait*. Berkeley, CA: University of California Press.
- Rado, M. (1991) Bilingual education. Liddicoat, A. ed. *Bilingualism and Bilingual Education*. Melbourne: National languages Institute of Australia.
- Rampton, B. (1995) *Crossing : language and ethnicity among adolescents*. London; New York: Longman.
- Richmond, A. (1974) *Aspects of the Absorption and Adaptation of Immigrants*. Ottawa: Manpower and Immigration.
- Rodriguez, R. (1984) *Hunger of Memory: the education of Richard Rodriguez*. New York: Bantam Books.

- Romaine, S (1995) *Bilingualism*. 2nd edition, Oxford, UK; Cambridge, Mass., USA: Blackwell
- Rowley, M. (1992) *Kanji Pict-o-graphics*. Berkley, CA: Stone Bridge Press.
- Rueda, R. (1983) Metalinguistic awareness in monolingual and bilingual mildly retarded children. *NABE Journal* 8 (2), 15-34.
- Safran, W. (1999) Nationalism. *Handbook of Language & Ethnic Identity*. Fishman, J. A. ed. New York: Oxford University Press. 77-93.
- Saunders, G. (1988) *Bilingual Children: from birth to teens*. Clevedon: Multilingual Matters
- Saunders, G. (1991) Sociolinguistic aspects of bilingualism: bilingualism and society. Liddicoat, A. J. ed. *Bilingualism and Bilingual Education*. Melbourne: National languages Institute of Australia. 81-141.
- Schlyter, S. (1990) The acquisition of tense and aspect. Meisel, J. ed. *Two First Languages: early grammatical development in bilingual children*. Dordrecht: Foris, 87-122.
- Schnaiberg, L. (1999) California's year on the bilingual battleground. *NABE NEWS* Vol.18 (38) [On-line]. Washington, DC: National Association for Bilingual Education. Available Internet at: <http://www.nabe.org/>
- Scott, S. (1973) The Relation of Divergent Thinking to Bilingualism: Cause or Effect? Unpublished research report. Montreal: McGill University.
- Secombe, M. & Zajda, J. eds. (1999) *J. J. Smolicz on Education & Culture*. Albert Park: James Nicholas Publishers.
- Seliger, H. W. & R. M. Vago (1991) The study of first language attrition: an overview. Seliger, H. W & R. M. Vago eds. *First Language Attrition*. Cambridge: Cambridge University Press. 3-16.
- Selinker, L. (1972) Interlanguag. *IRAL*, 10, 209-31.
- Selinker, L. (1992) *Rediscovering Interlanguage*. London; New York: Longman.
- Shibatani, M (1990) *The Languages of Japan*. Cambridge [England]; New York: Cambridge University Press.
- Skutnabb-Kangas, T. & P. Toukomaa (1976) *Teaching Migrant Children's Mother Tongue and Learning the Language of the Host Country in the Context of the Socio-Cultural situation of the Migrant Family*. Tampere: UNESCO Report, University of Tampere, Research Reports, 15.
- Skutnabb-Kangas, T. & P. Toukomaa (1977) *The Intensive Teaching of the Mother Tongue to Migrant Children of Preschool Age and Children in the Lower Level of Comprehensive School*. Helsinki: The Finnish National Commission for UNESCO.
- Skutnabb-Kangas, T. (1981) *Bilingualism or Not – the Education of Minorities*. Clevedon: Multilingual Matters.
- Skutnabb-Kangas, T. (1990) *Language, Literacy and Minorities: a minority rights group report*. London: The Minority Rights Group.

- Skutnabb-Kangas, T. (1999) Education of minorities. Fishman, J. A. ed. *Handbook of Language & Ethnic Identity*. New York: Oxford University Press. 42-59.
- Smith, M. S. & P. Van Buren (1991) First language attrition and the parameter setting model. Seliger, H. W & R. M. Vago eds. *First Language Attrition*. Cambridge: Cambridge University Press. 17-31.
- Smolicz, J. J. & R. McL. Harris (1977) Ethnic languages in Australia. Bowen, M. ed. *Australia 2000: the ethnic impact*. Armidale: University of New England. 69-93.
- Smolicz, J. J. (1983) Modification and maintenance: language among school-children of Italian background in South Australia. *Journal of Multilingual and Multicultural Development*, 4 (5), 313-37.
- Smolicz, J. J. & Secombe, M. J. (1985) Community languages, core values and cultural maintenance. Clyne, M. ed. *Australia, meeting places of languages*. Canberra: Pacific Linguistics. 11-38.
- Smolicz, J. J. (1994) Australia's language policies and minority rights. Skutnabb-Kangas, T. & R. Phillipson eds. *Linguistic Human Rights: overcoming linguistic discrimination*. Berlin; New York: Mouton de Gruyter. 235-252.
- Spolsky, B. (1999) Second-language learning. Fishman, J. A. ed. *Handbook of Language & Ethnic Identity*. New York: Oxford University Press. 181-192.
- Stanley, J., Ingram, D. & G. Chittick (1990) *The Relationship between International Trade and Linguistic Competence*. Canberra: Australian Government Publishing Service
- Strong, M. (1984) Integrative motivation: cause or effect of successful second language learning. *Language Learning*, 34, 1-14.
- Swain, M. (1972) Bilingualism as a first language. Unpublished PhD thesis, University of California.
- Swain, M. (1984) A review of immersion education in Canada: Research and evaluation studies. California State Department of Education. *Studies on Immersion Education: a collection for US educators*. Sacramento: California State Department of Education. 37-56.
- Swain, M. & S. Lapkin (1982) *Evaluating Bilingual Education: a Canadian case study*. Tronto: Ontario Institute for Studies in Education.
- Tollefson, J. W. (1991) *Planning Language, Planning Inequality*. New York: Longman.
- Tosi, A. (1984) Bilingual education. Problems and practices. Miller, N. ed. *Bilingualism and Language Disability*. London: Croom Helm. 199-219.
- Troike, R. C. (1984) SCALP: Social and cultural aspects of language proficiency. Rivera, C. ed. *Language Proficiency and Academic Assessment*. Clevedon: Multilingual Matters, 10
- Tsushima, W. T. & T. P. Hogan (1975) Verbal ability and school achievement of bilingual and monolingual children of different ages. *Journal of Educational Research*, 68, 349-53.
- Tsujimura, N. (1996) *An Introduction to Japanese Linguistics*. Oxford: Blackwell.

- Vaznaugh, A. (1995) Dropout intervention and language minority youth. *ERIC Digest*, March '95 [On-line]. Washington, DC: ERIC Clearinghouse on Languages and Linguistics. Available Internet at: <http://www.cal.org/ericcll/>
- Vigotsky, L. S. (1962) *Thought and Language*. Cambridge, MA: MIT Press.
- Volterra, V. & T. Taeschner (1978) The acquisition and development of language by bilingual children. *Journal of Child Language* 5 (2), 311-26.
- Waas, M. (1991) On language attrition. Lovejoy, F. ed. *Studies in Language Loss: theoretical, intragenerational, pathological*. Sydney: Holborn Press. 3-20.
- Weinreich, U. (1953) *Languages in Contact: findings and problems*. The Hague: Mouton.
- Williamson, R. C. (1991) *Minority Languages and Bilingualism: case studies in maintenance and shift*. New Jersey: Ablex Publishing Corporation.
- Williamson, R. C. & J. A. Van Eerde eds. (1980) Language Maintenance and Language Shift. *International Journal of the Sociology of Language*, 25. NY: Mouton
- Yamamoto, M. (1990) *Bairingararu —sono jitsuzō to mondaiten—*. [*Bilinguals: their real images and issues*]. Tokyo: Taishukan Shoten.
- Yamamoto, M. (1996) *Bairingararu wa dono yō ni shite gengo o shūtoku suru no ka*. [*How Bilinguals Acquire Languages*.] Tokyo: Akashi Shoten.
- Yoshikawa, T. (1997) Goyō bunseki I [Error analysis I]. Meijishoin kikaku bu ed. *Nihongo goyō bunseki [Error Analysis of Japanese]*. Tokyo: Meijishoin.

Other Publications

- Moshi-Moshi Pages Australia. (1996) *Dōmo - Australia Living Handbook 1996*.
- Moshi-Moshi Pages Australia. (2000) *Dōmo - Australia Living Handbook 2000*.

Newspapers Consulted

- Ikeda, S. (1997, December) Nihongo promunādo dai sankai. [Japanese promenade, No.3] *Nichigo Press*. Sydney. p. 75
- Monk, S. (1999, February 2) Toddlers Can Learn Read and Write. *Sunday Telegraph*. Sydney.
- Sarzin, A. (1999, October 14) A Millennium of Opportunities. *The University of Sydney News*. p. 3

20 APR 2001

UNIVERSITY OF SYDNEY LIBRARY



000000607659330