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Junko Iwasaki
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**The acquisition of Japanese as a second language and
Processability Theory:
A longitudinal study of a naturalistic child learner**

Junko Iwasaki

A thesis submitted in fulfilment of the requirements of the award of
Doctor of Philosophy

Faculty of Community Services, Education and Social Sciences,
Edith Cowan University.

December 2004

ABSTRACT

The aim of this study was to investigate longitudinally how a child learner acquired verbal morpho-syntax in Japanese in a naturalistic second language (L2) context. Specifically the points of emergence for three verbal morpho-syntactic structures, namely verbal inflection, the *V-te* V structure and the passive/causative structure, were investigated within a framework of Processability Theory (PT) (Pienemann, 1998b). The subsequent development of these structures was also examined.

Unlike earlier research about morpheme orders and developmental sequences in language acquisition which was criticised because of its apparent lack of theoretical underpinnings, Pienemann's Processability Theory (PT)(1998b) connects the processability of morpho-syntactic structure to linguistic theories. Pienemann also claims that this theory can be used to explain the acquisition of a wide range of morpho-syntactic structures and that it is typologically plausible and applicable to any language. In recent times PT has been extensively tested in a range of languages acquired as an L2, including German, English and Swedish (Pienemann, 1998b; Pienemann & Håkansson, 1999) and Italian and Japanese (Di Biase & Kawaguchi, 2002). The findings from these studies support this theory.

Following the acquisition criteria proposed by Pienemann (1998b), the current study analyses the points of emergence of verbal morpho-syntactic structures by a seven year old Australian boy who was acquiring Japanese as a second language (JSL) naturalistically. Data were collected through audio taping approximately 90 minute interactions between the child and other Japanese speakers at each of the 26 sessions over a one-year and nine month period. The task-based elicitation method was used to create as spontaneous interaction as possible between the child and his interlocutors.

The results of the study clearly indicate that a developmental sequence of acquisition of verbal morho-syntax does exist in the interlanguage of the naturalistic child learner of JSL, just as has been found with adult learners of JSL. The child acquired the three structures in the order of verbal inflection > the *V-te* V structure > the passive/causative structure as hypothesised by Di Biase and Kawaguchi (2002), thus following the acquisition order of the L2 processes predicted in PT, i.e., lexical > phrasal > interphrasal. Therefore, the findings of this study provide further support for the applicability of PT to the acquisition of JSL, not only by adult learners, but also by a child learner.

The results of the current study contribute not only to second language acquisition (SLA) theory, but also to pedagogical development in JSL. Firstly, the results of the current study indicate that both the instructed adult learners and the uninstructed child learner of JSL acquired the three verbal morpho-syntactic structures in the same order, confirming that the availability of instruction does not affect the developmental sequence of these structures as suggested in Pienemann (1984, 1987, 1998b). Secondly, there was some discrepancy in the internal order of the acquisition of verbal affixes found between the results of the current study and those of studies by Di Biase and Kawaguchi (2002). This suggests that it may be possible that JSL teachers can differentiate the points of emergence for verbal affixes through instruction according to the age or needs of learners.

DECLARATION

I certify that this thesis does not, to the best of my knowledge and belief:

- (i) incorporate without acknowledgement any material previously submitted for a degree or diploma in any institution of higher education;
- (ii) contain any material previously published or written by another person except where due reference is made in the text; or
- (iii) contain any defamatory material.

Signature: _____

Date: _____

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I know two Shauns: One is a grown-up 13-year-old bilingual boy who now goes to an Australian high school, and the other a forever seven-year-old "*genkina*", adorable and mischievous boy who giggles, laughs and sometimes tries to cheat by going under the table to look at the other picture when playing games. The seven-year-old Shaun always popped up here and there around my study desk when I was transcribing tapes, undertaking analysis and writing the thesis. I had a very strange feeling of always being with the seven-year-old Shaun whenever I was sitting in my study during the last few years. In reality, the other Shaun who occasionally visits to have a chat with me is already a big boy and is a very special person to me.

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To my father

TABLE OF CONTENTS

Abstract	ii
Declaration	iv
Acknowledgements	v
Table of Contents	ix
List of Tables	xii
List of Figures	xv

CHAPTER ONE: INTRODUCTION 1

1.1 AIM OF THE STUDY	1
1.2 BACKGROUND OF THE SUBJECT	2
1.3 THE SIGNIFICANCE OF THE STUDY	2
1.3.1 Theoretical Implication of the Study	2
1.3.2 Acquisition Order and Language Teaching – Pedagogical Implication.....	3
1.3.3 The Significance of the Study	4
1.4 CASE STUDY RESEARCH.....	6
1.5 OUTLINE OF THE STUDY	7

CHAPTER TWO: LITERATURE REVIEW

ACQUISITION ORDER AND DEVELOPMENTAL SEQUENCE STUDIES... 9

2.1 ACQUISITION ORDERS AND DEVELOPMENTAL SEQUENCES.....	9
2.2 IDENTIFYING ACQUISITION PATTERNS IN FLA.....	10
2.2.1 The Early Stages of L1 Acquisition	11
2.2.2 Acquisition Order Studies in L1	12
2.2.3 Developmental Sequence Studies in L1.....	14
2.2.4 Acquisition of Japanese as an L1	17
2.2.5 Summary of Section 2.2: Identifying Acquisition Patterns in FLA	32
2.3 IDENTIFYING ACQUISITION PATTERNS IN SLA.....	33
2.3.1 The Early Stages of L2 Acquisition	34
2.3.2 Acquisition Order Studies in SLA.....	39
2.3.3 Developmental Sequences in SLA	46
2.3.4 Studies on Japanese as a Second Language (JSL).....	50
2.4 SUMMARY OF CHAPTER TWO	71

CHAPTER THREE: LITERATURE REVIEW

THE PROCESSABILITY THEORY AND SLA..... 73

3.1 THE MULTIDIMENSIONAL MODEL	73
3.2 TEACHABILITY HYPOTHESIS.....	83
3.3 PIENEMANN AND JOHNSTON’S MODEL	86
3.4 PROCESSABILITY THEORY	88
3.5 THE ACQUISITION OF JSL AND THE PROCESSABILITY THEORY	99
3.6 CONCLUSION	118
3.7 MOTIVATION OF THE CURRENT STUDY CONCLUSION.....	119
3.8 RESEARCH QUESTIONS	121

CHAPTER FOUR: METHODOLOGICAL ISSUES.....	123
4.1 LONGITUDINAL AND CROSS-SECTIONAL STUDIES.....	123
4.2 DETERMINING THE CRITERION FOR ACQUISITION.....	126
4.3 STRUCTURING A VALID DATA BASE	131
4.4 THE USE OF INSTRUMENTS AND ORAL PRODUCTION.....	134
4.5 IMPLICATIONAL SCALING	140
4.6 SUMMARY OF CHAPTER FOUR	142
CHAPTER FIVE: METHOD	144
5.1 BACKGROUND	144
5.2 THE JAPANESE SCHOOL	148
5.3 ORAL PROFICIENCY IN JAPANESE AT THE COMMENCEMENT OF THE STUDY	151
5.3.1 Shaun's Proficiency in the Light of ASLPR.....	152
5.3.2 Shaun's Level of the Japanese Language Observed During the Initial Visit	154
5.3.3 Comparison with Huter's Five Stages.....	158
5.4 RESEARCH DESIGN	161
5.4.1 The Use of Tasks.....	161
5.4.2 The Distribution of Tasks	162
5.4.3 Materials	163
5.4.4 Interlocutors.....	170
5.5 PROCEDURE.....	170
5.5.1 Initial Visit (Preliminary Session).....	170
5.5.2 Subsequent Sessions.....	171
5.5.3 Interviews with the Subject's Parents and Class Teachers.....	171
5.6 ANALYSIS	172
5.6.1 Transcription.....	172
5.6.2 Data Base for Verbal Morpho-syntactic Structure.....	172
5.6.3 Coding Criteria and Procedure	181
5.6.4 Analysing the Data.....	183
5.7 SUMMARY OF CHAPTER FIVE	186
CHAPTER SIX:	
THE ACQUISITION OF VERBAL INFLECTION BY A CHILD LEARNER	
.....	187
6.1 OCCURRENCES OF VERBAL AFFIXES IN SHAUN'S INTERLANGUAGE	187
6.2 A DISTRIBUTION OF SUPPLIANCE AND NON-SUPPLIANCE OF VERBAL AFFIXES IN DIFFERENT LINGUISTIC CONTEXTS.....	192
6.3 A DISTRIBUTION OF RULE APPLICATION AND NON-APPLICATION	203
6.4 THE POINT OF EMERGENCE FOR VERBAL INFLECTION.....	214
6.5 INTERNAL ORDER OF EMERGENCE POINTS FOR VERBAL AFFIXES.....	223
6.6 SUMMARY OF CHAPTER SIX	228
CHAPTER SEVEN: THE ACQUISITION OF THE V-TE V STRUCTURE IN JSL BY A CHILD LEARNER.....	230
7.1 THE OCCURRENCES OF THE V-TE V STRUCTURE	231
7.2 SUPPLIANCE AND NON-SUPPLIANCE OF THE V-TE V STRUCTURE IN DIFFERENT LINGUISTIC CONTEXTS.....	235
7.3 A DISTRIBUTIONAL ANALYSIS FOR RULE APPLICATION FOR THE V-TE V STRUCTURES	243

7.4 THE POINT OF EMERGENCE FOR THE V- <i>TE</i> V STRUCTURE.....	251
7.5 INTERNAL ORDER OF EMERGENCE FOR THE VARIOUS V- <i>TE</i> V STRUCTURES	261
7.6 SUMMARY OF CHAPTER SEVEN	262

CHAPTER EIGHT: THE ACQUISITION OF THE PASSIVE AND CAUSATIVE STRUCTURES IN JAPANESE BY A YOUNG CHILD 264

8.1 OCCURRENCES OF THE PASSIVE AND CAUSATIVE STRUCTURES IN SHAUN’S INTERLANGUAGE	264
8.2 THE ACQUISITION OF THE PASSIVE	266
8.3 THE ACQUISITION OF THE CAUSATIVE	283
8.4 SUMMARY OF CHAPTER EIGHT	287

CHAPTER NINE: THE ACQUISITION OF VERBAL MORPHO-SYNTAX IN JSL BY A CHILD LEARNER..... 289

9.1 DEVELOPMENTAL STAGES OF VERBAL MORPHO-SYNTAX IN JSL BY A CHILD LEARNER.....	290
9.2 DEVELOPMENTAL STAGES OF VERBAL MORPHO-SYNTAX IN JSL BY A CHILD LEARNER AND ADULT LEARNERS	293
9.3 DEVELOPMENTAL STAGES OF JAPANESE VERBAL MORPHO-SYNTAX BY A CHILD JSL LEARNER AND A JAPANESE L1 BILINGUAL CHILD	296
9.4 SUMMARY OF CHAPTER NINE.....	300

CHAPTER TEN: CONCLUSION..... 301

10.1 IMPLICATIONS.....	302
10.2 LIMITATIONS OF THE CURRENT STUDY	304
10.3 SUGGESTIONS FOR FUTURE WORK	305

REFERENCES..... 308

APPENDIX A. LIST OF ABBREVIATION.....	334
APPENDIX B. TABLE ONE: SHAUN’S PROFICIENCY RATED WITH ASLPR AFTER COMMENCEMENT OF THE STUDY BY TWO TEACHERS AT THE JAPANESE SCHOOL	335
APPENDIX C. PICTURES USED FOR TASKS	338
APPENDIX D. TABLE TWO: OCCURRENCES OF ALL VERBAL AFFIXES	354
APPENDIX E. TABLE THREE: OCCURRENCES OF ILL FORMED VERBS, TABLE FOUR: DISTRIBUTION OF ILL FORMED VERBS.....	355
APPENDIX F. TABLE FIVE: DISTRIBUTION OF <i>KAITE</i> AND OTHER V1S IN THE <i>-TE ARU</i> STRUCTURES, TABLE SIX: DISTRIBUTION OF <i>KAITE</i> AS V1 IN “SPOT THE DIFFERENCE” GAMES AND OTHER TASKS, TABLE SEVEN: DISTRIBUTION OF OTHER V1S THAN <i>KAITE</i> IN “SPOT THE DIFFERENCE” GAMES AND OTHER TASKS	357

List of Tables

TABLE 2.1 EARLY GENERAL DEVELOPMENTAL PATTERNS IN CHILDREN'S L1	11
TABLE 2.2 DEVELOPMENTAL STAGES OF ACQUISITION OF ENGLISH NEGATION IN L1 (KLIMA & BELLUGI, 1966).....	15
TABLE 2.3 DEVELOPMENTAL STAGES OF SEMANTIC ACQUISITION OF ENGLISH NEGATION IN L1	16
TABLE 2.4 SEVEN STAGES OF DEVELOPMENT OF JAPANESE AS AN L1 AS OUTLINED BY CLANCY (1985).....	19
TABLE 2.5 DEVELOPMENTAL STAGES OF SEMANTIC ACQUISITION OF JAPANESE L1 NEGATION.....	23
TABLE 2.6 DEVELOPMENTAL STAGES OF ACQUISITION OF JAPANESE NEGATION IN L1	26
TABLE 2.7 ACQUISITION ORDER OF SENTENCE STRUCTURES IN L1 JAPANESE.....	27
TABLE 2.8 DEVELOPMENTAL STAGES OF ACQUISITION OF SUBORDINATION IN L1 JAPANESE	29
TABLE 2.9 THE DEVELOPMENTAL STAGES OF PARTICLES	31
TABLE 2.10 THE DEVELOPMENTAL STAGES OF LINGUISTIC MARKING OF A SEMANTIC NOTION.....	32
TABLE 2.11 SIMILARITIES AND DIFFERENCES OF THE ORDER OF MORPHEMES BETWEEN L1 AND L2.....	40
TABLE 2.12 DEVELOPMENTAL SEQUENCE FOR ENGLISH NEGATION IN L2 BY SIX SPANISH SPEAKERS.....	47
TABLE 2.13 DEVELOPMENTAL SEQUENCE FOR ESL NEGATION	48
TABLE 2.14 DEVELOPMENTAL SEQUENCE FOR INTERROGATIVES IN ESL.....	49
TABLE 2.15 SUMMARY OF STUDIES OF THE ACQUISITION OF JSL.....	50
TABLE 2.16 GRAMMATICAL STRUCTURES INVESTIGATED BY BANNO AND KOMORI (1989).....	56
TABLE 2.17 THE ACQUISITION ORDER OF GRAMMATICAL STRUCTURES AND INSTRUCTION ORDER	57
TABLE 2.18 THE DEVELOPMENTAL SEQUENCE OF NOUN MODIFICATION BY A KOREAN CHILD	61
TABLE 2.19 THE LENGTH AND COMPLEXITY OF UTTERANCES BY A CHILD LEARNER OF JSL	63
TABLE 2.20 THE ACQUISITION ORDER OF GRAMMATICAL STRUCTURES BY A CHILD LEARNER OF JSL	64
TABLE 2.21 ACQUISITION OF NEGATION OF JSL BY A CHINESE CHILD.....	66
TABLE 2.22 DEVELOPMENTAL SEQUENCE OF NON-PAST TENSE NEGATION BY JSL ADULT LEARNERS	68
TABLE 2.23 THE DEVELOPMENTAL SEQUENCE OF PAST TENSE NEGATION BY ADULT JSL LEARNERS	69
TABLE 2.24 DEVELOPMENTAL SEQUENCE OF PAST-TENSE NEGATION BY ADULT JSL LEARNERS (KANAGY, 1991)	70
TABLE 3.1 DEVELOPMENTAL STAGES FOR GSL WORD ORDER RULES	78
TABLE 3.2 GERMAN WORD ORDER RULES AND ASSOCIATED STRATEGIES.....	80
TABLE 3.3 THE DEVELOPMENT OF WORD ORDER AND MORPHOLOGY IN GSL	86
TABLE 3.4 DEVELOPMENTAL STAGES OF ESL STRUCTURES.....	87
TABLE 3.5 HYPOTHESISED IMPLICATIONAL SEQUENCE OF PROCESSING PROCEDURES	

AND PREDICTED STRUCTURES.....	92
TABLE 3.6 THE GENERAL DEVELOPMENTAL PICTURE FOR GSL	97
TABLE 3.7 FIVE DEVELOPMENTAL STAGES WITH ELEVEN STRUCTURES BY ADULT JSL LEARNERS	102
TABLE 3.8 SEQUENCE OF JSL SYNTAX ACQUISITION.....	105
TABLE 3.9 SEQUENCE OF JSL MORPHOLOGY ACQUISITION	107
TABLE 3.10 PROCESSING PROCEDURES APPLIED TO JAPANESE.....	109
TABLE 3.11 HYPOTHESISED HIERARCHY FOR JAPANESE L2	113
TABLE 3.12 LONGITUDINAL STUDY OF THE ACQUISITION OF JSL BY AN ADULT LEARNER	116
TABLE 3.13 THE ACQUISITION OF VERBAL MORPHO-SYNTAX IN JAPANESE AS AN L1 IN A BILINGUAL CONTEXT	117
TABLE 4.1 COMPARISON OF CHARACTERISTICS BETWEEN LONGITUDINAL AND CROSS-SECTIONAL APPROACHES.....	124
TABLE 4.2 OBLIGATORY CONTEXT SCORING METHOD.....	128
TABLE 4.3 ACQUISITIONAL PATTERN OF ENGLISH PAST TENSE FORMS	133
TABLE 4.4 IMPLICATIONAL SCALE FOR A LONGITUDINAL STUDY.....	141
TABLE 4.5 IMPLICATIONAL SCALE FOR A CROSS-SECTIONAL STUDY.....	142
TABLE 5.1 SHAUN'S ORAL PROFICIENCY RATED WITH ASLPR BY MR HONDA	153
TABLE 5.2 FORMULAIC LANGUAGES INVOLVING VERBS IN SHAUN'S INTERLANGUAGE	180
TABLE 6.1 VERBAL AFFIXES AND FORMS WITH EXAMPLES.....	190
TABLE 6.2 OCCURRENCE OF 24 VERBAL AFFIXES IN SHAUN'S INTERLANGUAGE BASED ON TOKEN COUNT	192
TABLE 6.3 SUPPLIANCE AND NON-SUPPLIANCE OF VERBAL AFFIXES IN DIFFERENT LINGUISTIC CONTEXTS.....	195
TABLE 6.4 RELATIVE FREQUENCY OF RULE APPLICATION FOR VERBAL AFFIXES IN THREE LINGUISTIC CONTEXTS.....	205
TABLE 6.5 LEXICAL VARIETY OF VERBAL AFFIXES IN SHAUN'S INTERLANGUAGE (TYPE COUNT)	216
TABLE 6.6 LEXICAL AND FORM VARIETY OF VERBAL AFFIXES IN SHAUN'S INTERLANGUAGE	218
TABLE 6.7 PATTERN 1- ESTABLISHED EMERGENCE	219
TABLE 6.8 PATTERN 2 – A CONTINUITY OF THE PRESENCE	219
TABLE 6.9 PATTERN 3 – NO CONTINUITY	220
TABLE 6.10 ORDER OF EMERGENCE POINTS FOR VERBAL AFFIXES IN SHAUN'S INTERLANGUAGE.....	224
TABLE 7.1 V- <i>te</i> V STRUCTURES WITH EXAMPLES	233
TABLE 7.2 OCCURRENCES OF TEN V- <i>te</i> V STRUCTURES IN SHAUN'S INTERLANGUAGE BASED ON A TOKEN COUNT	235
TABLE 7.3 SUPPLIANCE AND NON-SUPPLIANCE OF THE V- <i>te</i> V STRUCTURE IN DIFFERENT LINGUISTIC CONTEXTS.....	237
TABLE 7.4 RELATIVE FREQUENCY OF THE RULE APPLICATION IN THREE LINGUISTIC CONTEXTS	244
TABLE 7.5 LEXICAL VARIETY OF V1 (V- <i>te</i>) IN THE V- <i>te</i> V STRUCTURES IN SHAUN'S INTERLANGUAGE.....	252
TABLE 7.6 INTERNAL ORDER OF THE EMERGENCE POINTS FOR V- <i>te</i> V STRUCTURES .	262
TABLE 8.1 OCCURRENCES OF THE PASSIVE/CAUSATIVE IN SHAUN'S INTERLANGUAGE	265
TABLE 9.1 HYPOTHESISED HIERARCHY FOR JAPANESE L2.....	289

TABLE 9.2 OCCURRENCES OF VERBAL AFFIXES, THE <i>V-te V</i> STRUCTURE AND THE PASSIVE/CAUSATIVE IN SHAUN'S INTERLANGUAGE	291
TABLE 9.3 THE ACQUISITION OF JAPANESE VERBAL MORPHO-SYNTAX BY SHAUN IN AN IMPLICATIONAL SCALE.....	292
TABLE 9.4 THE ACQUISITION OF VERBAL MORPHO-SYNTAX IN JSL BY A NATURALISTIC CHILD LEARNER.....	294
TABLE 9.5 THE ACQUISITION OF VERBAL MORPHO-SYNTAX IN JSL BY AN INSTRUCTED ADULT LEARNER	294
TABLE 9.6 THE ACQUISITION OF VERBAL MORPHO-SYNTAX BY A NATURALISTIC CHILD LEARNER OF JAPANESE	298
TABLE 9.7 THE ACQUISITION OF VERBAL MORPHO-SYNTAX BY A BILINGUAL CHILD ACQUIRING JAPANESE L1	298

List of Figures

FIGURE 2.1 THE ORDER OF THE ACQUISITION OF VERBAL MORPHO-SYNTAX IN JAPANESE L1 (BASED ON CLANCY, 1985).....	22
FIGURE 2.2 “NATURAL ORDER” FOR GRAMMATICAL MORPHEMES (KRASHEN, 1977) ..	43
FIGURE 3.1 TWO DIMENSIONS OF LANGUAGE DEVELOPMENT AND SOME POTENTIAL ROUTES TO ACQUISITION (FROM LARSEN-FREEMAN AND LONG, 1991, p. 281)	75
FIGURE 3.2 VARIATION, DEVELOPMENT AND ACCURACY (FROM MEISEL ET AL. CITED IN PIENEMANN, 1998, p. 143)	76
FIGURE 3.3 CLAHSSEN'S SPEECH PROCESSING STRATEGIES (BASED ON ELLIS, 1994, p. 385)	78
FIGURE 3.4 HYPOTHESIS SPACE, DEVELOPMENTAL AND VARIATION (FROM PIENEMANN, 1998, p. 232)	94
FIGURE 5.1 TIME LINE	147
FIGURE 5.2 TASK DISTRIBUTION	163
FIGURE 6.1 VARIATION IN RULE APPLICATION FOR VERBAL AFFIXES	208
FIGURE 6.2 VARIATION IN OVERUSE OF VERBAL AFFIXES	209
FIGURE 6.3 VARIATION IN ABSENCE OF VERBAL AFFIXES	210
FIGURE 6.4 RULE APPLICATION - PATTERN ONE.....	211
FIGURE 6.5 RULE APPLICATION - PATTERN TWO	212
FIGURE 6.6 RULE APPLICATION - PATTERN THREE	213
FIGURE 6.7 RULE APPLICATION - PATTERN FOUR.....	214
FIGURE 6.8 ORDER OF EMERGENCE POINTS FOR VERBAL AFFIXES	224
FIGURE 7.1 VARIATION IN RULE APPLICATION FOR V- <i>te</i> V STRUCTURE	247
FIGURE 7.2 VARIATION IN OVERUSE OF V- <i>te</i> V STRUCTURE.....	248
FIGURE 7.3 VARIATION IN ABSENCE OF V- <i>te</i> V STRUCTURE.....	248
FIGURE 7.4 PATTERN ONE	249
FIGURE 7.5 PATTERN TWO.....	250
FIGURE 7.6 INTERNAL ORDER OF EMERGENCE FOR THE V- <i>te</i> VSTRUCTURES	262

CHAPTER ONE

INTRODUCTION

This is a study of the acquisition order of Japanese done through a case study of a child second language learner. Data were collected through audio taping interaction between the subject and other Japanese speakers fortnightly over a one-year period. In this introduction to the study, there are four sections. In the first section, the aim of the study is briefly described. The sections that follow focus on the three major elements of this study: the background of the subject, the significance of the study and a description of case study methodology. The structure of this thesis is outlined briefly in the last section.

1.1 Aim of the Study

The aim of this study was to investigate longitudinally how a child learner acquired aspects of Japanese morpho-syntax in a naturalistic¹ second language (L2) context. The main question addressed in this study was whether the acquisition patterns of the child's interlanguage were similar to those of the adult learners in Japanese as a second language (JSL). The study took the form of a case study, which was believed to compensate for the shortcomings of cross-sectional studies on

¹ The definition of naturalistic language acquisition is not simple. Ellis (1994, pp. 714-715) defines it as language acquisition that occurs in natural settings where the L2 is used normally for daily communicative needs. He used the word "normally" as, in most cases, this situation also involves some "educational settings" (p. 700). For example, many "natural" learners of JSL in Japan also are actually taught learners of JSL at educational institutions (pp. 37-38). On the other hand, it also might be possible that some instructed Australian learners of Japanese as a foreign language (JFL) might have opportunities to have, although probably limited, natural exposure to the Japanese language outside classroom while in Australia (via working as a tour guide for Japanese people etc). Although the subject of the current study lived outside Japan as an English L1 speaker at the time of the study, he used Japanese for "daily communicative needs" at the Japanese school, and furthermore he was not in what Ellis calls "educational setting" due to the unavailability of JSL/JFL instruction at the Japanese school. Therefore, the subject of the current study was considered to be a naturalistic second language learner.

which most of the previous developmental research has been based.

1.2 Background of the Subject

The subject of this study of the pattern of acquisition of JSL was a seven year old male. Although he is indeed an L2 learner, the linguistic context or environment of this child is unique and differed from English as a second language (ESL) situations, where, for example, migrant children in Australia learn ESL at school and speak their native or first language (L1) at home. Their L2, English, is a dominant language and their L1 a minority language. The child in the current study is Australian and he was acquiring Japanese, without any special instruction, as his second language at school at the time of this study. This situation came about because he was attending a primary school for Japanese children. Outside the school he spoke English with his family members and his Australian peers. This child's L2, Japanese, was a community and minority language and his L1, English, his own community or dominant language. Therefore, his exposure to L2 was strictly limited to the time of his formal education and his social activities with his Japanese peers at and, sometimes, after school.

1.3 The Significance of the Study

1.3.1 Theoretical Implication of the Study

For the last three decades it has been argued that there is a natural order for language acquisition, that is, language learners naturally proceed through similar developmental patterns. This is based on the Natural Order Hypothesis proposed by Krashen (e.g., 1982) after he examined several empirical studies on acquisition order of grammatical morphemes in English.

The issue of natural sequences of acquisition, which has been always a

central part of first language acquisition (FLA) and second language acquisition (SLA) research, is important for both SLA theory and pedagogy. Since Brown's (1973) study on the order of morpheme acquisition in English as an L1, numerous studies have been conducted to find out whether, like in FLA, there are common acquisition orders in SLA. Most of the results obtained indicate that there are similar developmental sequences in the interlanguage of L2 learners, regardless of their ages (children/adults), their L1 backgrounds, and whether or not they have received instruction (Johnston, 1985b; Krashen & Terrel, 1983). Passage through each stage, in order, appears to be unavoidable (Long, 1991, p. 42). As N. Ellis says:

Many skills are like this, indeed so much so that the phenomenon is crystallised in the English language: Trying to break a natural order is like "trying to run before you can walk". (N. C. Ellis, 1996, p. 100)

1.3.2 Acquisition Order and Language Teaching – Pedagogical Implication

Finding the natural sequence for language acquisition is also important for teaching practice because it influences not only teachers' decisions on syllabus design and course materials, but also their sensitivities and attitude toward L2 learners' developmental errors made during the class time. If language instructors know when and what grammatical structures can be naturally elicited from language learners, it is possible that learners can learn new grammatical items more effectively and efficiently. If language instructors are familiar with what steps learners take from the emergence of a particular form towards the mastery of it, they will be able to match their pedagogy to this pattern of development. They can also provide timely feedback that may facilitate language acquisition for, as Pienemann (1989) suggests in his Teachability Hypothesis, instruction can only promote language acquisition if the structure to be taught is close to the point when it is acquired in the natural setting. Thus it is essential to find the acquisition order and developmental sequences in learner language in order for appropriate instruction and feedback to be effectively implemented in the classroom.

The other area for which empirical evidence of the developmental sequence of language acquisition is required is language testing. There has been a lack of empirical evidence to justify existing language proficiency tests, therefore the ratings outcomes are problematic in terms of assessment of developmental stages (Salaberry, 2000). Shohamy (1990) also points out the need for empirical research to support the description of guidelines for language proficiency tests such as the American Council on the Testing of Foreign Language (ACTFL) - Oral Proficiency Interview (OPI). There is a need to examine whether or not the order of difficulty of grammar structures matches the assessment of learners' production, both in oral and written modes, so that it is not simply the examiners' intuitive understanding of the difficulties of structures that it relied upon. Findings of studies on the order and developmental sequence of language acquisition also may be useful for diagnostic purposes as they will show achievement made by learners who might not need an assessment relative to other learners, e.g., language learners in a flexible delivery mode of language learning or elderly migrants learning a dominant language in the host country.

1.3.3 The Significance of the Study

Positive results have been obtained for the possible universality of natural sequences of acquisition of grammatical features in the second language of children (e.g., Dulay & Burt, 1973, 1974; Fathman, 1975; Makino, 1980) and adults (e.g., Bailey, Madden & Krashen, 1974; Krashen, Butler, Birnbaum & Robertson, 1978; Larsen-Freeman, 1976c). However, it should be noted that most of these studies have been carried out in the domain of English and some European languages and that so far, there have only been a small number of studies in this area of JSL (Di Biase & Kawaguchi, 2002; Doi & Yoshioka, 1990; Huter, 1996; Kanagy, 1991).

In order to test the generalisation of natural sequences of acquisition of L2, it is believed that more empirical evidence is needed in other languages such as Japanese. Thus, the present study is motivated by the primary question: Are there fixed sequences of acquisition of some aspects of Japanese morpho-syntax in the L2

context? To answer this question, the results of the previous JSL studies will be compared with those of the current study for the examination of their validity.

Since the subject of the current study is a child learner, another focus is to examine whether child learners take the same acquisition routes as those of adult learners in JSL. Although there is general agreement that both children and adults have similar acquisition orders of grammatical morphemes in English (e.g., Bailey et al., 1974; Cazden, Cancino, Rosansky & Schumann, 1975; Fathman, 1975), little is known about whether this is also true for JSL learners. This is because most of the previous studies on the acquisition order of JSL have looked at adult learners and there is not sufficient data regarding children's acquisition. Studies to test the results of the adult JSL are needed to see if evidence regarding the effects of age on acquisition order in ESL can be extended to JSL. A comparison of the adult JSL findings with those of child JSL also may allow an investigation of acquisition order in the light of possible contributions of maturational constraints (e.g., Long, 1990; Hyltenstam & Abrahamsson, 2003; Butler & Hakuta, 2004). If any difference exists between the results of the child as compared to adult studies, then it might be possible to claim that, for example, language teachers will need to use different syllabus designs and attend to different patterns of acquisition for child and adult learners.

There is another important issue regarding acquisition order: the differences and similarities between L1 and L2. At present it is unclear from the available data whether L1 orders are similar to or different from L2 orders. Some studies (e.g., Christison, 1979; Fuller, 1978; Krashen, Houch, Giunchi, Bode, Birnbaum, & Strei, 1977) reported that there were similarities in the route toward the acquisition of some English morphemes between L1 and L2. In contrast, some differences for L2 learners have been found in the acquisition order of English morphemes when comparisons with Brown's (1973) L1 learners were undertaken (Dulay & Burt, 1974; Fathman, 1975; Hakuta, 1974; Kessler & Idar, 1977). There is a dearth of evidence with regard to this issue in JSL. One exception is Nagasawa's (1995) cross-sectional study comparing L1 children, L2 adults and bilingual children to find out which group had the most difficulty acquiring particular Japanese grammar

structures. Although the results of the grammar test (written) showed the difficulties in learning some grammar structures varied between the groups, the ‘sequence of acquisition’ remains unclear. Clearly more research is needed in this area. Thus the current study will examine what similarities and differences exist when Japanese is acquired by children as an L2 compared to an L1.

Finally, it is important to point to the lack of theories that underpin the claims for the existence of a natural route for language acquisition. Specifically, most of the SLA studies conducted in 1960s and 1970s were not theoretically motivated and few have used standardised methodology developed within the same theoretical framework. This makes comparison of data from a variety of subjects difficult to achieve. It also diminishes the ease with which results can be meaningfully interpreted. In order to overcome these problems, the current study was conducted within a theoretical framework, namely Processability Theory (PT) (Pienemann, 1998b). PT is a theory that connects the processability of morpho-syntactic structure to linguistic theories to account for acquisition stages. In recent years PT has been perceived to be an established benchmark in SLA as it has been proved to be applicable to a variety of languages acquired as an L2, including German, English and Swedish (Pienemann, 1998b; Pienemann & Håkansson, 1999) and Italian and Japanese (Di Biase & Kawaguchi, 2002). Therefore, it is believed that the use of the framework of PT is most appropriate for the current study.

1.4 Case Study Research

A case study research design was employed in this study. There are advantages and disadvantages to this type of method. The major shortcoming of case studies is that they are generally restricted to a small number of subjects, which raises the question of the status of data in terms of variability (Nunan, 1987, p. 149; Mackey & Gass, 2005, pp. 172-173). However, the advantage they have over cross-sectional studies is that they are rich in data which provide firsthand, reliable, in-depth information on the individual subject(s), which is only made possible by a researcher’s enormous “time investment” and “a long-term commitment on the part

of researcher and subject(s)” (Dulay, Burt & Krashen, 1982, p. 245). This advantage is particularly important in light of the nature of research into “natural” sequences of acquisition, because only data obtained through the researchers’ frequent and close observation in case studies are believed to reveal what is actually happening during the process of acquisition by individual learner(s) at different points over a long time period. Cross-sectional studies can provide, at the best, accuracy order obtained by a larger sample but only one-off scores at a certain point in time.

Taking advantage of case study methodology, the current study aimed to test the results of previous research into the acquisition order in JSL, which have been mostly obtained by studies that used a cross-sectional research design, using adult learners as subjects. The study investigated longitudinally how a child learner acquired some aspects of Japanese morpho-syntax in a naturalistic second language (L2) context. The subject was a seven-year-old Australian boy. Data were collected through audio taping the conversation between the subject and other Japanese speakers, including his bilingual brother, his Japanese peers and the researcher, fortnightly over a one-year period. Two follow up data collection sessions were also conducted for the second year. Audiotapes of the interactions were transcribed and the emergence and subsequent development of some syntax observed in the child’s oral production was analysed and compared with the results of the previous JSL studies.

1.5 Outline of the Study

This study is presented in the following way: Chapter Two reviews the literature relevant to acquisition order and developmental sequences both in FLA and SLA and in the following chapter, the theoretical background is described by reviewing the literature relating to the Processability Theory (PT) (Pienemann, 1998b). Chapter Four summarises methodological issues identified from the literature review in Chapter Two and Three, and Chapter Five describes the method used in the current study. In the subsequent three results chapters, the results of

analyses carried out on each of the three areas, namely, the acquisition of verbal inflection, the *V-te V* structures and the passive/causative structures found in the child's interlanguage, are reported. The findings are collated, and compared to those in other relevant research in Chapter Nine. Finally, the implications of the study findings, the limitations of the study and suggestions for further research are presented in Chapter Ten.

CHAPTER TWO

LITERATURE REVIEW:

ACQUISITION ORDER AND

DEVELOPMENTAL SEQUENCE STUDIES

The purpose of this chapter is to explain how and what systematic patterns in language acquisition have been identified in previous research. In order to do this, the literature both for first language acquisition (FLA) and second language acquisition (SLA) will be reviewed. The chapter consists of four sections. In the first section, two different principles underlying language acquisition will be outlined. The second section will review in detail major research in FLA including that into the acquisition of Japanese as a first language (L1) as these studies formed a foundation for SLA research in terms of methodology, and their findings have been used as a comparison with those of SLA. The third section will then review major research in SLA including that of Japanese as a second language (JSL). A summary will be provided in the final section.

2.1 Acquisition Orders and Developmental Sequences

A considerable amount of research evidence suggests the existence of systematic acquisitional patterns in the development of learner language. A review of the literature, in both FLA and SLA, shows that two terms are used to describe this process. These are “acquisition order” and “developmental sequence”. Ellis (1994) clearly explains the distinction between them in the following way:

One question we can ask is ‘Do learners acquire some target-language (TL) features before others?’ This is a question about the order of acquisition. We can answer it by showing that one feature, say plural –s in English, is acquired before another. A second and entirely different question is ‘How do learners acquire a particular TL linguistic feature?’ To answer this question we need to investigate

some specific feature (such as negation) in detail and, preferably, over time, in order to show how learners gradually arrive at the TL. Showing that learners pass through stages on route to the TL rule provides evidence for a sequence of acquisition. (p. 73)

At the beginning of 1980 a group of researchers (Clahsen, Meisel & Pienemann) took a new approach to the study of SLA by amalgamating these two principles. However, as most studies in the 1960s and 1970s, and those of Japanese as a second language (JSL) up until recently, treated these principles as distinct, this is the approach which was taken in the present study. Therefore, in order to avoid confusion, it should be noted that the following definitions will be consistently utilised in this chapter:

- (1) Acquisition order - the order of different linguistic features, e.g., grammatical morphemes, acquired in TL forms.
- (2) Developmental sequence - a process which language learners go through, beginning, usually, from the production of a structure in the non-target like (NTL) form to the mastery of its TL forms.

Accordingly, the acquisition order and developmental sequence studies in FLA will be, in principle, reviewed separately in the subsequent section.

2.2 Identifying Acquisition Patterns in FLA

This section describes the research into the acquisition of first languages (L1). Firstly, the early stages of acquisition are considered. Acquisition order and developmental sequence are then reviewed separately. Although the current study is concerned about second language (L2) acquisition, reviewing these early studies on L1 is believed to be important because they had a significant influence on the subsequent L2 acquisition research both in terms of methodologies and findings. Next, studies on the acquisition of Japanese as an L1, for acquisition order and for developmental sequence, are reviewed together. Finally, a summary of these aspects is provided.

2.2.1 The Early Stages of L1 Acquisition

It is well known that there are general developmental patterns which infants go through before they become able to produce adult-like speech (see Fromkin, Rodman, Collins & Blair, 1990, pp. 350-357 for summary). It is not intended in the current study to describe or discuss each of the studies on this general development. Rather a very basic outline is given for the purpose of comparison between early stages of L1 and L2.

The earliest pre-linguistic stages, such as cooing and babbling, have been investigated mainly in the domain of phonology (e.g., Oller, 1986). For early linguistic stages, FLA researchers (Bloom, 1973; Brown, 1973; Klima & Bellugi, 1966; Slobin, 1970) investigated general developmental patterns, such as the one- and two- utterance stages, of children acquiring their native or first language. The results of these studies were based on the detailed description of oral production by individual children. Sakamoto (2001, p. 144) provides a useful summary of the findings of these researchers, which show a striking similarity in general developmental patterns across different languages as follows:

Table 2.1

Early general developmental patterns in children's L1

Stage	Approximate timeline	The emergence of non-linguistic and linguistic features
1	Immediately after birth	Crying
2	6 weeks	Cooing
3	6 months	Babbling
4		Complex babbling, meaningless oral production with intonation pattern close to adult utterance
5	12 months	One-word utterance
6	18 months	Two-word utterance
7	2 years	Word inflection
8	2 years and 3 months	Questions and negation

9		Complex constructions
10	10 years	Mature speech

(Based on and translated from Sakamoto, 2001, p. 144)

In the 1960s and 1970s most L1 researchers systematically analysed the development of specific aspects of language such as grammatical morphemes and syntactic structures (i.e., negation) commencing at the time children entered the stage of one or two word utterances. The next two sections outline those major studies concerned with the investigation of acquisition order and developmental sequence of these aspects of language for child first language learners.

2.2.2 Acquisition Order Studies in L1

In the 1970s, researchers both in FLA and SLA (e.g., Andersen, 1976; Bailey, Madden & Krashen, 1974; Brown, 1973; de Villiers & de Villiers, 1973; Dulay & Burt, 1973, 1974; Krashen, Butler, Birnbaum, & Robertson, 1978; Larsen-Freeman, 1976c; Makino, 1979 for early work) began looking more specifically at the acquisition order of particular syntactic features such as grammatical morphemes. One of the best known early works on acquisition order was that by Brown (1973) whose study had a significant influence on subsequent FLA and SLA research. He undertook a study of the acquisition order of grammatical morphemes in English L1 speakers. Oral production from three preschool year children, Adam, Eve and Sarah, who had never met each other, was collected separately for each over a period of more than four years, from 1962 to 1966. The spontaneous speech of these children as they conversed with their mothers (or sometimes their fathers and others) was tape recorded in their homes. The results of the study show a fixed order in the acquisition of fourteen English morphemes by these children. These morphemes, listed here in order of acquisition, are 1) present progressive; 2-3) in, on; 4) plural; 5) past irregular; 6) possessive; 7) uncontractible copula; 8) articles; 9) past regular; 10) third person regular; 11) third person irregular; 12) uncontractible auxiliary; 13) contractible copula; and 14) contractible auxiliary. This study shifted the focus of acquisition research from the general developmental patterns and developmental

sequence for particular grammatical features (e.g., negation), to the acquisition order of different grammatical morphemes. In fact, the term ‘morpheme order studies’ is sometimes used as a synonym for ‘acquisition order studies’ undertaken in the 1970s.

Although acquisition order researchers using a cross-sectional design outnumbered those using a longitudinal design, Brown himself was a strong advocate of the longitudinal study research method. He argues in his 1973 book that the rich data taken from a longitudinal study involving a small number of subjects is equally valuable as the relatively sparse speech corpora from cross-sectional studies dealing with a large number of subjects (e.g., de Villiers & de Villiers, 1973; Dulay & Burt, 1973, 1974). Others also note that “the use of three children in his sample set the scene for other longitudinal studies which have ranged in sample size from one to six” (Dulay, Burt & Krashen, 1982). In addition, the data collection procedures, such as the length of the study and the frequency of data collection, which were used by Brown have provided some guidelines for subsequent longitudinal research. In his study, Brown and his co-researchers visited two of the children for two hours every two weeks and one child for half an hour each week for the purpose of audio taping their oral production. And these time frames have been replicated in other studies (e.g., Hakuta, 1976). However, the time spent gathering data is affected by the availability of subjects and so the lengths of longitudinal studies vary considerably from three - six months (e.g., Butterworth & Hatch, 1978; Ito & Hatch, 1978) to four years (Brown, 1973). As for data analysis, following Cazden’s (1972) proposal, Brown set an acquisition criterion based on the suppliance of correct morphemes in each of the obligatory contexts and did not count the suppliance of any misformed morphemes in obligatory contexts nor the overuse of morphemes in non-obligatory contexts (see Chapter 4.2). Later this drew considerable criticism from other researchers (e.g., Larsen-Freeman & Long, 1991; Meisel, Clahsen & Pienemann, 1981).

The findings of Brown’s longitudinal study were supported by de Villiers and de Villiers’ (1973) subsequent cross-sectional study of twenty one English speaking children (aged 16 to 40 months) and their acquisition of the same grammatical morphemes. Unlike those in Brown’s (1973) study, the data for de Villiers and de

Villiers' (1973) were oral output produced by the children by means of an elicitation method called Bilingual Syntax Measures (BSM). In this method, researchers show a set of pictures to their subjects and then ask questions about the pictures (i.e., structured conversation). This method has been described as a naturalistic elicitation technique and it was employed by most of the researchers who undertook cross-sectional studies at that time (e.g., Bailey, Madden & Krashen, 1974; Dulay & Burt, 1973, 1974). Analysis was undertaken based on the following principle:

The morphemes were first ranked according to the lowest MLU sample at which each morpheme first occurred in 90% or more of the obligatory contexts. When more than one morpheme reached this criterion at the same MLU, the ranks were tied. (de Villiers & de Villiers, 1973)

2.2.3 Developmental Sequence Studies in L1

At a similar time to when the morpheme studies were being undertaken, other FLA researchers were examining the developmental sequences of specific syntactical structures such as negation, interrogation and relative clauses. Just as acquisition order studies in L1 greatly influenced the same area in L2, so too did the findings from the studies on developmental sequence in L1 form a basis of comparison for L2 studies.

The acquisition of negation has been one of the most frequently investigated syntactical features among both FLA and SLA researchers in various languages (e.g., Bloom, 1970; Bullegi, 1967; Klima & Bellugi, 1966 for English; Wode, 1974, 1976a, b, 1977a for German; Gvosdev, 1949 for Russian; Ruke-Dravina, 1963; Wode & Ruke-Dravina, 1976 for Latvian; Bowerman, 1973 for Finnish, Blount, 1969 for Luo for early L1 work). Among these studies, Klima and Bellugi (1966) provide a useful description of the developmental sequences of negation for English as an L1 which has been used as the basis for comparison by numerous researchers working in both FLA and SLA contexts. Their raw data were the spontaneous speech produced by the same children investigated by Brown (1973) and other researchers (e.g.,

Cazden). The findings show that in the first stage the negator, i.e., “no” or “not”, appears outside the rest of the utterance, then it moves to the inside of the utterance in the next stage. In the third stage, it is placed in the right position within the utterance and an auxiliary may also be present. These three stages which Klima and Bellugi documented are described in the following table:

Table 2.2

Developmental stages of acquisition of English negation in L1 (Klima & Bellugi, 1966)

Step	Rules applied to form a negation	Example
Step 1	Place the negator (e.g., no, not) whether before or after the rest of the utterance.	No wipe fingers Not a teddy bear. Wear mitten no.
Step 2	The negator is placed inside the utterance between the subject and verb. The auxiliary (e.g., is, are, do) is still absent.	I don't sit on Cromer coffee. He not little, he big. He no bite you.
Step 3	Some auxiliaries are present. The negator is correctly placed to the right of the auxiliary.	No it isn't. That was not me.

(Based on Dulay, Burt and Krashen, 1982, pp. 123-124)

Bloom (1970), in contrast, investigated the acquisition of negation from a semantic point of view. Her subjects were three children, Kathryn, Eric and Gia, who were acquiring English as an L1. Kathryn was twenty one months old, and Eric and Gia nineteen months and one week old at the commencement of her study. The children were visited individually in their homes, and their interaction with their mothers, the researcher and occasionally their fathers was audio taped. These tape-recorded observations of approximately eight hours of activity over a three or four day period took place every six weeks. Data for Kathryn were collected over a period of three months, and formed three distinct speech samples, while those for Eric and Gia were collected over a seven to eight month period and included six separate speech samples. On the basis of the relative frequency of occurrence of utterances in the different semantic categories of negation, and the developments in the syntactic complexity of these utterances, Bloom specified the developmental

sequence of three semantic categories, i.e., non-existence, rejection and denial, which was common to all three children. This is summarised in the following table:

Table 2.3

Developmental stages of semantic acquisition of English negation in L1

Stage	Negative meaning	Example	Context
Stage 1	Non-existence of referent.	No more noise.	The noise has stopped.
		No pocket.	The subject did not find a pocket in her mother's skirt.
Stage 2	Rejection of a referent Refusals to comply with a request or command	No dirty soap.	The subject pushed away a sliver of worn soap.
Stage 3	Denial of the truth of some proposition	No truck.	The subject replied to her mother who picked up a car and said "There's the truck".

(Based on Bloom, 1973, pp. 170-220)

The development of sentence negation of German as an L1 was investigated by Wode (1976c), who collected longitudinal data from his four children, Heiko, Birgit, Lars and Inga from the time they began to talk. The spontaneous speech data were collected on a flexible day-by-day basis in the form of tape recordings and handwritten notes which included phonetic transcriptions and other information taken spontaneously as it happened. Wode believes that "a rigid data collecting procedure including fixed intervals, time limits of recording sessions applied by other researchers has not produced data rich enough to give us really a detailed picture of a child's language development" (1977). The results of his study show that first, the negator *nein* (no) appeared alone. Next it was placed before an utterance (e.g., a noun and a verb), such as *nein, milch* (no, milk) and *nein hauen* (no bang = don't bang). Subsequently, *nicht* (not) was used before, inside and after an utterance. In the final stage, the negative *nicht* appeared in the TL position, specifically after the verb.

The developmental sequences of interrogation were also studied in the FLA context (Bellugi, 1965, 1971; Brown, 1968; Klima & Bellugi, 1966 for English as an L1). Bellugi (1965) and Brown (1968), using data from the Harvard children, Adam, Eve and Sarah, studied their development of the question forms: yes/no questions, WH-questions, tag questions and indirect questions. The results show that the same sequence occurred with all of the three children as they learned to ask questions and that this occurred in spite of the difference in the rate of their language development. In Stage 1 (MLU: 1.75), the children first expressed yes/no questions using only intonation. In the same stage a limited number of routines for WH-questions such as “what(’s) that?” were also observed. In the Stage 2, the development of auxiliary verbs and inversion of the auxiliary and subject NP in yes/no questions were observed. However, the inversion of the auxiliary and subject NP in WH-questions did not occur until the next stage. In the Stage 3, the inversion in affirmative WH-questions was completed and tag questions were made by adding “Huh?”. The development of negative WH-questions was observed to occur around the same time as mature tag questions. Finally, complex sentences including embedded WH-questions were observed.

Research methodologies used in L1 acquisition on negation and interrogation such as those mentioned above were then used as a basis for investigating the same syntactical structures in L2 acquisition. Some of the findings lend support to the universal existence of developmental sequences in various languages. However, most of the languages in these earlier studies were European. In the next section some recent studies on acquisition of Japanese as an L1, for both acquisition order and developmental sequence, will be reviewed. It should be noted, however, that most of the studies use a descriptive longitudinal approach without focusing on any specific linguistic feature such as negation.

2.2.4 Acquisition of Japanese as an L1

Most of the early research that was undertaken on Japanese as an L1 occurred in the form of observation or diary studies (e.g., Fujiwara, 1976). Unfortunately, as

Huter (1998, p. 53) indicates, most of these studies lack a theoretical motivation. Further Watamaki (1993) points out that the descriptive methods utilised in these case studies means that there is a lack of standardised data, which, in turn, makes a comparison of the findings difficult. Nevertheless, some recent studies provide rich, in-depth data worthy of mention. These include studies by Clancy, K. Ito and Yokoyama, which are outlined below.

1) Clancy (1985)

Clancy (1985) studied the early stages of the acquisition of Japanese as an L1, collecting a total of thirty hours of spontaneous speech from five children aged between 18 months and three-and-a-half years. Twelve one-hour speech samples were collected from a boy aged 1;11–2;4 years. From the other children including a boy (2;4–2;5) and three girls (2;1–2;3, 3;1–3;3 and 3;5–3;8) two to four samples were collected. It is not clear exactly how often data collection sessions were conducted, but it can be inferred from the available information that data were probably collected at approximately one month intervals. These children were recorded in their homes while they were interacting with their mothers and sometimes with the research assistant. The context of the interaction was noted.

Clancy compared her findings with the results of a study by Okubo (1967). In this longitudinal study, Okubo documented her daughter's speech development from one- to six-years-of-age. On this basis, Clancy proposes what she believes to be the early stages of development of Japanese as an L1 (1985, pp. 381-383). The structures which she collates from the age of approximately 18 months to early primary school age are roughly identified as belonging to seven stages. These stages are outlined in the following table²:

² List of abbreviations used throughout this thesis is given in the Appendix A, on p. 334. Also, to romanise Japanese characters, the Hepburn system (e.g., Backhouse, 1993, p. 62) is used in this thesis. In the case of double vowel sounds, however, two consecutive vowels (e.g., *oo*) are used instead of a vowel extender (e.g., *o*). Note that the names of Japanese authors do not follow this rule, rather, the spelling of the name as published is followed.

Table 2.4

Seven stages of development of Japanese as an L1 as outlined by Clancy (1985)

Stage	Structure	Example
1 One word stage (word and formulae)	Words indicating people, objects, events, states and actions	<i>Hai</i> (Yes) when handing something to someone.
	Formulae such as baby talk forms, onomatopoeic words, negative words, and verbs	<i>Iya</i> (I don't want) / <i>Dame</i> (No good) / <i>Nai</i> (Does not exist) / <i>Ochita</i> (Fell).
2 First stage of grammatical development	Two-word utterances	
	Verb morphology such as imperative and past tense	
	Sentence-final particles “yo” , “ne” and “no”	
	Genitive particle “no” following a single noun:	<i>Maho no</i> (Maho's).
	Topic marker “wa” with rising intonation	<i>Papa wa?</i> (What about/Where is papa?)
	Deictics of the “ko” series (close to speaker)	<i>Kore</i> (this) / <i>koko</i> (here)
	Yes/No and WH-questions	<i>Nani?</i> (What (is it)?)
3 Frequent two-word utterances (Approx. 2 yrs old)	Verb morphology “V-te” :	
	V-te V for temporal sequence and instrument	<i>Koo shite noseru no.</i> (You put it on like this.) <i>Basu ni notte kaeru no.</i> (I will go home by bus.)
	non-past progressive/resultative in “-te ru” and the completed past in “-chatta”	
	Verb morphology V-nai and V stem plus -tai.	
	Case particles “mo” (also), “ga”, “ni”, “de”	
	N mo N mo (both N and N)	
	N no N (N's N) for possessive	
	Combination of sentence-final particles and more sentence-final particles such as “ka”, “kana” and “naa”	
	Quoting speech and sound “iu” (say/go)	
	First conjunctions for prohibition and permission	
4 Expansion of morphological	Expanded verb morphology:	
	Completed non-past “-chau”, cohortative/intentive	

devices (3;0–3;6)	<p>“-oo”, past progressive/resultant “-teta”, potentials “-eru”, polite non-past “masu” and polite cohortative “-mashoo” for some children</p> <p>Sentence-final particles “wa” (for female speakers)</p> <p>Case particle “ni” for marking dative</p> <p>Complex locatives “N no tokoro ni (in N’s place)”</p> <p>N no N (N’s N) for a variety of relations between Ns</p> <p>Case particle “o” for marking an object</p> <p>Concatenated verb constructions: V-te kuru (go and do), V-te oku (do beforehand)</p> <p>Benefactive constructions: V-te ageru/kureru/morau</p> <p>Conjunctions (coordinating): “V-te” (and/and then/and so)</p> <p>Conjunctions (subordinating) “kara” (because) “tara” (if/when), “temo” (even if), V-stem ni + movement verb (go/come to do)</p> <p>Earliest relative clauses: single verbs preceding a head noun</p>	
5 Further expansion (Approx. 3yrs)	<p>Verb morphology: passive and causative, polite past and negative, obligation “nakya”</p> <p>More conjunctions (subordinating): “noni” (although), “node” (since), “-nagara” (while), “toki”, “tokoro”, “koro”</p> <p>Conjoining simple sentences with “soshite” (and), “sorede” (and so/then), “dakara” (so)</p> <p>Embedded clauses with head nouns such as “toki” (time), “koto” (thing), “tokoro” (place) “hoo” (way)</p>	
6 Socio-linguistic development (3 & 1/2 to 4 yrs)	<p>Expressions in a formal context</p> <p>Gender specific speech styles</p>	<p>Ore (‘I’ used by boys) Omae (‘you’ used by boys)</p>
7 Adult speech system (early primary to lower high school age)	<p>More complex system of honorifics and formal pronouns</p>	<p>Watakushi (I [polite])</p>

(Based on Clancy, 1985, pp. 381-383)

Note, however, that she warns that this outline is “composite and hypothetical” (Clancy, 1985, p. 381). This is because Clancy’s subjects were of different ages, and, apart from one of them who was recorded for a period of one year, the other children were each recorded for only a short period of time. Also, she uses a descriptive method for analysis, relying on the record of the emergence of each of the new structures. Clancy also points out the difficulty of systematic analysis for early stages of acquisition of Japanese by children speaking natively, stating:

From the standpoint of language acquisition, the extensive ellipsis of ordinary Japanese conversation makes it difficult to evaluate a child’s utterances in terms of concepts typically applied in analysing the early stages of grammatical development, such as “telegraphic speech” and “obligatory context” (Brown, 1973). Japanese child language at the one- and two-word stages is more frequently grammatically complete and correct than would be the corresponding utterances of an English-speaking child, since child language is so dependent upon the “here and now” and in Japanese ellipsis where pragmatically appropriate is grammatically correct. Thus “acquisition” is more difficult to define, and early telegraphic speech more adult-like in Japanese than in English. (p. 375)

Even so, her description shows the general sequence of development of Japanese as an L1. Although her study did not focus on specific structures, from the table above, the order of the acquisition of verbal morphology and syntax, which is relevant to the current study, can be summarised in the following way:

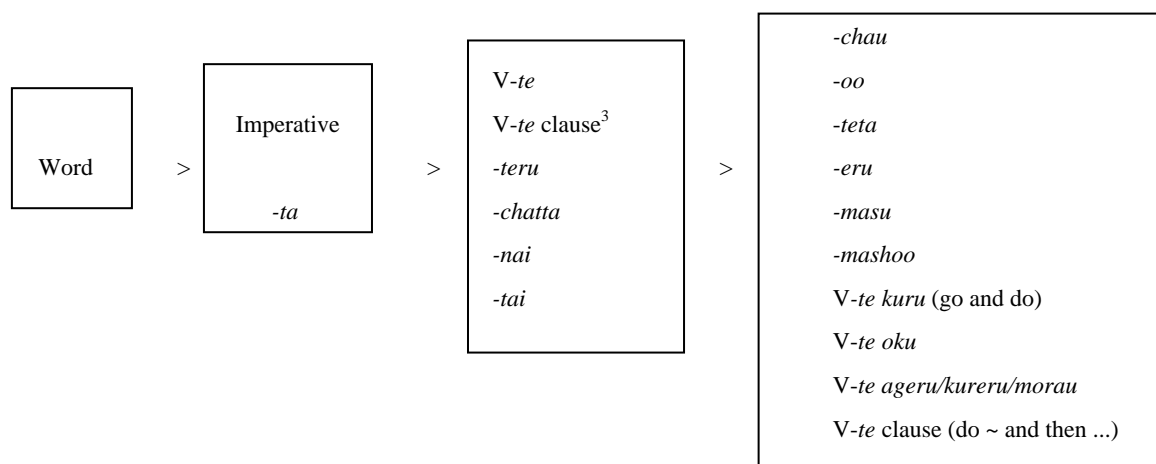


Figure 2.1 The order of the acquisition of verbal morpho-syntax in Japanese L1 (Based on Clancy, 1985)

2) K. Ito (1990)

In a longitudinal and descriptive study of Japanese as an L1, K. Ito (1990) documented in detail the early language development of his three daughters. Spontaneous utterances of the children (both TL and NTL forms), recorded from the onset of speech, formed his primary data. Although information on the exact duration and interval of the data collection is not explicitly provided, it seems that, like Wode (1976c), the data were recorded on a day-by-day basis until the children were five years old. He observed and documented their one-word, two-word and three-word utterances and a variety of syntactic structures which they developed subsequently. These structures include interrogation, negation (both structurally and semantically), transitive verbs, negative adverbs, and complex sentences. The results were compared to other research outcomes in Japanese and English as an L1, and were discussed from a developmental psycholinguistic point of view. K. Ito's results pertaining to the structures included in the current study are presented below.

³ According to Clancy (1985), this "V-te clause" indicates "temporal sequence and instrument" and is distinguished from another "V-te clause" in the next stage. However, it might be possible that the example provided for this structure, i.e., "koo shite ('by doing this' or 'in this way')" is an unanalysed chunk.

Negation. In order to further investigate the development of negation, K. Ito conducted a survey study of thirty children aged from thirteen to thirty nine months and, together with data on his daughters, the results were used as supplementary data. He found that Japanese children acquired the semantics of negation relatively early, i.e., at the age of two to three years old. Unlike the findings obtained by Bloom (1970) (See Chapter 2.2.3, pp. 15-16), which show that the semantic acquisition of negation in English as an L1 goes through an order of 1) non-existence, 2) rejection and 3) denial, he concludes that rejection comes before non-existence in Japanese L1. Further, he added two more semantic categories, namely “prohibition” and “disappearance”. He claims this occurs because, unlike in English which has only two words, i.e., “no” and “not” to express negation, Japanese has a variety of words such as “*iya* (dislike)”, “*dame* (no good)”, “*nai* (non-exist)”, “*janai* (not)”. “*chigau* (wrong)” and so on. The following table outlines the six semantic developmental stages of negation for speakers of Japanese.

Table 2.5

Developmental stages of semantic acquisition of Japanese L1 negation

Stage	Negative meaning	Negative word	Example [Context]
Stage 1	Rejection / Prohibition	<i>nai</i> , <i>dame</i> , <i>iya</i>	“ <i>Iyada</i> (no)” [when told to have a meal.] “ <i>Dame, dame, dame...Iya</i> (no, no, no...no)” “ <i>Bai bai nai</i> (no bye-bye)... <i>Bai bai iya</i> ” [when the child does not want to say bye-bye.]
Stage 2	Disappearance	<i>nai</i>	[When the mother hid herself.]
	Rejection	(<i>nai</i>), <i>iya</i> ,(<i>dame</i>)	
	Prohibition	<i>dame</i>	
Stage 3	Denial	<i>nai</i>	“ <i>Okaasan otoosan nai</i> (You are not Dad)” [when the mother said “yes” as a joke when the child called her father.]
	Non-existence	<i>nai</i> <i>nai</i>	[When the child found no fruit on her plate.]
	Disappearance		[When the father had left.] [When the child finished eating a

			rice ball.]
	Rejection	<i>nai, iya</i>	[When the mother tried to wipe the child's mouth.]
	Prohibition	<i>dame</i>	
Stage 4	Denial	<i>nai</i>	
	Non-existence	<i>nai</i>	" <i>Mizu nai</i> (There is no water)."
	Disappearance	<i>naku (nakunatta)</i>	" <i>Kami naku</i> (Paper has finished)." " <i>Otoosan naku</i> (Dad has gone)."
	Rejection	<i>iya</i>	
	Prohibition	<i>iya, dame</i>	
Stage 5	Denial	<i>chigau, (i)ai</i>	" <i>Chigau. Megu chan</i> (No, I am Megu)" [when called the wrong name.]
	Non-existence	<i>(i)nai</i>	
	Rejection	<i>iya</i>	
	Prohibition	<i>dame</i>	
Stage 6	Denial	<i>chigau, janai</i>	" <i>Megu chan no shiiru janai</i> (It's not my sticker)."
	Non-existence (Non-living)	<i>janai, nai</i>	
	Non-existence (Living)	<i>nai, inai</i>	
	Rejection	<i>inai, iya</i>	
	Prohibition	<i>iya, dame</i>	

(Based on K. Ito, 1990, pp. 95-108. Translation by the author of the current study.)

In the first stage, "*iya*" is the most popular word to express rejection. However, "*dame*" and "*nai*" are also used as a replacement for "*iya*", before "*iya*" is then used correctly. K. Ito calls the co-existence of these three words "semantic complex" or "undifferentiated semantic whole", which consists of different "semantic features" such as rejection and prohibition. In the second stage, the "semantic features" can be expressed by different words since the "semantic complex" begins to be differentiated. Consequently, "*iya*" is used for rejection and

“*dame*” for prohibition, although some replacement occurs during this transitional period. At this time, “*nai*” begins to be used for “disappearance”. In the third stage, children begin making a distinction between “*iya*” for rejection and “*dame*” for prohibition. On the other hand, “*nai*” is still used for multiple purposes, i.e., rejection, disappearance, non-existence, and denial, or what McNeil and McNeil (1973) call the “omnibus negative”. In the fourth stage, “*nai*” is not used for disappearance any more. From this stage to the next, children begin differentiating the two different verbs of non-existence for non-living and living things, i.e., “*nai*” and “*inai*”. For denial, “*chigau* (wrong)” appears and is used alongside “*nai*” in the fifth stage, and “noun + *janai* (not)” appears and is used alongside “*chigau*” in the sixth stage. In sum, the three basic “emotional” words “*iya*”, “*dame*” and “*nai*” represent only two different negative notions at the beginning. Later, more “intellectual” words such as the verb “*chigau* (wrong)” or, “*janai* (not)”, which consists of a negative suffix “*ja*” and a copula for nominal negation “*nai*”, appear in Stage 5 and 6 respectively to differentiate six different negative notions.

With regard to the development of negative structures, K. Ito reports that in Stage 1, just as children acquiring English as an L1 place a negator, such as “no” or “not”, outside the nucleus (i.e., outside the rest of the utterance), so too do children acquiring Japanese as an L1. However, Japanese children always place it after the nucleus, whilst English speaking children, although they have two options for the location of a negator, usually place it before the nucleus. K. Ito’s results for this stage of development are supported by a study conducted by Fujiwara (1976, p. 112), who reported that a boy aged 1;10 expressed negative meanings by adding “*nai*” after any utterance, short or long.

At Stage 2 in K. Ito’s study, morphemes indicating negation are added after the verb and adjective stems although they are still in a NTL form. Unlike English, which requires learners to place the negator inside the nucleus, Japanese does not require learners to do this. Instead, they are required to produce a morphological change to the verb and adjective stem. The examples for Stage 2 in Table 2.6 below are all NTL forms produced by children as they attempted to inflect one type of verb into a different verb form. Finally, in the third stage, the negation of

potential forms appears although in a NTL form. The following is a summary of the three stages which K. Ito outlines.

Table 2.6

Developmental stages of acquisition of Japanese negation in L1

Stage	Rules applied to form a negation	Examples
Stage 1	Place the negator “nai” after the rest of the utterance: “Nucleus + nai”	<i>Utau nai.</i> (not sing.) <i>Suki nai.</i> (not like.) <i>Onnaji nai.</i> (not the same.) <i>Omanjuu mitai nai.</i> (It’s not that I want to see a Japanese cake.)
Stage 2	Developing stage for morphological change when “nai” is added after verb and adjective stems.	<i>Kinai.</i> (not come.) <i>Mada kinakatta ne.</i> (Someone hasn’t come.) <i>Ofuton shite aranai.</i> (The futon has not been placed.)
Stage 3	The negation of potential forms is present as a NTL form.	<i>Ikerarenai.</i> (Can’t go.) <i>Nugerarenai.</i> (Can’t take off.) <i>Asoberarenai.</i> (Can’t play.) <i>Fukerarenai.</i> (Can’t wipe.)

(Based on K. Ito, 1990, pp. 108-114. Translation by the author of the current study)

The “nucleus + *nai*” stage was also reported as a NTL form of *i*-adjective inflection by Clancy (1985, p. 403) who states:

Japanese children negate true adjectives by adding *-nai* to the non-past inflection, producing forms such as **atsui-nai* rather than the adult *atsu-kunai* ‘is not hot’. This error appears to be almost universal in Japanese children of about 2 years-of-age: it occurred in the speech of all three of the 2-year-olds in my sample, and is also reported by Okubo (1967, p. 147), K. Ito (1976), and Yamamoto (personal communication).

Conjoining sentences. K. Ito documented the emergence of a variety of syntactical structures. These include subordination with the use of

conditional/hypothetical conjunctives, such as “*tara* (if/when)”, “*to* (if/when)” and “*ba* (if)”, and disjunctive conjunctives such as “*kedo* (but)” and “*noni* (although)”. Also included are coordination with the use of the *te*-form of a verb indicating a temporal sequence, and the *te*-form of a verb plus auxiliary. The following table is a summary of the acquisition order of these sentence structures based on K. Ito’s description of the emergence of each of the structures.

Table 2.7

Acquisition order of sentence structures in L1 Japanese

Order	Conjunction	Time line for emergence	Examples
1	No conjunction	1;11-2;11	<i>Taa chan mo shiranai Ayako chan mo shiranai.</i> (Neither Taa nor Ayako knows.)
2	“ <i>Te</i> ”-form of the verb for request	1;6	<i>Don tene = Don shite ne.</i> (Please do “bang”)
3	S-clause <i>kara</i> / M-clause+ S-clause <i>kara</i>	1;11-2;4	
4	<i>Te</i> particle for quote	2;1	<i>Uutan dame date.</i> (Uutan said that it was no good).
	M-clause + S-clause + <i>kara</i>	2;1	<i>Dame yo ookisugiru kara.</i> (It is no good because it’s too big.)
5	Conditional/hypothetical <i>tara</i> S-clause + <i>tara</i>	2;2-2;10	<i>Akachan nene shitara onbu shite ne.</i> (If the baby goes to sleep, please carry her on your back.)
6	<i>Te</i> -form of verb + auxiliary verb	2;4-2.9	<i>Bachu ni notte icchai mase.</i> (Please go by bus = please go riding on the bus.)
	Noun /adjective + <i>toki</i> (when)	2;4	<i>Ookiino Otsuki chan deta yo kaimon toki</i> (The big moon appeared when we were shopping.)
	Clause 2 + S-clause + <i>toki</i>		
	<i>Te</i> -form of verb + <i>ageru/morau</i> (Benefactive)	2;5 – 2;6	<i>Akichan ni dakko shite ageta.</i> (I held Aki for her.)
7	S-clause + <i>kara</i> + M-clause	2;6-3;00	<i>Tsurete kuru kara matte.</i> (Please wait because I will bring him.)

8	S-clause + <i>noni</i> (even though)	2;6-4;3	<i>Tabeyoo to omotta noni.</i> (I thought I would eat it, you know.)
9	S-clause + <i>toki</i> + M-clause	2;10	<i>Okaimono itta toki katte ne.</i> (When we go shopping, please buy it.)
	M-clause + S-clause + <i>kedo</i> (although)	2;10	<i>Moo koboresookunai ne sakki wa koboresoo datta kedo</i> (It doesn't look like it will spill any more although it did look like it would just before.)
10	S-clause + <i>kedo</i> + M-clause (although)	Late 2-3	<i>Ippai was sukida kedo, chitto wa suki nai.</i> (I like lots of this but I don't like little of this.)
11	Conditional/hypothetical “ <i>ba</i> ”	3-4	<i>Koremo zenbu kaeba yokatta jan.</i> (I would have been good if you had bought all of these.)
	S-clause + <i>ba</i> + M-clause		
12	Conditional “ <i>nara</i> ” and “ <i>to</i> ”	Late 3-4	<i>Dooshitemo yoochien e ikunara kono hankachi motte iku.</i> (If it is true that I am going to kindergarten, I will take this handkerchief with me.)
	S-clause + <i>nara/to</i> + M-clause		<i>Yuri chan onetsu ga aruto dokko emo ikenai ne.</i> (If Yuri has got a temperature, we won't go anywhere, will we?)

(Based on K. Ito, 1990, pp. 131-142, English translation and highlighting by the author of the current study.)

With respect to subordination through the use of the conjunction “*kara* (because)”, K. Ito hypothesises five stages of acquisition. First, children juxtapose two sentences without using a conjunctive. At stage 2, only a subordinate clause (S-clause) and a conjunctive appear, e.g., “*Iya iya, koko ni irukara* (No, no, because I will be here)”. According to K. Ito, this is probably because it is difficult for children to produce the structure consisting of three elements, i.e., S-clause + conjunctive + main clause (M-clause). At Stage 3, M-clause comes before “S-clause + conjunctive”. Here a TL order of sentence conjoining structure is reversed. K. Ito states that children might add their “after thought” after the main clause because this procedure is cognitively easier than stating the reason before the main clause. At Stage 4, children produce an incomplete complex sentence by

placing just a noun, instead of a complete main clause, after the subordinate clause and the conjunction. K. Ito explains that this may be a “precursor” to a perfect complex sentence. He also refers to a similar utterance found in the speech produced by a boy (2;4) speaking English as his L1 in a study conducted by Fletcher (1985, p, 156). In this Fletcher documented the following example:

Example:

He didn't go to school cos (because) his half term.

Note that in a Japanese complex sentence a conjunction is placed after the subordinate clause and together these come before the main clause.

e.g., *Onaka ga suita* *kara,* *takusan taberu.*
 I am hungry (S-clause) because (conjunction) I will eat a lot (M-clause)
 Because I am hungry, I will eat a lot.

These five stages of acquisition as outlined by K. Ito are given below with examples of each:

Table 2.8

Developmental stages of acquisition of subordination in L1 Japanese

Stage	Rule applied to form a negation	Example
Stage 1	Juxtaposition of two sentences which are semantically related (No conjunctive appears.)	<i>Akachan naku, Kaachan onbu chie.</i> (=Akachan nakukara, okaasan onbu shite.) (Please carry her on your back, Mummy because the baby cries.) <i>Nao chan moo moo kowatte, Yui chan iiko iiko.</i> (=Nao chan wa ushi o kowagatta ga, Yuri chan wa ushi o ii ko, ii ko to nadeta.) (Nao was scared of the cow but Yuri patted it, saying “good cow, good cow”.)
Stage 2	S-clause + Conjunctive: M-clause, which is semantically related to the interlocutor's previous utterance, is omitted.	Grand mother: <i>Mama e kaerinasai.</i> (Go back to your mummy.) Child: <i>Iya iya, koko iru kara.</i> (No no, because I will be here.)
Stage 3	M-clause + S-clause + Conjunctive:	<i>Chi (=ki) o tsukete kaette ne, abunai kara.</i> (Watch out and go home because it is

	Clause 2 (main clause) comes first and Clause 1 (subordinate clause) is added after that.	dangerous.)
Stage 4	S-clause + Conjunctive + word/phrase	<i>Tsumetai da kara surippa.</i> (Slippers because it is cold.)
Stage 5	S-clause + Conjunctive + M-clause Complete complex sentences emerge.	<i>Achui kara, boochi kabutte ikoo ka.</i> (Let's go with a hat on because it is hot.) <i>Yuri chan ga notteru maeni Nao chan hippatta.</i> (Before Yuri got on, Nao pulled it.)

(Based on K. Ito, 1990, p. 141. Translation and highlighting done by the author of the current study.)

In summary, although K. Ito's study was descriptive and no comparison was specifically made with regard to the acquisition of verbal morpho-syntax, it may be possible to infer from the available data that verb morphology may have emerged in the order of negation and V-*te* > V-*te* V structures (e.g., *-te shimau*, *-te ageru/morau*) in his subjects' interlanguage.

3) Yokoyama (1990, 1997)

Other researchers have also documented the order of acquisition by Japanese L1 subjects. For example, Yokoyama (1990, 1997) investigated the development of particles in a boy acquiring Japanese as his L1 by observing his oral production from the time he began talking. He also compared the emergence of NTL and TL forms for each of thirteen different case marking particles: *ga*, *o*, *no*, *ni*, *de*, *to*, *kara*, *awa*, *mo*, *shika*, *dake*, *kara*, *noni*. The results show that first TL forms emerge, then NTL forms for most of the particles appear alongside those TL forms (free variation), and then NTL forms begin disappearing. The following table summarises these findings:

Table 2.9

The developmental stages of particles

Stage	Description	Example using the case marking particle “ <i>no</i> ”
Stage 1	No emergence of particles. (Telegraphic speech)	
Stage 2	Target-like (TL) use of particles in limited speech.	TL: “Adjective + noun without ‘ <i>no</i> ’ in between” e.g., <i>Akai hana</i> . (Red flowers)
Stage 3	Not only TL but also NTL forms emerge.	TL: “Adjective + noun without ‘ <i>no</i> ’ in between” e.g., <i>Akai hana</i> . (Red flowers) NTL: “Adjective + noun with ‘ <i>no</i> ’ in between” e.g., <i>Marui <u>no</u> unchi</i> . (Round poo)
Stage 4	Self-correction of his own non-target-like forms.	NTL and then TL: e.g., <i>Ookii <u>no</u> fukuro</i> . <i>Ookii fukuro</i> . (A big bag. A big bag.)
Stage 5	TL use of all particles.	TL: Adjective + noun without ‘ <i>no</i> ’ in between. e.g., <i>Akai hana</i> (Red flowers.)

(Based on Yokoyama, 1997, p. 141. Translation with one TL form example added by the author of the current study.)

These stages appear in the U-shape behaviour described by Kellerman (1985). Also, according to Yokoyama, these stages are similar to what Slobin (1973) calls “the stages of linguistic marking of a semantic notion”. Slobin states that in relation to the acquisition of linguistic rules there is an operating principle whereby children tend to avoid exceptions, that is to say, they tend to overregularise or overgeneralise rules. Slobin suggests that these developmental stages occur in the following order:

Table 2.10

The developmental stages of linguistic marking of a semantic notion

Stage	Description	Examples using the English past tense
Stage 1	No marking	break, drop
Stage 2	Appropriate marking in limited cases	broke, drop
Stage 3	Overgeneralisation of marking (often accompanied by redundant marking)	breaked, dropped breakteed, dropped
Stage 4	Full adult system	broke, dropped

(Based on Slobin, 1973, p. 205.)

Yokoyama (1990, 1997, p. 141), however, points out some differences between what he found and what is described by Slobin. Firstly, the NTL particles that Yokoyama's subject produced as a result of his overgeneralisation appear to co-exist with TL forms, while in contrast Slobin stresses the overgeneralisation. Secondly, an additional stage, that is the self-correction stage was found in the development of particles by the Japanese speaking child.

As mentioned at the beginning of this section, it is difficult to compare the findings of the various Japanese as an L1 studies because of their descriptive methods and because they do not deal with exactly the same structures. However, one comparison that is possible is that of K. Ito's and Clancy's findings. Both found the existence of the "nucleus + *nai*" stage for negation and a similarity in the order of three conjunctions, i.e., "*tara*", "*kara*" and "*toki*". Clancy found that "*tara*" and "*kara*" appeared before "*toki*", and the results of K. Ito's study indicate that "*tara*" appears first, "*kara*" second and "*toki*" last.

2.2.5 Summary of Section 2.2: Identifying Acquisition Patterns in FLA

In this section, the findings of the studies in L1 acquisition were presented and the methodologies used in these studies were discussed. Two important issues were highlighted. Firstly, the findings of FLA studies, particularly those undertaken in the 1960s and 1970s, provide a useful source of comparison for SLA studies. Specifically the results of the acquisition order studies, both longitudinal and cross-sectional, show that the acquisition order of grammatical morphemes in English is common among children speaking English as their L1. Also, the results of the developmental sequence studies demonstrate that children acquiring their first language take a similar developmental route, particularly in regard to linguistic features such as negation and interrogation. Secondly, the methodologies used in L1 studies provide a solid foundation for L2 research, even taking into account the methodological problems of the morpheme studies (i.e., the inadequate scoring system) which equalised acquisition and accuracy. The findings presented in this section suggest that the picture of how Japanese is acquired as an L1 is less clear. This is because until the 1970s most of the early research was undertaken in the form of observation or diary studies and the subsequent empiricists' studies undertaken in the 1980s and 1990s (which occurred much later than the European language studies), lacked a consistent method and common focus. Nevertheless, like L1 acquisition researchers in European languages, these researchers offered opportunities for a comparison between Japanese L1 and L2 in such areas as negation and subordination. These will be discussed in detail in the next section, along with a comparison of FLA and SLA studies about negation and interrogation.

2.3 Identifying Acquisition Patterns in SLA

This section, consisting of five parts, will provide an account of SLA research conducted beginning from the 1970s. First, a description of the early developmental stages of L2 will be given, and the second and third parts will cover acquisition order studies, and developmental sequence studies, in European languages respectively. In the fourth part, studies about the acquisition of Japanese as an L2, both with respect to acquisition order and developmental sequence, will be reviewed together. Finally, a summary of the chapter, including this section, will be

provided.

2.3.1 The Early Stages of L2 Acquisition

Just as the empirical findings from studies about children learning their L1 have indicated that there are early developmental stages (e.g., cooing and babbling) that occur even before they begin producing a large quantity of speech, so too do children and adults acquiring an L2 naturalistically go through some typical early developmental stages. These stages are often described as 1) the silent period, 2) the formulaic speech period, and, 3) a structural and semantic simplification period, which have been observed to be common among many of these learners (Ellis, 1994, p. 82).

1) The silent period

The existence of a silent period has been reported by several researchers (Hakuta, 1976; Hanania & Gradman, 1977; Itoh & Hatch, 1978; Saville-Troike, 1988; Rodoriguez, 1982) in their young, adolescent and adult subjects at the beginning stages of learning English as an L2. For example, Hakuta's subject, who was a five year old Japanese girl acquiring English as her L2, yielded very little oral production data while she was playing with her friends in her home in the first three collection sessions, which occurred four months after she came to the USA. During the one to one and a half hour tape recording sessions of her spontaneous interaction with her peers, she produced eleven utterances on the first occasion, only three during the second session, and twenty seven, with the help of pictures as stimuli, during the third session. It took a further two months before the girl's English "blossomed" (Hakuta, 1978, p. 134). Similar findings in SLA are reported by Huang (1970) in his study of a five year old Taiwanese boy acquiring English; by Ervin-Tripp (1974) in her investigation of American children aged four to nine acquiring French; and, by Hanania and Gradman (1977) in their research on a nineteen year old Saudi subject who was learning English. Similarly, Saville-Troike (1988) found that six out of nine young subjects who were learning English had a silent period. However, it is not clear whether or not a silent period is common to all L2 learners (Larsen-Freeman & Long, 1991, p. 141), nor whether it

occurs due to learners' "psychological withdrawal rather than the acquisition process at work" (Gibbons, 1985). Ellis (1994) also points out that, in many cases in which a silent period was observed, the learners were not totally silent but rather produced some formulaic utterances.

2) Formulaic speech

The use of formulaic speech has been also reported in the early stages of language acquisition by many researchers (e.g., Ervin-Tripp, 1974; Hakuta, 1974; Hanania & Gradman, 1977; Huang, 1970; Itoh & Hatch, 1978; Rescorla & Okuda, 1987). For some researchers (Hakuta, 1976; Krashen & Scarcella, 1978), formulaic speech has two sub-categories: routines which are "whole utterances learnt as memorised chunks (for example, 'I don't know') and patterns which are "utterances that are only partially unanalysed and have one or more open slots (e.g., 'Can I have a _____?') (Ellis, 1994, p. 84). More recently, Wray (2002), attempting a more comprehensive and inclusive description of formulaic language, uses the term "formulaic sequence" and gives the following definition:

"A sequence, continuous or discontinuous, of words or other elements, which is, or appears to be, prefabricated: that is, stored and retrieved whole from memory at the time of use, rather than being subject to generation or analysis by the language grammar." (p. 9)

One of the characteristics of these formulas is that, unlike other creative utterances in the early stages of language acquisition, they are well-formed, i.e., they display TL morpho-syntax (Ellis, 1994, p. 86). With regard to the possible role played by these formulaic speeches, Ellis (1994) notes:

A number of researchers have suggested that formulaic speech serves as the basis for subsequent creative speech when the learner comes to realise that utterances initially understood and used as wholes consist of discrete constituents which can be combined with other constituents in a variety of rule-bound ways. (pp. 86-87)

Wong-Fillmore (1976) suggests, from her study of five Spanish-speaking

children aged between five and seven years, that in their acquisition of English as an L2 the children gradually analyse formulaic utterances and become able to operate them by replacing initial constituent elements, which have been used as part of formulae, with other new ones. She studied these five children in play situations with native speaker peers at school, and found that in terms of social strategies there were three operational stages in early L2 acquisition. First, the children aim to establish a social relationship with native speaker peers by using gestures and learning the names of objects and by using formulaic expressions. At the next stage, they produce creative sentences “by combining formulas, substituting within formulas in sort of a slot-filler manner” (Hatch, 1978, p. 472). At the third stage, they began to be conscious of the morphologies required for such things as tense. Wong-Fillmore (1976, 1979) highlights the importance of the acquisition of formulaic speech suggesting that it permits social interaction and argues that through this the learners are able to participate in activities with their English speaking peers and therefore gain exposure to the target language.

3) Structural and semantic simplification

Huang and Hatch (1978) examined the strategies used by a five year old Taiwanese boy when he began acquiring English as his L2 after arriving in the USA. For a period of a four and a half months, observational data were collected at school five mornings per week and additional tape recording sessions were conducted on weekends. The child not only produced formulaic speech, he also simplified what he said by using only two words with a pause between them, e.g., “This+++kite”, “Yeah, that +++bus” and “This+++car” (Huang & Hatch, 1978, p. 123). These utterances did not sound like a pronoun and a noun (i.e., ‘this kite’) but rather like a topic and a comment with a distinct juncture between them due to the use of falling intonation for each word.

Butterworth (1972) also found evidence of simplification when he investigated the acquisition of English as an L2 by a thirteen-year-old Colombian subject, Ricardo. The subject’s speech data were collected at least once, and usually several times, each week over a period of three months commencing two

months after his arrival in the USA. The data that were collected included: 1) spontaneous speech, 2) negation tests, 3) elicited imitations, 4) morphology tests, and, 5) translation data. The results of an analysis of these data showed that the subject had a tendency to simplify his English structure. For example, apart from when he imitated his interlocutor, Ricardo ignored auxiliaries such as tense, modals, be + ing, have + en, and do. During this time his use of morphological endings for plurality, possessives and so on was not evident, and his use of the copula was optional.

Other examples of simplification appear in the studies by Wagner-Gough and Hatch (1975) and Wagner-Gough (1975, 1978) who investigated the discourse strategies used by a child learner, Homer. Homer was a Persian child who was acquiring English as his L2. The study commenced when he was aged 5;11. He was observed daily over a period of five months at his home as he played with an American peer. The subject frequently imitated his interlocutor's previous utterances and also incorporated chunks of speech from the previous discourse into his own utterances. In addition to these imitation and incorporation strategies, he also used a simplification strategy. Instead of using "don't ~", "It's ~" and "I have ~", he simply used "Is ~" for all occasions, e.g., "Is no got ya." (= Don't grab me.), "Is Homer." (= It's Homer.) and "Is something." (=I have something for you.).

Similar results for simplification were found in the utterances of child subjects participating in the study of the acquisition of German as an L2 by Pienemann (1980), and in the study of the acquisition of English as an L2 in a classroom setting by Ellis (1984). Ellis (1994, p. 89) provides the following examples:

Examples:

Me no blue (=I don't have a blue crayon)

Eating at school (=She eats meat at school)

Interesting results also emerged from the research conducted by Itoh and Hatch (1978), who studied the very beginning stages of acquisition of English by a Japanese child. The data consist of a journal of observations made at school,

forming 38 three hour sessions over a period of six months, and tape recording sessions conducted in the subject's home during the last four months of the study. They report three different stages in his acquisition of English, namely (a) a rejection stage, (b) a repetition stage, and (c) a spontaneous speech stage (Itoh & Hatch, 1978, p. 78).

The rejection stage appears to be somewhat similar to silent period, but, unlike Dulay, Burt and Krashen (1982) who see silent period as comprehension period via listening, Itoh and Hatch (1978) suggest there is little evidence to show that this is an extended listening period. During this period, which extended over three months, the subject, Takahiro, who was 2;6 at the commencement of the data collection, seemed to refuse to speak English with anyone at the nursery school he attended and with the researcher in his home. However, as the researchers admit, it is not clear whether Takahiro avoided English itself or whether he avoided communication in general at the nursery school which he attended immediately after moving from Japan to the United States.

After three months, however, two major incidents occurred which appeared to break through his silence and which seemed to trigger him to move into the repetition stage. Firstly, when the researcher attempted to teach him English by mixing a simple English word with a Japanese sentence such as "*Kore* 'push' *shite goran* (try pushing this)", Takahiro began responding by repeating "push?"; secondly, the subject's aunt began to play a "repeat after me" game with Takahiro in English, and he began to repeat more and more words.

After this short repetition period and during his fourth month in the USA, he finally reached "spontaneous speech stage". However, Itoh and Hatch (1978) also report that even in this stage the child continued to make extensive use of ready-made chunks or patterns such as "This is a four", "This is a air plane" and "This is a my truck".

2.3.2 Acquisition Order Studies in SLA

The morpheme order study undertaken by Brown (1973) (and described previously in 2.2.2 of this chapter) acted as a catalyst for SLA researchers. A number of SLA researchers have undertaken similar studies, using either a cross-sectional or longitudinal approach, although the former outnumbers the latter (Ellis, 1994). Amongst the first ones were Dulay and Burt (1973) who investigated the acquisition order of eight grammatical morphemes in English by a total of 151 Spanish speaking children aged six to eight. The results of this cross-sectional study indicate that the order of morphemes is: 1) plural (-s), 2) progressive (-ing), 3) copula (is), 4) article (a, the), 5) auxiliary (is), 6) irregular past (ate, took), 7) third person singular (-s) and, 8) possessive (Noun-'s). The children were from three different groups: ninety-five Chicano children living in California; twenty-six Mexican children living in Mexico, but attending school in California, which was five miles away from their residence; and, thirty Puerto Rican children in New York City. These three groups of children had different amounts of exposure to English due to their different arrival times in the USA and according to the different types of English learning environments (e.g., the availability of bilingual programs). Nevertheless, Dulay and Burt found that the three groups followed approximately the same acquisition order for these grammatical morphemes.

In a later study, Dulay and Burt (1974) examined the acquisition order of eleven grammatical morphemes of English, again in a cross-sectional approach, using children aged six to eight years who came from two different L1 backgrounds: specifically oral data were taken from sixty Spanish speaking children and fifty five Chinese speaking children. The results show that these two groups acquired the eleven English morphemes in a similar order, i.e., the eight morphemes used in their previous study in 1973 plus pronoun case (He), regular past (closed) and long plural (houses).

The method employed in these two studies by Dulay and Burt (1973, 1974) was the same as that used in earlier L1 research, namely speech samples were elicited using the Bilingual Syntax Measure (BSM), tape recorded and transcribed

and scores were calculated based on the degree of correct use displayed in obligatory contexts. The analysis was made on the rank orders obtained from the mean score for the children in each group, for each structure (See Chapter 4.2). In fact, Dulay and Burt (1974) used three slightly different scoring methods called the Group Score Method, the Group Means Method and the syntax-acquisition-index (SAI) Method to confirm their results. The results of Dulay and Burt's research showed that all their child L2 subjects acquired grammatical morphemes in a similar manner. However, the acquisition order for these L2 learners differs from that of Brown's (1973) L1 subjects in certain respects. In particular, the irregular past tense, the article, the copula and the auxiliary show the greatest differences. A comparison of the findings between these L1 and L2 studies is illustrated in the following table. Those four functors which differ in the L1 and L2 contexts are highlighted.

Table 2.11

Similarities and differences of the order of morphemes between L1 and L2

Order	L1 (Brown, 1973)	L2 (Dulay & Burt, 1974)		
		Group Score Method	Group Means Method	Syntax Acquisition Index Method
1	present progressive	case	case	case
2	in, on	article	article	copula
3		copula		
4	plural	-ing	copula, -ing	article / -ing
5	past irregular	plural	plural	auxiliary
6	possessive	auxiliary	auxiliary	plural
7	uncontractible copula	past regular	past regular	
8	article	past irregular		past irregular / possessive
9	past regular	long plural	past irregular / possessive	
10	third person regular	possessive	long plural	past regular /

11	third person irregular	3 rd person	3 rd person	long plural / 3 rd person
12	uncontractible auxiliary			
13	contractible copula			
14	contractible auxiliary			

(Based on Brown, 1973 and Dulay and Burt, 1974)

To test whether the order for the eight grammatical morphemes suggested by Dulay and Burt (1973) was similar or not for adult ESL learners Bailey, Madden and Krashen (1974) used a cross-sectional approach. The subjects were seventy-three adults with twelve different L1s, who were learning ESL at a college in New York. As in the studies by Brown (1973) and Dulay and Burt (1973, 1974), the BSM was the instrument used to elicit oral production from the subjects, which was tape recorded and analysed. Their findings showed a significant correlation with those obtained for children by Dulay and Burt. Bailey et al. (1974) also compared the acquisition orders of two groups of speakers, one of which was Spanish and the other consisting of eleven different languages, i.e., Greek, Persian, Italian, Turkish, Japanese, Chinese, Thai, Afghani, Hebrew, Arabic and Vietnamese. As with the aforementioned studies, the acquisition orders of these learners were similar.

In order to search for a possible explanation for the common morpheme order found by Dulay and Burt (1973, 1974) and Bailey et al. (1974), Larsen-Freeman (1976a) conducted her own study with specific attention to the influence on the findings of the L1 backgrounds of the subjects and of the nature of tasks used to elicit the data. The twenty four subjects used in this cross-sectional study consisted of six adult learners of ESL from each of four L1 backgrounds, Arabic, Japanese, Persian and Spanish. The five tasks administered were reading (multiple-choice cloze test), writing (filling in blanks test), listening (listening comprehension test), imitating (a picture-cued sentence repetition test) and speaking (the BSM). To undertake the analysis, she also utilised morpheme suppliance in obligatory contexts (e.g., Brown, 1973) (See Chapter 4.2 for a discussion of this) to score the data

elicited by these tasks. This procedure was repeated after an interval of two months. The results of this study indicate that, although there are some differences in morpheme orders on different tasks (between reading/writing tasks and listening/imitating/the BSM tasks), the orders from the oral production tasks i.e., imitating and speaking tasks, are similar to those of Dulay and Burt (1974). It was also found that L2 backgrounds did not have a significant influence on the order of morphemes. However, in her subsequent study (1976b) she suggests that the frequency of the same morphemes in the interlocutor's speech might be one factor which influences the acquisition order.

In another cross-sectional study on accuracy orders, Krashen, Butler, Birnbaum and Robertson (1978) compared the results obtained from two kinds of writing tasks: "fast" writing and "careful" writing. Seventy adult learners of ESL with four different L1 backgrounds participated in this study. The results show that there was no distinction between the two tasks in terms of the morpheme orders obtained, and that the orders of the morphemes on the tasks correlate significantly with those of oral data obtained by Dulay and Burt (1973, 1974). With regard to a comparison with L1 studies, Krashen et al. only found some similarities between L1 and L2 learners in the acquisition order of five bound morphemes such as the "-s" in "eats" and "-ing" in "smiling".

An examination on the findings of these and other studies (e.g., Christison, 1979; Fuller, 1978; Krashen, Housh, Giunchi, Bode, Birnbaum & Strei, 1977) led Krashen (1977, 1982) to claim that there was indeed a "natural order" in the acquisition of grammatical morphemes in English as an L2, and that this was regardless of the learner's language background, age, and linguistic medium used (i.e., whether data used were written or spoken). Krashen (1977) also grouped some morphemes together in order to take account of the marginal and large differences found between each in the ranked morpheme studies. The following figure shows Krashen's grouped morpheme order in English:

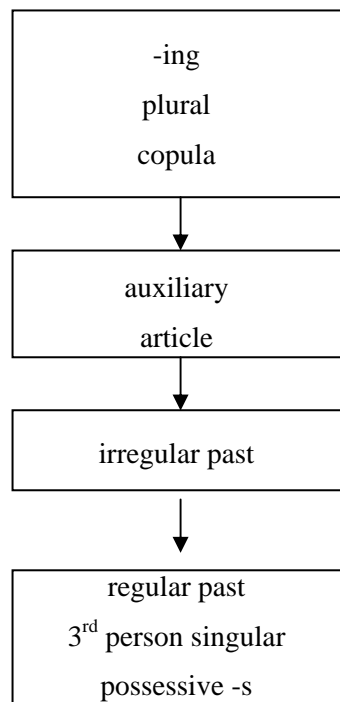


Figure 2.2 “Natural order” for grammatical morphemes (Krashen, 1977)

Despite the consistency of results found in these cross-sectional studies, a comparison with the findings of some of the few longitudinal studies on the order of morphemes suggests some discrepancies.

Rosansky (1976), for instance, investigated the acquisition of English as an L2 by a thirteen year old Spanish speaking subject, Jorge, over a period of ten months. This boy was one of the six subjects who were used in the investigation of the acquisition of negation and interrogation by Cancino, Rosansky and Schumann (1978). It is not clear how often data were collected and whether the oral production was spontaneous or elicited speech. Rosansky reported that her results on the order of acquisition of the morphemes were different from those obtained by Dulay and Burt (1973, 1974).

Similarly, Hakuta (1974), using Brown’s (1973) criteria for grammatical morpheme acquisition of L1, analysed the spontaneous oral production of a five-year-old Japanese girl learning English as an L2. Data were collected every week initially, and later fortnightly, over a period of forty weeks. Hakuta found that

the child's acquisition order of English morphemes was different from that of children learning English as L1 in studies such as those conducted by Brown (1973), and de Villiers and de Villiers (1973). For example, the acquisition of articles by this girl was ranked lower than those by Brown's and de Villiers and de Villiers' children in L1. This led Hakuta to hypothesise that some of the differences might be due to L1 interference. The order of the morphemes found in his study was: 1) present progressive, copula, auxiliary, 4) in, to, 6) auxiliary past (didn't), 7) on, 8) possessive, 9) past irregular, 10) plural, 11) articles, 12) third person regular, 13) past regular, 14) gonna-auxiliary. This sequence is different not only from the L1 order, but also from that of L2 acquisition as reported by Dulay and Burt (1973, 1974). According to Hakuta, the fact that the semantic notions of definite/non-definite expressed by English articles do not exist in Japanese may account for the late acquisition of this functor.

Schmidt (1983) is another researcher whose longitudinal study of an individual learner found discrepancies in morpheme acquisition, such as plural, article and past regular, when compared with Dulay and Burt's order of morphemes. His subject was an adult Japanese speaker, Wes, who was acquiring English as his L2 in Hawaii. Wes' oral production was recorded in different natural settings over a period of three years, although it is not clear for how long nor how often these data collection sessions occurred.

Because of the inconsistencies which exist between the empirical findings of the large number of cross-sectional studies and the small number of longitudinal studies in SLA, it would be easy to assume that the findings obtained in longitudinal studies of individual learners are atypical. However, it could be that the inconsistencies may be due to differences between the "accuracy order" obtained in cross-sectional studies and the "acquisition order" emerging from longitudinal studies (Ellis, 1985). Therefore, it is apparent that there is a need to further test the validity of the previous studies of acquisition order in SLA. Despite the inconsistencies noted above, longitudinal case studies provide opportunities for researchers to look at discourse beyond accuracy in order to explore those interrelated factors that may affect language development.

For instance, when Sato (1990) investigated the interlanguage development of two Vietnamese children acquiring English as an L2, she did so in a naturalistic setting and through a longitudinal case study. The subjects, who received no formal ESL instruction when arriving in the United States, lived with American foster parents. Data were collected through audio taping their spontaneous conversation with the researcher, the foster parents and their peers over a 10-month period. Sato found that the boys failed to acquire past tense inflections, despite the opportunity to hear and produce these linguistic features in their social discourse on a daily basis. Her analysis of the acquisition process in relation to the boys revealed that, by relying on the interlocutor's use of past tense marking and their own insertions of adverbial phrases and expressions as time indicators, they often obviated the need for the application of temporal and aspectual morpho-syntax. This sort of analysis, which cannot be made in cross-sectional/experimental studies, might only be possible in case study research.

In sum, a number of morpheme studies conducted in the 1970s using a cross-sectional approach provided substantial indication that, regardless of the learners' ages and L1 backgrounds, there seemed to be a similar acquisition order in L2. However, the analysis used in most of these studies is based on accuracy order in obligatory contexts, therefore, despite a large database it "does not have the potential of describing the dynamics of interlanguage development" (Pienemann, 1998b, p. 137). Secondly, the fact that some discrepancies were found between these findings and those from some longitudinal studies means that a source of the problems might be in the nature of the cross-sectional approach itself. This approach can at best show one-off results, which do not reveal "variability at the level of the individuals" (Larsen-Freeman & Long, 1991, p. 90). And above all, as Larsen-Freeman and Long (1991, p. 91) point out, the findings are limited to the order of "a linguistically heterogeneous group of bound and free NP and VP morphemes", which is also "a tiny portion of English grammar". There is obviously a need for analysing the acquisition process of individual learners for a wider range of structures both quantitatively and qualitatively, and this may only be possible using a longitudinal approach.

2.3.3 Developmental Sequences in SLA

Again following in FLA researchers' footsteps, the SLA investigators of developmental sequence examined negation, interrogation and, more recently relative clauses. According to interlanguage theory, these structures provide the best indicators of progress, through a series of developmental stages, towards target language competence (Ellis, 1985). Wode (1981) explains one of the reasons why negation has been chosen for in-depth analysis:

The negation systems of TC⁴ and German involve a number of syntactic phenomena, like word order, alternations between forms, syntagmatic suppletions, domains of syntactic rules, etc. The acquisition of this structural area will therefore, it is hoped, provide insights not just into negation but, more generally, into the impact of a variety of formal linguistic properties within the L2 acquisition. (p. 91)

Results of the studies in L2 English, German, and Swedish contexts indicate that learners follow, with minor differences, similar sequences of acquisition for negation regardless of their different L1s (Cancino, Rosansky & Schumann, 1978; Schumann, 1978, 1979; Stauble, 1978, 1984 for English; Eubank, 1987; Meisel, Clahsen & Pienemann 1981; Wode, 1977, 1978 for German; Håkansson, 1989; Hyltenstam, 1977, 1981 for Swedish). Further, this is true regardless of the age of the learner as the subjects of these studies include children, adolescents and adults.

Milon (1974), for instance, investigated the acquisition of negation in English by a seven year old Japanese boy, Ken, who, at the commencement of the study, had recently arrived in Hawaii. The speech produced by Ken was video taped over a period of more than six months at regular intervals. The results show a striking similarity with those of Klima and Bullugi (1966) who described the developmental sequence of negation by children learning English as L1 (see Chapter 2.2.3, pp. 14-15). That is, the boy first placed the negator externally, next, he moved it inside

⁴ Trinity Center, i.e., English spoken at Trinity Center, California where Wode's subjects stayed to acquire English as their L2.

the utterance, and finally he placed it after the auxiliary.

In their study, Cancino, Rosansky and Schumann (1978) investigated the naturalistic, untutored acquisition of negation and question forms in English by six Spanish speakers, who had been in the United States for less than three months. The subjects included two children aged five, two adolescents, one aged eleven and one thirteen, and two adults. The subjects were visited approximately twice monthly over a period of ten months during which their oral production was taped for an hour at each session. The data collected were spontaneous conversation with the researcher; speech produced by experimental elicitation in which the subject was asked to imitate or negate an utterance and speech produced through planned socio-linguistic interaction in which the subjects were exposed to various natural social events such as parties. From these data, the researchers analysed the various negative devices such as “no”, “don’t” and “auxiliary plus negative” in terms of the frequency of each negator relative to the total number of negatives for each tape recording session. As a result of comparing these relative frequencies for each subject, as depicted in graphs, they found that, regardless of the age difference, all the subjects followed the same developmental pattern. This is outlined in the following table:

Table 2.12

Developmental sequence for English negation in L2 by six Spanish speakers

Stage	Rules applied to form a negation	Example
i	No V	I no understand.
ii	Don’t V	He don’t like it.
iii	Aux-neg	You can’t tell her.
iv	Analysed don’t; disappearance of no V	He doesn’t spin.

(Cancino, Rosansky and Schumann, 1978, p. 229)

Larsen-Freeman and Long (1991) reviewed studies on the developmental

sequence of negation by learners of English as an L2 from a variety of L1 backgrounds and identified that there are four common stages which they were reported to go through. At Stage 1, the negator “no” is placed externally, usually before the verb. At Stage 2, the negators such as “no”, “not” and “don’t” appear pre-verbally. Although some learners’ L1 has post-verbal negation, pre-verbal negation is common to all learners at these stages. At Stage 3, “not” follows an auxiliary such as “can”, usually forming a contracted form such as “can’t”, and the copula such as “is” and “was”, also forming “isn’t” and “wasn’t”. Larsen-Freeman and Long (1991) suspect that these are unanalysed chunks and that analysing and generalising from these rules at this stage leads to Stage 4, where learners become able to analyse “don’t” and attain the full target system of auxiliary plus the negative form. The following table is a summary of the route taken by learners in developing English negation.

Table 2.13

Developmental sequence for ESL negation

Stage		Sample utterance
1	External	No this one / No you playing here.
2	Internal, pre-verbal	Juana no / don’t have job
3	Aux. neg	I can’t play the guitar.
4	Analysed don’t	She doesn’t drink alcohol.

(Larsen-Freeman and Long, 1991, p. 94)

Similarly, Cancino, Rosansky and Schumann (1978) also found that there was a developmental sequence in the acquisition of WH-questions and yes/no questions. In yes/no questions, first, sentences with rising intonation appear, and then, inversion occurs with increasing frequency and variability. With respect to WH-questions, at Stage 1, learners are unable to make a distinction between two types of WH-questions, i.e., simple and embedded, in terms of subject-verb inversion. Therefore, inversion does not occur in both types of questions at the beginning although inversion in simple WH-questions later increases and extends to embedded

WH-questions. At Stage 2, learners become able to distinguish between the two types of WH-questions: inversion occurs in simple WH-questions and not in embedded WH-questions.

Other studies of interrogation found, with some minor variation, the existence of a common developmental sequence of the relevant rules (Adams, 1978; Butterworth & Hatch, 1978; Ravem, 1970; Gillis & Weber, 1976; Shapira, 1978; Wode, 1978). Findings from these studies are also similar to those obtained by Cazden, Cancino, Rosansky and Schumann (1975) as follows:

Table 2.14

Developmental sequence for interrogatives in ESL

Stage		Sample utterance
1	Rising intonation	He work today?
2	Uninverted WH (+/- aux.)	What he (is) saying?
3	'Overinversion'	Do you know where is it?
4	Differentiation	Does she like where she lives?

(Larsen-Freeman and Long, 1991, p. 93)

In conclusion, researchers who undertook longitudinal studies in the 1960s and 1970s provide useful evidence about developmental sequences. Studies in the areas such as negation and interrogation indicate that a similar developmental path is taken by learners from different L1 backgrounds and age groups. In addition, the developmental sequence found for ESL learners is similar to that found in the children acquiring English as their L1. With regard to the methodology used in these case studies, the data collection period and intervals appeared to follow the guidelines suggested by Brown (1973). However, the use of different instruments means a comparison between the studies is difficult. In addition, descriptive studies are open to criticism regarding the generalisability of the evidence they provided. Larsen-Freeman and Long (1991, p. 96) are also critical about the lack of theoretical

explanation for the phenomena found. In the 1980s, in response to this type of criticism, some SLA researchers (e.g., Clahsen, Meisel & Pienemann, 1981) began to undertake more theoretically motivated studies. Before outlining this more recent type of SLA research, studies on JSL, both for acquisition order and developmental sequence, will be reviewed.

2.3.4 Studies on Japanese as a Second Language (JSL)

Less than twenty years ago, there was said to be “no studies of the acquisition of Japanese by English speakers” in contrast to the availability of studies on Japanese learners of English (Hakuta & Bloom, 1986, p. 284). However, with the dramatic increase in numbers of JSL learners inside and outside Japan from the late eighties until now, there has been a growing amount of JSL research covering various aspects of the language including syntax, word order, phonology and pragmatics. The majority of the investigations into acquisition orders have been undertaken as experimental or cross-sectional research, using accuracy order as a measurement. Studies have been conducted in Japanese as a foreign language (JFL) contexts mainly in the USA and Australia, and in JSL contexts in Japan, and subjects are no longer just the “English speakers” described by Hakuta and Bloom (1986, p. 284). The adult learners of Japanese as an L2 include overseas students from a variety of L1s studying at Japanese universities, Japanese-Chinese returnees who were orphaned or left behind in China during World War II and foreign workers and businessmen from different countries. The major studies are summarised and presented below.

Table 2.15

Summary of studies of the acquisition of JSL

Researcher(s)	Subject(s) (L1)	Approach Data collection	Focus of the study
Weber-Olsen & Ruder (1980)	10 children (English) 10 adults (English)	Experimental	Four locatives
Ozaki	3 (English)	Cross-sectional.	Communication

(1981)		Interview/Interactional strategies &	
Ozaki (1985, 1986)	31 NNSs and 15 NSs	Cross-sectional. Interview-type conversation	Correction strategies
McCreary (1985, 1988)	2 bilingual children (English/Japanese) (1;00 to 2;00 and 6;00)	Longitudinal case study. Tape recording.	Self-, object- and other-regulation. Negation
Kilborn & Ito (1989)	Adults (English) and NSs	Experimental Sentence interpreting task.	Word order cues
Banno & Komori (1989)	22 adults (13 different L1s)	Cross-sectional. Structured interview.	13 morphemes
Kamada (1986, 1988, 1990)	6 learners of 3 different proficiency levels (English)	Cross-sectional.	Reported speech
Watabe, Brown & Ueta (1990)	4 groups of subjects: English L1-Japanese L2, Japanese L1-English L2, L1 English, and L1 Japanese	Experimental. Writing tasks.	Transfer of discourse function (Passive)
Thomas (1989, 1990)	41 learners (English L1, Chinese L1, and Chinese-English and Korean-English Bilingual speakers)	Experimental. Elicited imitation tasks and a multiple choice comprehension test.	Reflexive “ <i>zibun</i> ”
Doi & Yoshioka (1990)	24 adults (English)	Cross-sectional. Interview.	Case particles “ <i>wa</i> ”, “ <i>o</i> ” and “ <i>ga</i> ”
Nagatomo (1991)	20 adults from different L1s (10 each from different levels)	Longitudinal (3 or 4 months). Accuracy rates based on written data.	Case particles, “ <i>wa</i> ” and “ <i>ga</i> ”
Ishida (1991)	63 adults (French: 30 at beginners level and 33 at intermediate level)	Cross-sectional. 2 or 3 interviews.	Case particles, “ <i>wa</i> ”, “ <i>o</i> ” and “ <i>ga</i> ”
Thomas (1991)	8 learners (Chinese) 34 learners (English)	Experimental. Elicited imitation task.	L2 learners’ Preference for four types of adverbial clauses
Kanagy (1991)	34 adults of 4 different proficiency levels	Longitudinal (8 months)/cross-sectiona l. Structured interview using a set of pictures.	Propositional negation

Inaba (1991)	17 JFL learners (first half of intermediate level) and 28 JSL learners (last half of introductory level) both with English as an L1	Cross-sectional. Grammaticality judgement test.	Conditional sentences (Conditionals “-to”, “-ba”, “-tara”, and “-nara”)
Yagi (1992)	38 adults at lower intermediate level (32 English and 6 Chinese or Vietnam)	Cross-sectional.. Accuracy rates based on written data.	Case particles, “wa” and “ga”
Sakoda (1993)	60 adults of 3 proficiency levels (18 different L1s), 10 NSs	Experimental. Free form interview.	Demonstrative adjectives
Oshima (1993)	171 adults of 2 proficiency levels (79 Korean and 92 Chinese) and 108 NSs	Experimental. Grammatical judgment test.	Modality
Nagatomo, Hoki & Hajikano (1993)	4 adults (3 English & 1 Danish)	Longitudinal (10 months). Written and audio/video taped data.	Phonology, syntax (adjective past tense, particles “ga” and “wa”, conjunctive expressions), socio-linguistic competence
Sakamoto (1993)	82 learners with English as an L1 (4 different levels from lower intermediate, to advanced)	Cross-sectional. Direct description test.	<i>Te</i> -form of verbs
Kamada (1993)	166 NS of Japanese, 56 adults (Chinese), and 73 adults (8 different L1s)	Cross-sectional.	Responses to negative questions
Hansen-Strain (1993)	24 adolescents (English)	Cross-sectional.	Negation
Tamaru, Yoshioka & Kimura (1993)	6 adult learners with 3 different L1s, i.e, Bengal (4), Urdu (1) and English (1)	Longitudinal (18 months). Picture description.	Sentence structures
Shirahata (1993)	1 child speaker of Korean as his L1	Longitudinal (11 months). Spontaneous speech and elicited speech.	Noun modification
Nagatomo & Kubota	9 adults (English)	Longitudinal. Written/Oral grammar	Verb form (<i>te</i> -form)

(1994)		tests.	
Kubota (1994)	Beginner (English)	Longitudinal (22 months). Accuracy rate (written).	Case particles “ <i>o</i> ”, “ <i>ni</i> ”, “ <i>de</i> ” and “ <i>e</i> ”
Noro (1995)	1 child (Chinese)	Longitudinal (1 year). Spontaneous speech.	Negation
Nagasawa (1995)	47 Japanese L1, 22 Japanese-English bilingual children, 32 learners of JSL (English)	Cross-sectional. Sentence completion test.	Grammar proficiency, Honorifics/causatives, Benefactors/Verbs etc.
Kurono (1995)	17 adults (different L1s including Chinese and Bengal)	Cross-sectional. Grammaticality Judgement test (multiple choice test).	Aspect (<i>-te iru</i>)
Mine (1995)	25 adults (different L1s)	Longitudinal (8 months) and Cross-sectional. Free form interview.	Sentence endings
Sakoda (1996)	1) 6 adults (3 Chinese & 3 Korean) 2) 40 adults (20 Chinese & 20 Korean) 20 NSs	1) Longitudinal (3 years). 2) Interview. Experimental cloze test	1) Demonstrative adjectives 2) Demonstrative adjectives
Uchiyama (1996)	96 adult learners speaking Korean (68) and speaking Chinese (28) as their L2s	Cross-sectional. Grammaticality Judgement test (multiple choice test)	Case particles
Yagi (1996)	17 adults at beginners level (Indonesian, Malay, Tagalog or Thai)	Cross-sectional. Accuracy rates based on written data.	Case particles, “ <i>wa</i> ” and “ <i>ga</i> ”
Huter (1996)	1) 10 adults (English) 2) 2 adults (English/Korean)	1) Cross-sectional Interview/tasks. 2) Longitudinal (supplement).	Syntactic structures
Tanaka (1997)	1) 112 JFL adults (15 different L1s) 2) 38 JSL adults	1) Cross-sectional/ Experimental. 2) Sentence making tests.	Viewpoint / Voice Complex sentences
Sakamoto & Koyama (1997)	69 NNSs of 4 levels (47 English/22 Chinese) and 32 NSs	Cross-sectional. Grammaticality judgment and error	Particles/tense/ modality/volition etc.

correction tests.

Kyo (1997)	30 JFL/ JSL learners (Chinese)	Cross-sectional. Elicited oral production and grammar test.	Tense/aspect “V- <i>te iru</i> ”
Okada (1997)	64 learners with English, Chinese and other L1 backgrounds (Introductory and lower and upper intermediate levels)	Longitudinal (4 months). Analysis of written data.	Expressions of benefactive acts
Ito (1997)	1 child (Russian)	Longitudinal (20 months). Spontaneous speech during JSL class.	Sentence structures
Rounds & Kanagy (1998)	89 five-yr-old children (English)	Experimental.	Linguistic cues to identify agent
Samejima (1998)	232 adults (Chinese) (76 beginners/82 beginning intermediate level/74 intermediate level)	Cross-sectional. Discourse completion written task.	Fixed expressions/ sentence-ending expressions
Shirai & Kurono (1998)	1) 3 adults (Chinese) 2) 17 adults (non-European)	1) Experimental Interview. 2) Longitudinal (6 months). Grammatical judgment tests.	Tense aspect marking
Shibata (1999)	4 adults (English) and 4 NSs of Japanese	Cross-sectional. Discourse narratives	Tense-aspect morphology
Neancharoensuk (1999)	338 adult learners speaking Thai as their L1	Cross-sectional.	Conditional sentences (Conditionals “ <i>to</i> ”, “ <i>ba</i> ”, “ <i>tara</i> ” and “ <i>nara</i> ”.
Matsumoto (1999a)	1 child learner (Chinese)	Longitudinal (1 year). Spontaneous oral data.	Vocabulary
Matsumoto (1999b)	1 child learner (Chinese)	Longitudinal (2 years).	Negation
Kawaguchi (1999)	7 adults (English)	Cross-sectional. Story task.	Referential choice
Kyo (2000)	90 adult learners (30 speakers each of Chinese, Korean and	Cross-sectional.	Tense/aspect “V- <i>te iru</i> ”

	English		
Imai (2000)	Speakers of Chinese and Korean	Cross-sectional.	Case particles “ <i>ni</i> ” and “ <i>o</i> ”
Matsumoto (2000)	1 child speaker of Chinese as his L1	Longitudinal (1 year).	Vocabulary
Masuda (2000)	Intermediate & advanced learners and NS of Japanese	Cross-sectional. Story telling (written).	Compound and complex sentences
N. Iwasaki (2000)	31 adults (English) (15 beginners, 10 intermediate and 6 advanced)	Cross-sectional. Picture elicitation.	Noun modification and negation
Saito (2001)	3 adults (Russian, Maratti and Therugu)	Longitudinal (1 year). Interview.	Complex sentences
Kamura (2001a)	11 adults (Chinese)	Longitudinal (6 months). Accuracy rate based on oral data.	Negation
Kamura (2001b)	11 adults (Chinese)	Longitudinal (6 months). Accuracy rate based on oral data.	Past tense negatives
Neancharoensuk (2001)	90 adults (30 each of Chinese, Korean and English as an L1)	Cross-sectional. 30 minute interview.	Conditional sentences
Taguchi (2001)	2 NNS school children (Portuguese), 10 NS school children and 79 NS preschool children	Longitudinal (1 year for NNSs and 2 months for NSs). Oral data elicited by pictures.	Passives and causatives
Di Biase & Kawaguchi (2002)	1 adult for the longitudinal study and nine adults for the cross-sectional study (English)	Longitudinal and cross-sectional. Free form interview and picture tasks.	Verbal morpho-syntax
Okuno (2003)	30 adults (10 Chinese, Korean, and English each)	Cross-sectional. Grammaticality judgement test.	The overuse of “ <i>no</i> ” in noun modification

As with SLA in general, most of the early JSL studies relied on error analysis for their methodology. Although the notion of interlanguage had become a major

issue among SLA researchers in the United States, Europe and Australia as early as the late 1960s (e.g., Corder, 1971, 1981; Selinker, 1969, 1972), this occurred much later in JSL research (Mizuno, 1987; Shibuya, 1988). However, since the end of the 1980s there has been a gradual increase in the amount of research motivated by the notion of interlanguage. Most of these early interlanguage studies were conducted using cross-sectional design by means of grammar tests, grammatical judgment tests and sentence writing tests. These include studies on the acquisition order of thirteen grammatical morphemes (Banno & Komori, 1989), on the accuracy order of case markers “*wa*” and “*ga*” (Sakamoto, 1993), on the accuracy order of case marking particles “*ga*”, “*o*”, “*ni*” and “*to*” (Uchiyama, 1996), and on the acquisition of viewpoints, voice and complex sentences (Tanaka, 1997).

Among these acquisition order studies, which focused on accuracy, Banno and Komori (1989) followed the exact method used by Dulay and Burt (1973) in order to examine whether or not Japanese also had a particular acquisition order. The subjects were twenty-two university students from thirteen different L1 backgrounds (Tagalog, Portuguese, Norwegian, English, Italian, Greek, Burmese, Arabic, Indonesian, Malay, Thai, Czech and Bengali). They had been enrolled in an intensive introductory Japanese course for three months at the time of the study and they were being taught using a textbook called “A course in modern Japanese” (Nagoya Daigaku Soogoo Gengo Sentaa Nihongo Ka, 1988). Approximately half of them had studied Japanese before taking this course and the rest had not. Banno and Komori’s study was concerned with the acquisition of the following grammatical structures:

Table 2.16

Grammatical structures investigated by Banno and Komori (1989)

Structure	Description
V- <i>masu</i> V- <i>mashita</i> V- <i>masen</i> V- <i>masendeshita</i>	polite verbs form used either past or non-past, affirmative or negative
N- <i>desu</i>	polite non-past affirmative nominal sentences

N- <i>ja arimasen</i>	polite non-past negative of nominal sentences
A- <i>i-desu</i>	polite non-past affirmative “ <i>i</i> ”-type adjectives
A- <i>ku arimasen</i> (A- <i>ku nai desu</i>)	polite non-past negative of “ <i>i</i> ”-type adjectives
A- <i>desu</i>	polite non-past affirmative “ <i>na</i> ”-type adjectives
A- <i>ja arimasen</i>	polite non-past negative “ <i>na</i> ”-type adjectives
V- <i>te</i> form	‘ <i>te</i> ’ form of a verb used in the middle of a sentence
V base	Stem of a verb such as before ‘- <i>tai</i> ’ is scored.
V root	Root form of a verb which appeared in the middle of a sentence
N root	Nominal clause in the middle of a sentence
A + N	Adjective modifying noun
Existence	Two types of existence sentences: <i>imasu</i> for the existence of animate objects and <i>arimasu</i> for that of non-animate objects

(Based on Banno and Komori, 1989, p. 65)

Each of the subjects was interviewed for 15-20 minutes and was asked prepared questions, which were intended to elicit the grammatical structures listed above. In order to elicit some of the structures, pictures were shown to the subjects. Using the Group Score Method and the Group Means Method (see Chapter 2.3.2, p. 40 and Chapter 4.2, p. 127-128) that Dulay and Burt (1974) developed, the researchers analysed the data and found the following order of the acquisition of the sixteen focused grammatical structures.

Table 2.17

The acquisition order of grammatical structures and instruction order

The acquisition order of grammatical structures		The order of the lessons dealing with the structures in the textbook
1	V base	L7
2	V-masu	L1

3	A-desu	L3
4	V root	L9
5	A + N	L2
6	V-masen	L1
7	N-desu	L2
8	A-i-desu	L3
9	Existence	L4
10	N + N ⁵	L2
11	V-mashita	L1
12	V- <i>te</i> form	L7
13	N-ja arimasen	L2
14	A-ja arimasen	L3
15	A-ku arimasen	L3
16	N root	L9

(Based on Banno and Komori, 1989, p. 69)

As seen in the table above, the order of the grammatical structures obtained in this study did not match the order of lessons which dealt with these structures. However, the researchers point out that there were two problems in the elicitation technique they used: 1) they could not elicit some grammatical structures as successfully as they had desired, and 2) the subjects sometimes echoed most of the question the researcher asked. More importantly, as mentioned earlier (Chapter 2.3.2, p. 45), the results of this study are problematic since the type of data analysis, i.e., rank order system, is itself the focus of criticism in recent literature (e.g., Larsen-Freeman & Long, 1991; Meisel, Clahsen & Pienemann, 1981, 1983; Pienemann, 1998b).

⁵ This structure was not included in the Table 2.16. It is assumed that the researchers may not have initially planned to elicit the use of this structure but that the subject(s) might have produced it incidentally during the interview.

As with SLA research in general, JSL studies employing a cross-sectional approach, such as Banno and Komori's (1989) outnumber longitudinal studies. However, there have been an increasing number of longitudinal studies since the middle of the 1990s, most of which adopted the concept and methodology used by empiricists who undertook developmental sequence studies in English and other European languages in the 1960s and 1970s. Some researchers, such as Huter (1998), suggest that these studies lack theoretical motivation. Even so some of the major ones are reviewed here because of the evidence that they provide despite their limitations.

Nagatomo, Hoki and Hajikano's (1993) study of Japanese interlanguage variability is particularly notable as this is one of the few studies which used a theoretical framework, namely the Diffusion Model (Gatbonton, 1978). This investigation explored longitudinally how four adult beginning JSL learners with an English L1 (3) and a Danish L1 (1) developed their interlanguage in areas such as phonology, syntax, and socio-linguistic competence over a period of ten months. Based on written production taken from the diaries the subjects kept and audio/video taped oral production data collected during the class time on a weekly basis, they found both similarities and differences in L2 development. In particular, they examined the learners' syntax with a special focus on the past tense form of adjectives. It is reported that, during the developmental period for the four learners after initial emergence, both target and non-target like adjectival past forms appeared side by side as free variation. To explain this, Nagatomo et al. draw on the Diffusion Model (Gatbonton, 1978), which accounts for how gradually learners develop and change their interlanguage rules until they use them correctly. Gatbonton claims that the acquisition of a rule goes through two phases: an "acquisition phase" characterised by free variation, and a subsequent "replacement phase" where systematic variation and categorical language use take the place of the free variation.

Tamaru, Yoshioka and Kimura (1993) also used a longitudinal approach to investigate the complexity of utterances produced by six adult learners of JSL.

They used data based on six interviews with each of the subjects, which were tape recorded during the period between 6 weeks and 18 months after the subjects began studying JSL. A picture description task was used during all the interviews and the analysis was made on the basis of the number of utterances, T-units and S-clauses. The results of their quantitative study show that while subjects produced significantly longer utterances and a larger number of complex sentences including embedded structures, the increase of compound sentences produced was not significant. They point out that, unlike in English, forming a compound sentence in Japanese is not necessarily an easier process than forming a complex sentence because learners are required to inflect the last element (e.g., verb, adjective or copula) in the first clause to express “and” and “but”.

Until the middle of the 1990s, the focus of most of the JSL studies was on adult learners. However, some researchers began to turn their attention to child acquisition of JSL. This would seem to be largely due to an increase in the number of children learning Japanese as an L2, some of whom are the children of Japanese-Chinese returnee families, the children of overseas students or researchers studying in Japanese universities, or the children of foreign workers who live and work in Japan for long periods of time.

Shirahata (1993) investigated the acquisition of noun modification in Japanese by a four year old Korean boy, focusing in particular on one type of error with this structure. It is well documented that learners often insert an unnecessary genitive particle “*no*” between the modifier and the modified, such as “*akai* (the modifier) *no* (particle) *booshi* (the modified)”, i.e., “*akai no booshi* (red-ADJ GEN hat-N)” instead of “*akai booshi* (red-ADJ hat-N)”, when they construct an adjectival and sentential noun modifying structure. This phenomenon also has been often observed in children acquiring Japanese as an L1 (e.g., Clancy, 1985; K. Ito, 1990, Takahashi, 1977; Yokoyama, 1990; see Table 2.9 in Chapter 2.2.4, p. 31 for Yokoyama’s examples) and adult learners of Japanese as an L2 from different L1s (e.g., Ishida, 1991 for French; Huter, 1996 for English; Shirahata, 1994 for Malay; see Chapter 3.5, pp. 101-102 for Huter). However, there has been little agreement in the literature about the cause of this type of error. It is not clear whether it is a

developmental error due to the overgeneralisation of the insertion of the particle “*no*” which is required only when a noun modifies a noun, or whether it occurs because it is from the interference of the learner’s L1.

Shirahata (1993) examined whether the type of error mentioned above would also occur in the context of the acquisition of noun modification by a Korean speaker. The focus of the examination was not on relative clauses (sentential noun modification) such as “subordinate clause plus head noun”, but on “noun plus head noun” or “adjective plus head noun”. The child’s spontaneous speech, as well as his oral production during the structured interviews, was tape recorded for one hour at each of the data collection sessions, which were conducted fortnightly for the period of eleven months. The interviews were intended to elicit noun modification. The results show that the overuse of the particle “*no*” in adjectival noun modification did occur. First, the non-target like (NTL) form of adjectival noun modification, i.e., “adjective + ‘*no*’ + noun” emerged together with the target-like (TL) form of nominal noun modification, i.e., “noun + ‘*no*’ + noun” five months after his arrival in Japan. While the overuse of “*no*” kept appearing for four months, the TL form of adjectival noun modification, i.e., “adjective + noun” emerged, and both TL and NTL forms continued to co-exist until the NTL completely disappeared. This process is illustrated in the following table:

Table 2.18

The developmental sequence of noun modification by a Korean child

Step	Type of noun modification	Rule for noun modification	Examples
1	Nominal noun modification	Noun + ‘ <i>no</i> ’ + Noun (Always in the TL form.)	<i>Otoosan no megane</i> (Dad’s glasses)
	Adjectival noun modification	Adj + ‘ <i>no</i> ’ + Noun (Always in the NTL form)	* <i>Kuroi no megane</i> (Black glasses)
2	Nominal noun modification	Noun + ‘ <i>no</i> ’ + Noun (Always in the TL form.)	
	Adjectival noun modification	Adj + Noun (TL) and Adj + ‘ <i>no</i> ’ + Noun (NTL)	<i>Kowai usagi</i> (Scary rabbit) * <i>Aoi no kumasan</i>

(Co-existence of TL and NTL forms) (Blue teddy bear)			
3	Nominal noun modification	Noun + ‘no’ + Noun (Always in the TL form)	<i>Aka no taiyoo</i> (The red sun, literally the sun of the red colour)
	Adjectival noun modification	Adj + Noun (NTL forms disappear and only TL forms remain.)	<i>Akai kuruma</i> (Red car) <i>Ookii yuki</i> (Big snow)

(Based on Shirahata, 1993)

The subject’s L1, Korean, conforms to a similar word order for noun modification as Japanese, that is to say, the modifier proceeds the modified. Korean also has a case particle similar to the Japanese “*no*”. In addition, the structure of adjectival noun modification in Korean is the same as that in Japanese, in that the case particle “*no*” should not be inserted between the adjective and the noun. While “*no*” is required to be placed between the two nouns for nominal noun modification in Japanese, the insertion of the case particle is optional and, in fact, it is often omitted in Korean. However, the subject did not omit “*no*” for nominal noun modification during any stage of the study. Further, the TL form of adjectival noun modification in Japanese, which is similar to that in Korean, did not appear before the NTL forms, i.e., the overuse of “*no*”. From these results, Shirahata (1993) concluded that the overuse of “*no*” was not due to L1 transfer.

Despite the increase in the number of children who move from overseas and live in Japan for a substantial period of time, it has been suggested that appropriate teaching methodology for JSL for primary and lower secondary children has yet to be developed (Yanagisawa, 1995, pp. 32-35). S. Ito’s (1997) study on the acquisition of Japanese by a Russian boy was motivated by such a pedagogical need. The aim of her study was to investigate the acquisition of complex sentences and various linguistic features and apply her findings to pedagogy. Her subject was not able to speak Japanese at all when he arrived in Japan.

Data collection commenced when he was 8;4, five months after his arrival.

He was placed in a mainstream class, but occasionally taken to a separate JSL class⁶ while Japanese children were taught *kokugo* (literally ‘the national language’), i.e., Japanese for native speaking children, and social studies. The speech which the boy produced during his JSL classes and study periods at home was audio recorded on a regular basis. The duration of data collection was twenty months, which was divided into three periods. Analysis was undertaken using 270 minutes of data collected during Periods 1 and 2, and 300 minutes of data collected during Period 3. Period 1 represented the time period of five and nine months after his arrival in Japan, Period 2 between ten and thirteen months, when the amount of the subject’s oral production dramatically increased, and Period 3 between seventeen to twenty months. In this third period he did not attend any JSL classes.

The results show that, as the child’s stay in Japan got longer, his MLU and T-units also increased. His production of “words” developed to become the production of “sentences”. However, the number of “S-clauses”, i.e., subordinate clauses, per T-unit did not increase as much, leading S. Ito to conclude that the acquisition of complex sentences was more difficult for the child than compound sentences. The following table illustrates the change of MLU, T-units per utterance and the number of S-clauses per T-unit in the child’s oral production. These figures were based on 100 utterances from each of the three periods.

Table 2.19

The length and complexity of utterances by a child learner of JSL

	Period 1	Period 2	Period 3
	(5-9 months)	(10-13 months)	(17 – 20 months)
MLU	2.23	3.03	3.55
T-units per utterance	0.37	0.50	0.80
S-clauses per T-unit	1.00	1.12	1.06

(S. Ito, 1997, p. 74)

⁶ The researcher was one of the volunteer tutors of Japanese in JSL class at the time of the study.

With regard to the acquisition of linguistic features, analysis was undertaken with a focus on subordination, noun modification, passives, potentials, causatives, and benefactive sentences. These are the grammatical structures which T. Ito (1994) claimed in his Japanese L1 study could indicate a relatively clear acquisition order. S. Ito summarised the acquisition order of the grammatical structures found in her study as follows. It should be noted that “+” in the table indicate emergence of the structure.

Table 2.20

The acquisition order of grammatical structures by a child learner of JSL

	Period 1	Period 2	Period 3
	(5-9 months)	(10-13 months)	(17–20 months)
Benefactive verb	+	+	+
Potential verb: <i>dekiru</i>	+	+	+
Potential form: (Verb morphology – <i>eru</i> /– <i>areru</i>)		+	+
Subordination		+	+
Noun modification		+	+
Benefactive structure			+
Causative			
Passive			

(Based on S. Ito, 1997.)

Although it is not clearly stated, it seems that the emergence criterion based on a minimum of one occurrence in a sample was used to determine acquisition. Therefore, it is not clear whether or not each of these linguistic features actually emerged productively. In other words, aside from the emergence of one syntactic structure, i.e., the benefactive structure, “*okaasan ni misete yaroo* (Mum OBLage show-INF AUX-VOL: I will try showing [this] to Mum.), it might be possible that other features such as benefactive verbs appeared as morphological chunks or

formulae.

As in English and other European languages, both as an L1 and L2, negation has been a focus of some developmental sequence studies in Japanese.

Kanagy (1991) investigated the acquisition of propositional negation in Japanese by adult learners from ten different L1s. Both cross-sectional and longitudinal designs were employed. 34 university students were interviewed bimonthly over a year (four times) and their oral production data were elicited. In these structured interviews, which were conducted individually, the subjects were asked questions about a set of pictures. The questions were about the objects, attributes or actions illustrated by the pictures. The interviews, each of which lasted fifteen to twenty minutes, were tape recorded and later transcribed. An analysis of the emerging system of Japanese negation was undertaken using implicational scaling. The results indicate 1) that the order of acquisition of negation patterns is noun/*na*-adjective > verb polite form > *i*-adjective, 2) that there is a gradual increase in the number of productive patterns of negation, 3) that there is a change in the ordering of negator tense marker relative to negated elements, and, 4) that the emergent order of negation according to predicate category is verb/noun negative before *i*-adjective negative. Based on the review and comparison of the previous research on Japanese as an L1, and English, German, and Swedish as an L1 and an L2, Kanagy claims that there are constraints of language typology on the acquisition route of negation in these languages.

Noro (1995) investigated the developmental sequence of negation in Japanese as an L2 by a Chinese boy aged ten. The 45 data collection sessions, each of which lasted for sixty minutes on average, were conducted at his school on a weekly basis for a period of one year. The subject's spontaneous speech production as well as his answers to questions which the researcher asked for the purpose of eliciting negation was tape recorded and transcribed. The data collection was divided into four periods because there appeared to be a qualitative change approximately every three months. The emergence of both TL and NTL forms in each of the four different

grammatical categories, namely noun, “*na*”-type adjective, “*i*”-type adjective and verb, were counted and the relative frequency of occurrence of these forms in each period were calculated. The results for each of the categories are summarised in the following table:

Table 2.21

Acquisition of negation of JSL by a Chinese child

Category	Development during the four periods	Examples
Noun	The TL form, i.e., “noun + <i>janai</i> ” dominates from Period 1 (83%) and remains almost 100% until Period 4.	<i>Fukujanai.</i> (It’s not clothes.) <i>Emi chan chigau.</i> (It’s not Emi.)
<i>Na</i> -adjective	The negation of <i>na</i> -adjective begins with TL form, i.e., “ <i>na</i> -adjective stem + <i>janai</i> ” (TL forms account for 100% in Period 1) but NTL forms appear in Period 2 and remain until Period 4 (NTL forms account for 23-30% in these three periods). That is to say, TL and NTL forms co-exist from Period 2 to 4. “Nucleus + <i>nai</i> ” appears once.	<i>Sukijanai.</i> (I don’t like it.) <i>Daijoobunai.</i> (It’s not OK) <i>Kirakunai.</i> (I don’t hate it.)
<i>I</i> -adjective	Both TL (<i>-kunai</i> ending: 70%) and NTL forms (<i>-janai</i> ending: 20%) emerge at the same time and co-exist for a while but, as TL forms increase, NTL forms decrease. As a result of it, TL forms dominate (94%) in Period 4.	<i>Sabishikunai</i> (I am not lonely.) <i>Nai.</i> (It’s not painful.) <i>Hikuijanai</i> (It’s not low.) <i>Tsumetai chigau.</i> (It’s not cold.)
Verb	The morpheme for negative “ <i>nai</i> ” (NTL) is used alone and very often (73%) in Period 1 but almost disappears by Period 2. TL forms of verb negation dominate from Period 2 (79%) to Period 4 (92%) while some consistent NTL forms such as “verb + <i>janai</i> ” are being observed throughout the 10 months. “Nucleus + <i>nai</i> ” appears 9 times during Period 2.	<i>Tabenai.</i> (I don’t eat.) <i>Kakanai.</i> (I don’t buy.) <i>Nai.</i> (I hadn’t come.) <i>Hanasunai.</i> (I don’t talk.) <i>Otoshitajanai.</i> (I didn’t lose.) <i>Kinchookunai.</i> (I don’t get nervous.)

(Based on Noro, 1995, p. 7. Translation by the author of the current study.)

Noro found some discrepancies between these results and those reported by K.

Ito (1990) in his study of Japanese L1 acquisition. Aside from just one occasion, the emergence of “nucleus + *nai*” was not observed in the categories of noun, *na*-adjective and *i*-adjective. This form has been considered to be the Japanese equivalent of the “no/not + nucleus” not only found in K. Ito’s study of children acquiring Japanese as an L1, but also in the developmental sequence for English negation by Klima and Bellugi (1966) (see Chapter 2.2.3, pp. 14-15). Although this form of verb negation was observed during Period 2, lasting for approximately three months, the emergence rate was only 4.4%. Further lexical contexts for this phenomena were limited to only four verbs out of a total of nine occurrences: three occurrences for “*kuru nai*” (don’t come), another three for “*hanasu nai* (don’t talk)”, two for “*nomu nai* (don’t drink)” and one for “*magaru nai* (don’t turn)”.

Noro suggests the discrepancies between her findings and those of Klima and Bullugi and K. Ito may be attributed to the following two issues. First, it might be that “nucleus + *nai*” in Japanese is not the only equivalent of “no/not + nucleus” in English, therefore NTL negative forms other than “*nai*” need to be analysed. This might include words such as “*iya*”, “*dame*”, “*nai*”, “*chigau*” and so on (see Chapter 2.3.2, pp. 23-26). Second, the subject, who was ten years old at the time of the study, might have already developed the cognitive ability to recognise syntactical categories. Because of this he might have displayed some different patterns of negation, unlike young children in K. Ito’s L1 study who seemingly resorted to the same early pattern, i.e, “nucleus + *nai*” for all categories.

Kamura (2001a) also used a longitudinal approach to investigate the acquisition of non-past negation in Japanese. Her subjects were eleven adults with Chinese as an L1, who were learning JSL at a Japanese language school in Japan at the time of the study. They were interviewed for twenty minutes every four to six weeks over a period of six months. Their oral production was elicited using pictures during the interview, and data were then analysed. At the time of the first interview the subjects had received 140 hours of Japanese instruction, 200 hours by the second session, 280 hours by the third, 320 hours by the fourth and 420 hours by the fifth. To undertake the analysis first all the non-past-tense negatives contained both in the subjects’ initial and subsequent utterances (which were self-repaired

immediately by the subject), were classified into the four categories, namely verb, noun (plus copula), *i*-type adjectives and *na*-type adjectives. Then an accuracy rate in each of these categories was calculated. At the same time, to determine different developmental processes according to the category, the relative frequency of different NTL forms within each was obtained. Next, to find out whether or not all the subjects would take the same developmental path, the distribution of TL and NTL forms of each of the subjects in each of the categories were compared. The results show that all the negative forms apart from the *i*-adjective had an accuracy rate of 80% in Sessions 2 to 5. It was not until Session 5 that negation for *i*-adjectives achieved the same accuracy rate. It was also found that the eleven JSL learners had a common developmental sequence, that is, all the subjects used a variety of negative forms, both TL and NTL, at the beginning. Once NTL forms began disappearing, all forms gradually developed into TL forms. Furthermore the process of change from NTL to TL forms differed according to the grammatical categories. This is summarised in the following table:

Table 2.22

Developmental sequence of non-past tense negation by JSL adult learners

Step	noun / <i>na</i> -adjective	<i>i</i> -adjective	verb
1	<i>janai</i> (TL)	<i>kunai</i> (TL/NTL)	- TL forms
	Const. + <i>*nai</i> (NTL)	Const. + <i>*janai</i> (NTL)	-* Different type of verbs mixed up
	<i>*kunai</i> (NTL)	<i>*nai</i> (NTL)	- Const. + <i>*janai</i> (NTL)
			-*Dictionary form + <i>nai</i> (NTL)
2	Const. + <i>janai</i> (TL)	Const. + <i>kunai</i> (TL/NTL)	- TL form
		<i>*janai</i> (NTL)	-* Different type of verbs mixed up
			- Const. + <i>*janai</i> (NTL)
3		Const. + <i>kunai</i> (TL)	-TL forms
			-* Different type of verbs mixed up
4			TL forms

(Based on Kamura, 2001a, p. 77)

It was also found that the acquisition order of non-past negation among the four syntactical categories was: noun, *na*-adjective, verb > *i*-adjective, the same as the findings of Kanagy (1991).

Subsequently, Kamura (2001b) investigated the acquisition of past tense negation by the same subjects as in her previous study (2001a). All the past-tense negatives, both in the subjects' initial utterances and in the subsequent self-repaired utterances, were classified into the four categories of verb, noun (plus copula), *i*-type adjectives and *na*-type adjectives. Analysis was undertaken in the same way as in her previous study (2001a). The overall developmental sequence of past tense negation is illustrated in the following table:

Table 2.23

The developmental sequence of past tense negation by adult JSL learners

Step	Rule	Example
1	Constituent + Nonpast + Neg (NTL) Non-past negatives are used as a replacement of past negatives. This occurred in all the categories.	
2	-Constituent + Nonpast + Neg (NTL) for all categories -Constituent + Neg. + Past (TL/NTL) for all categories -Constituent + Past + Nonpast Neg (NTL) for the verb and <i>i</i> -adjective only	 <i>*suzushiinakatta.</i> (It was not cool.) <i>*kakanaikatta.</i> (I didn't write.) <i>*yasukattanai.</i> (It was not cheap.) <i>*kaitanai.</i> (I didn't wite.)
3	-Constituent + Nonpast + Neg (NTL) for the verb and <i>i</i> -adjective only -Constituent + Neg + Past (TL form) for noun and <i>na</i> -adjective -Constituent + Neg + Past (TL/NTL form)	 <i>*yasujanakatta.</i> (It was not cheap.) <i>*kakanaikatta.</i> (I didn't wite.)
4	Constituent + Neg + Past (TL form) for the verb and <i>i</i> -adjective	

(Based on Kamura, 2001b)

Unlike for her previous study, these findings for past-tense negation were different from those of Kanagy (1991). According to Kanagy, the developmental sequence of past negation in JSL is as follows:

Table 2.24

Developmental sequence of past-tense negation by adult JSL learners (Kanagy, 1991)

Stage	Rule	Examples
1	Constituent + Past + Neg + Nonpast	* <i>Takakattanai</i> . (It was not expensive.) * <i>Tsukurimashitamasen</i> . (I didn't make.)
2	Constituent + Neg + Nonpast	* <i>Takajanaidesu</i> . (It was not expensive.) * <i>Tabejanaidesu</i> . (I didn't eat.)
3	Constituent + Neg + Past	<i>takakunakatta</i> . (It was not expensive.) * <i>kakimashijanakatta</i> . (I didn't write.)

(Based on Kamura, 2001b, pp. 72-73)

Kamura conducted a comparison between her data and that of Kanagy. While the results of Kanagy's (1991) study show that a stage for a sentence without the past tense marking morpheme, *-ta* appeared between the "[constituent + *-ta*] + *-nai*" stage and the "[constituent + *-nai*] + *-ta*" stage, those of Kamura show that it appeared as the first developmental stage for negation. Although there were also some examples for the pattern "[constituent + *-nai*] + *-ta*" in Kamura's data, these were too few in number and also disappeared too quickly to constitute one developmental stage. Kamura (2001b) states that more detailed analysis is needed to find out possible reasons for the difference. It could be assumed that the difference in the subjects' L1s might have some influence on the difference in the developmental sequences of negation in the two studies. While the subjects in Kanagy's study were from a variety of L1s: English, Korean, Chinese, French, Punjabi, Tagalog, Portuguese, Sindhi, Spanish and Japanese (bilingual with English before age 3), the subjects in Kamura's were only Chinese.

In summary, although the majority of the studies on the acquisition of JSL

have used a cross-sectional approach, the number of longitudinal studies has steadily increased since the mid 1990s. Empirical and descriptive studies undertaken in English and other European languages as an L2 in the 1960s and 1970s have had a considerable influence on these developmental sequence studies in terms of their scope and methodology. The foci of these studies are generally one specific linguistic feature such as negation, particles and so on. The methodology involved data collected at frequent intervals over long periods of time. From this the emergence of the form was recorded and analysed. In addition, the findings regarding the acquisition of linguistic features such as negation were compared with those of other JSL studies, and L1 acquisition of both Japanese and English. With respect to negation, there is no clear agreement concerning the developmental sequence among these studies. Clearly more work is needed. Also, as in SLA in general, these new studies in JSL need to be more theoretically motivated and to provide more universally acceptable explanations.

In the next section, a summary of the whole chapter will be provided.

2.4 Summary of Chapter Two

Research undertaken from the 1960s to 1970s provided substantial evidence for claims for both acquisition order and developmental sequence in SLA. However, problems with methodology and scope meant the results were, in the main, ungeneralisable. For example, a number of early acquisition order studies in SLA, following research in the FLA field, showed the existence of a common acquisition order of English grammatical morphemes among L2 learners regardless of their age, L2 backgrounds and the instrumentation used for the research. However, the measurement and method of analysis used in these cross-sectional studies limits these findings. This is because “the dynamics of interlanguage development” (Pienemann, 1998b, p. 137) were disregarded and a broader range of interlanguage variation for individual subjects were not included in those studies. In addition, some discrepancies with the findings from the few longitudinal studies mean that the evidence is not unrefutable. Further, the validity of the cross-sectional approach

which relies on statistical analysis of one-off results remains questionable. On the other hand, developmental sequence studies have provided evidence in areas such as negation and interrogation in ESL and other languages as an L2 and, unlike acquisition order studies, the use of a longitudinal approach is well in line with capturing “the dynamics of interlanguage development” (Pienemann, 1998b, p. 137). However, as with acquisition order studies, their narrow scope, that is, their focus on some specific morpho-syntactic areas, limits their generalisability, and some explanations of a common developmental path are restricted to a specific language.

In this section, SLA studies, including those investigating JSL, were reviewed, and future areas of research identified. The following remarks made by Larsen-Freeman and Long (1991) summarise these points well:

While limited, descriptive studies are very useful and still necessary, much effort is currently wasted which could be expended more profitably both for the researchers as individuals and for the field as a whole if it were ‘organised’ effort. Specifically, much SLA research is less fruitful than it might be were it governed by a *theory*, which for many (but not all) is equivalent to saying ‘were it done scientifically’. (p. 222)

Thus, the next chapter will deal with the recent focus on more theoretically motivated work by some innovative researchers in SLA, and JSL in particular.

CHAPTER THREE

LITERATURE REVIEW

THE PROCESSABILITY THEORY AND SLA

In the previous two chapters, the two main approaches taken by a number of researchers in FLA and SLA mostly in the 1960s and 1970s were presented, and the findings obtained from these studies were discussed with a focus on the methodological issues. What will be presented in the following chapter is an overview of a more theoretically motivated approach to SLA which first emerged in the early 1980s. The key theoretically motivated researchers who first emerged in the early 1980s were involved in the Zweitspracherwerb Italienischer und Spanischer Arbeiter (ZISA) project investigating German as an L2 (GSL). First, the Multidimensional Model, developed for initial work in the project, will be described and its significance discussed. Next, the hypothesis and model based on this work will be described. Once again special attention will be given to the methodologies used and the findings from the research conducted within this framework. The third section will explain the principle of the Processability Theory, which was further evolved as a result of incorporating psychological and linguistic theories into this line of work. The subsequent section will deal with those studies of the acquisition of Japanese as an L2 undertaken within this theoretical framework. Following this, a summary of this chapter so far will be provided. Finally, the motivation and direction of the current study and research questions will be outlined.

3.1 The Multidimensional Model

In the late seventies, a group of researchers who were involved in the ZISA project investigated the development of word order in German as an L2 using a range of longitudinal and cross-sectional studies (e.g., Clahsen, 1980, 1981, 1982; Clahsen,

Meisel & Pienemann, 1983; Meisel, 1980; Meisel, Clahsen & Pienemann, 1981; Pienemann, 1980, 1981). These researchers created a new trend in the study of language acquisition by expanding the scope of acquisition order and developmental sequence studies through combining the principles of these two approaches. Ellis (1994) describes this process as:

This (=the acquisition of word order rules in L2 German) provides evidence of both an acquisition order (as different TL rules are acquired one after another) and also of a developmental sequence (as learners also manifest transitional structures which differ from the TL norms). (p. 99)

The advantage of this new approach is that when ordering the acquisition of different syntactic structures, not just the points of a mastery of TL forms, but the production of both NTL and TL forms, and, even any transitional forms between NTL and TL forms, e.g., TTL (Toward-target-like) forms can be included. Therefore, if one wants to look at the developmental path, from emergence to mastery of a specific syntactic feature, it is possible using this method. If one is specifically interested in the order of mastery of different morphemes or syntactic features, it is also feasible. Furthermore, it is possible to describe the emergence of different morphemes and syntactic features, whether they are NTL, TTL or TL forms, in each of the stages of development. This makes it possible to look at the “big picture” of language development.

Using a series of findings obtained from the ZISA work, the researchers described the stages of acquisition of German as an L2 (GSL) and developed a framework they titled the Multidimensional Model. As the name suggests, this model uses two dimensions: developmental and variational⁷ aspects of language learners’ interlanguage. The basis of this framework is that while developmental features of grammatical structures emerge in a fixed order, this is not the case with

⁷ As Meisel et al. (1981) note, the term “variational” in this case does not refer to the concept of the word “variation” in SLA which is usually used to describe items in a developmental sequence that cannot be ordered.

variational features. It has been hypothesised that grammatical development is sequential and predictable, because the ability to process complex structures is common across all learners. On the other hand, language acquisition is strongly influenced by the learner's variational features, i.e., the socio-psychological factors. These factors include social distance from the target language group, intensity of contact, attitudes, motivation and so on (Meisel et al., 1981). As a result of the interaction of the roles played by these two dimensions, not all learners take an exactly identical path in the course of acquisition of a TL language. The following figure is a useful illustration to show how learners take a different route in the Multidimensional Model.

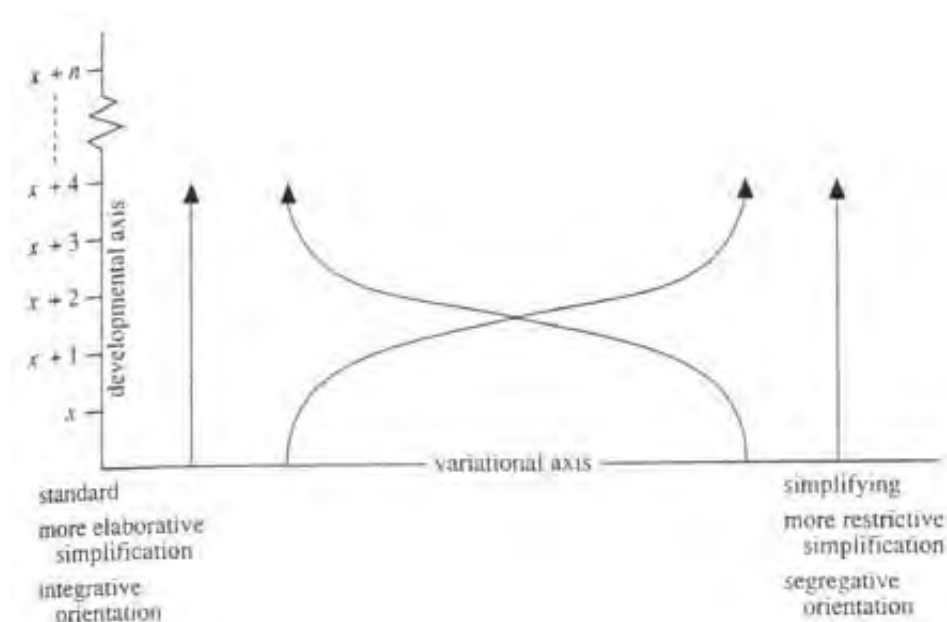


Figure 3.1 Two dimensions of language development and some potential routes to acquisition (From Larsen-Freeman and Long, 1991, p. 281)

The figure shows that although some learners are inclined to always comply with a TL norm of the language while going through developmental stages, some others use a NTL form consistently, right to the higher stages. The path that the former takes is depicted in the leftmost straight line and that for the latter in the rightmost straight line. There are other types of learners whose inclination varies depending on structures or social factors in play at each stage, therefore the path they

take are depicted in curved lines in the middle. However, the important point is that the order of developmental stages remains the same among these four learners.

Variation also occurs over time and according to accuracy. For example, as can be seen in the following figure (Meisel et al., 1983), the different patterns of progress made by each of the learners at a point in time exists, both in terms of the grammatical structures they are able to produce and the accuracy rates they have achieved.

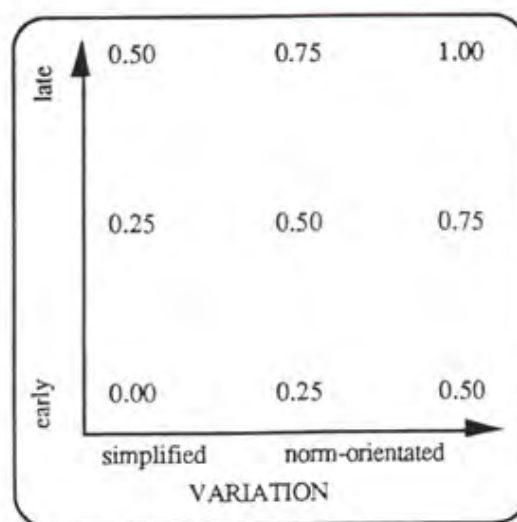


Figure 3.2 Variation, development and accuracy (From Meisel et al. cited in Pienemann, 1998b, p. 143)

In Figure 3.2, while the y-axis represents different stages in the developmental sequence, the x-axis shows the nature of the different learner groups. In other words, the x-axis stands for a continuum from a more communicatively effective group of learners who pursue grammatical simplification (therefore their oral production contains more NTL features) to a more norm-oriented group of learners who attempt to use standard-like constructions (therefore their production contains more TL features) on all levels of development. In this way, it is possible to depict the position of each of the individual learners in terms of their developmental stages and of the degree of accuracy demonstrated in their interlanguage which is, in turn, influenced by the characteristics of that group of

learners. For instance, while the interlanguage of learner A (one at the top left corner of the graph) is at the same developmental stage as that of learner B (one at the top right corner of the graph), A uses more non-target like forms (accuracy rate: 0.5) and B produces more target like forms (accuracy rate: 1.00). Therefore, it is possible that some learners at a higher stage continue to produce NTL forms, whilst others at a lower stage can produce TL forms (e.g., learner C in the middle on the right) (Pienemann, 1987, p. 88). Pienemann (1981) uses the omission of the copula (e.g., “he good”) in equational sentences as an example of such NTL forms, which some GSL learners produce, but others do not. This phenomenon is then explained with the concept of variational features or learner’s orientation, that is, in this case the “deviant” form gives the learner who produces it a communicative advantage (Pienemann, 1981, 1987, p. 88).

What Meisel, Clahsen and Pienemann (1981) investigated as part of their ZISA project was the naturalistic acquisition of German as an L2 by adult learners whose L1 was either Spanish or Italian. They used both longitudinal and cross-sectional approaches. As part of their research, twelve subjects participated in the two-year longitudinal study from the time of their immigration, and another forty five subjects participated in a cross-sectional study. The researchers informally interviewed each of the subjects for thirty minute on a regular basis⁸, so that spontaneous speech (unguided conversation) was the source of the data collected. It is important to note that although the researchers used both approaches, they believed that “only longitudinal approach would reveal convincing evidence for developmental stages in language acquisition” (Meisel et al., 1981, p. 112). However, they also collected the cross-sectional data to find variational aspects rather than developmental aspects (Clahsen, 1980; Meisel et al., 1981). The results of the study showed that there were five stages of development in German word order. These stages constitute an implicational hierarchy, that is, learners who reach one stage are supposed to be able to produce rules in lower stages. In other words, “each stage entails all the previous stages” (Pienemann, 1987, p. 76). These stages are summarised as follows:

⁸ It is not clear from the article what the precise interval was.

Table 3.1**Developmental stages for GSL word order rules**

Stage	Rules	Example
Stage X	Canonical order (SVO)	<i>die kinder spielen mit ball</i> the children play with the ball.
Stage X + 1	Adverb preposing (ADV)	<i>da kinder spielen</i> there children play.
Stage X + 2	Verb separation (SEP)	<i>alle kinder mu die pause machen</i> all children must the break have.
Stage X + 3	Inversion (INV)	<i>dann hat ie wieder die knoch gebringt</i> then has she again the bone brought.
Stage X + 4	Verb final (V-END)	<i>er sagt da er nach hause kommt</i> he said that he home comes.

(Based on Pienemann, 1998b, p. 45)

The sequence illustrated in Table 3.1 was then explained in terms of speech processing constraints imposed on the learners. It is claimed that, the higher the degree of processing capacity required for a linguistic rule, the later the rule is acquired (Clahsen, 1982, p. 4). Clahsen (1984) also proposed that the acquisition of German word order occurs step by step as a result of the “shedding” or removal of each of the speech processing strategies which constrain the learner’s processability. Three strategies which Clahsen identified are:

1) Canonical order strategy (COS):

Utterances manifest a canonical order that reflects a direct mapping of meaning on to syntactic form.

2) Initialisation/Finalisation Strategy (IFS):

Movement of an initial element in a structure to final position and vice versa is possible, but not to an internal position.

3) Subordinate Clause Strategy (SCS):

Movement of an element from within a main clause to another position in the clause is possible, but not in a subordinate clause.

Figure 3.3 Clahsen’s speech processing strategies (Based on Ellis, 1994, p. 385)

These strategies are all based on findings from empirical research into sentence processing, language acquisition and memory (Bever, 1970; Bever & Townsend, 1979; Fodor, Bever & Garrett, 1974). According to Clahsen, when the learner moves constituents in a sentence in the course of projecting underlying meaning onto surface structures and does so within a limited processing time, the psychological burden that the learner must take on due to the complexity of the structure is contingent upon the kind of the movement of the constituents described in Figure 3.3.

In GSL, for example, at Stage X, two strategies, i.e., +Canonical order strategy (+COS) and +Subordinate clause strategy (+SCS), are available to learners. With these two strategies at work, learners resort to the simplest way to mark underlining syntactic and semantic relations within a clause: canonical word order (COS) (Clahsen 1984; Slobin & Bever 1982). At Stage X+1, while maintaining Canonical word order (+COS), learners can move an element from one position to another with an additional strategy, namely +Initialisation/finalisation strategy (+IFS). However, this procedure is restricted to the movement from initial to final position or vice versa such as is the case with Adverb fronting (ADV), involving no movement from internal to other positions or vice versa. In these two first stages, which are “pre-syntactic” (Pienemann & Johnston, 1987b), the learners are not required to have any grammatical knowledge about each of the constituents in the sentence. In the subsequent stage (Stage X+2), however, with the COS strategy removed (-COS), learners can now move an element inside a string to either initial or final position by recognising the grammatical qualities or workings of that element. Therefore, the learners can operate a more complex procedure, namely Verb separation (SEP). Further, more complex structures such as a sentence with a subject and inflected verb forms (INV) can be produced at Stage X+3. This is made possible by moving an initial element in a structure to final position and vice versa, together with -COS. Stage X+4 is the last stage called “V-END”, where the learners become able to move elements out of the sub-strings to other positions, for instance the GSL learners can move an infinite verb to final position in the subordinate clause. That procedure occurs as a result of the removal of Subordinate Clause Strategy (-SCS) when they can recognise that subordinate clauses are

processed differently from the main clause. This process is summarised in the following table:

Table 3.2

German word order rules and associated strategies

Stage	Rule	Strategies		
X	canonical word order		+COS	+SCS
X + 1	adverb preposing	+IFS	+COS	+SCS
X + 2	verb separation	+IFS	-COS	+SCS
X + 3	inversion	-IFS	-COS	+SCS
X + 4	verb final	-IFS	-COS	-SCS

(Pienemann, 1998b, p. 46)

In this way, the acquisition of psycholinguistically more complex rules, which require more cognitive processing, need to go through more stages of “shedding” of speech strategies or constraints illustrated in the three columns to the left.

The most significant contribution made by the ZISA research team is that the theoretical framework developed by the researchers shed light on the unexplained problems that occurred in previous studies on developmental sequence. It is true that these earlier studies did describe developmental sequences. And some of them also attempted to provide, infer and explain how and why the development occurred. However, they could only do so within the domain of a specific language, leaving the universal mechanism of the sequence of language learning unexplained. The following comment made by Wagner-Gough (1978) reflects such general attitudes taken by descriptive or empirical researchers in the 1960s and 1970s:

While a description of the language process is the ultimate goal of language researchers, we still have very little information about how the learner formulates his rules, shapes them, and acquires new rules. While it seems that these questions will lead us deeper into the fields

of neurolinguistics and psycholinguistics, we still have resources available in language data collected from experimental and observational studies with which to form some hypotheses. (p. 163)

In contrast, the ZISA researchers proposed an explanation grounded on a cognitive approach for the developmental stages of GSL word order. Their explanation is robust because cognitive operations are universal to human beings, therefore it is “highly productive and extendable” (Meisel et al., 1981). Indeed, in recent years it has been applied to developmental sequences in the domains other than word order rules (e.g., Pienemann, 1987, 1998b for GSL morphology) and to the other languages (e.g., Johnston 1985a, b; Pienemann, Johnston & Brindley, 1988 for English as an L2; Pienemann & Håkansson, 1999 for Swedish; Di Biase & Kawaguchi, 2002 for Italian and Japanese). Thus, the capturing of a global picture for language development or the overall morpho-syntactical development of learner interlanguage seems possible as more empirical evidence is accumulated and unified.

The ZISA project, and the subsequent studies by these researchers, also had important influences on empirical analysis in SLA. As mentioned earlier, one of the characteristics of these studies conducted within the framework of the Multidimensional Model is that a variety of morpho-syntactic structures which appear to be unrelated to each other at first glance are presented together in developmental stages, because “any structures (in any language) meeting the description of those processable by a particular strategy should be acquired at roughly the same time” (Larsen-Freeman & Long, 1991). This is considerably different from the previous developmental sequence research, most of which concentrated on determining the sequence of a particular linguistic structure, (e.g., negation) alone. It is believed to be more worthwhile for researchers to include different structures in their analysis so that they can examine possible “interactions” between these different structures. Huter (1998), in particular, referred to this when she discussed the limitations of studies on Japanese as a second language (JSL) which had been conducted up to the time of her study:

(However,) because most studies focus on only one grammatical phenomenon each, it is not possible to come to a conclusion about the interaction of different syntactic rules, nor is it possible to plot a

picture of the overall development of syntax and morphology in JSL.
(p. 46)

The importance of considering such interactions was also emphasised by Stauble (1981) in relation to the developmental sequence of negation. As mentioned earlier (Chapter 2.3.3), it has been predicted, based on a body of research, that, regardless of their different L1 backgrounds, there are four major stages that learners go through in the mastery of the English negative construction. These are:

Stage 1: External placement of the negator

Stage 2: Internal or pre-verbal placement of the negator

Stage 3: Auxiliary plus negator

Stage 4: Analysed use of “don’t”.

Stauble claims that reaching the later stages of this developmental sequence of negation is related to the development of other VP (verb phrase) morphology. This is because the learners are required to be able to control a full auxiliary system with correct inflection for number and time reference (e.g., isn’t, aren’t, weren’t, don’t, doesn’t, and didn’t) (Larsen-Freeman & Long, 1991, p. 95). Therefore, in order to explain how and why the development of a specific structure occurs, it is clearly insufficient to investigate just that structure.

Another important point about the method of analysis used in the Multidimensional Model is that accuracy is not viewed as a valid indicator for language development, rather it is regarded just as a “finishing line” (Larsen-Freeman & Long, 1991), and this is only one part of the whole acquisition process. The ZISA researchers dismissed as utterly unreliable, the common belief held in the 1960s and 1970s that accuracy was the best indicator for ordering acquisition, and introduced the new principle for language acquisition data analysis: the emergence criterion. They believed that taking account of the learners’ emerging linguistic system, i.e., the first productive appearance of each of the linguistic forms was the only way to be able to analyse the process of language

acquisition and to seek theoretical explanations.

The Multidimensional Model formed the basis of Pienemann and Johnston's (1986) model for ESL, and thus grew into the construction of more refined hypotheses and theory, namely the Teachability Hypothesis (Pienemann, 1984, 1985, 1989, 1994), the Processability Hypothesis (Pienemann, 1995), and more recently, the Processability Theory (Pienemann, 1998b). A description of the Teachability Hypothesis will be given first in the next section.

3.2 Teachability Hypothesis

The Teachability Hypothesis emerged directly from a question related to L2 pedagogy: what implications does the process of naturalistic L2 acquisition have for the teaching and learning of L2 in the classroom. In other words, the question was whether or not the acquisition process taken by naturalistic L2 learners, such as the subjects used by the ZISA group, could be affected by formal instruction. Pienemann (1984) hypothesised that the teachability of L2 structures would be constrained in the same way as the acquisition of structures by naturalistic L2 learners was constrained, that is by the degree of the learners' cognitive processing capacity for that structure. That is to say, the concept of the Teachability Hypothesis is that constraints imposed on natural acquisition cannot be eliminated by means of formal instruction (Pienemann, 1984). In order to test this hypothesis, Pienemann applied Clashen's strategies paradigm (1984) and the GSL word order rules which the ZISA group had previously found, and conducted a range of studies with children of immigrants who were naturalistically acquiring German as their L2 in Germany, and with university students who were formally learning GSL in Australia.

The target structure in this study was INVERSION which is an obligatory permutation in German and which was believed to occur in Stage X + 3 (see Table 3.1, Chapter 3.1, p.78). Therefore, in order to look at the acquisition of this, an

experiment was undertaken with ten children aged seven to ten whose interlanguages were at a stage below INVERSION, i.e., between X and X+2. They were selected from a larger population of one hundred Italian children who were attending a primary school in Munich in an Italian-language-class with supplementary instruction of GSL. The children's interlanguage was tape recorded for the purpose of comparing the stages they reached before and after a period of formal instruction. The instruction period was also recorded. Therefore, the data for analysis included:

- (1) the "linguistic interview" conducted with pairs of participants; and,
- (2) the children's spontaneous conversation produced during their play time pre- and post- instruction.

The results show that, after the same instruction (same class, same time, same teacher), children whose interlanguages had been at a stage one step prior to the acquisition of INVERSION, i.e., learners at Stage X + 2, learned the targeted structure, but that this was not the case with those who had not reached that stage, i.e., learners at Stage X + 1. Thus the findings support the Teachability Hypothesis: an L2 structure can only be learned by instruction if the learner's interlanguage is close to the point when this structure is acquired in the natural setting (Pienemann, 1984, p. 198). Pienemann (1984) notes that the only possible areas in which instruction can influence language acquisition is as follows:

So the teachability hypothesis negatively marks off the possible influence of instruction on the acquisition process. However, this negative definition does not imply that formal instruction has no influence on acquisition whatsoever: ...instruction can improve acquisition with respect to (a) the speed of acquisition, (b) the frequency of rule application and (c) the different contexts in which the rule has to be applied, if the interlanguage development fulfilled the requirements for such an influence. (p. 200)

In other words, language teachers must be cognizant that the influence of instruction on language learning is limited to the rate of acquisition but not the sequence of acquisition of grammatical items.

To test the Teachability Hypothesis, another study of GSL by adult learners in a formal language learning context, namely a university German course, was conducted. The three subjects all began learning GSL at an Australian university as complete beginners at the time of the study. They were interviewed by a native speaker of German fortnightly over the period of one year. The topic of the interviews centred around social activities and the university. Pienemann (1987) reports on the interlanguage development of one of the subjects called Guy, first focusing on the acquisition of German word order rules, and then on verbal morphology. The results of the analysis of the word order rules show that Guy's language development of German word order was: 1) stepwise independently of the teaching schedule of his German class, and, 2) in the same order as had been previously found in naturalistic GSL acquisition.

Subsequently, the predictions of teachability were also tested for morphological development. It was predicted that, in the development of verbal morphology, the processing complexity would depend on the type of morpheme, specifically whether it was a local or non-local morpheme. That is to say, in order to insert a morpheme at an appropriate position, the learner first needs to recognise the syntactic class of the element requiring the morphological process. It was predicted that, if the insertion point is local, the processing complexity required for the inserting operation was the same as that required for the stage "SEP" in word order. Similarly, it was assumed that inserting a morpheme non-locally, such as in S-V agreement was as difficult as the internal movement of constituents (i.e., "INV") in word order rules in terms of processing capacity. The results of Guy's morphological development supported these hypotheses. This is summarised in the following table:

Table 3.3

The development of word order and morphology in GSL

Word order	Morphology	
SVO	----	
TOPI	----	
SEP	Ge-V	Local morpheme
INV	V + O (SV-agreement)	Non-local morpheme

(Based on Pienemann, 1987, pp. 107-108)

A comparison of the results on the development of morphology by Guy with those by a naturalistic GSL learner (Pienemann, 1981) indicates a common developmental sequence. This suggests that the acquisition process of formal and naturalistic GSL are both constrained by the same processing principle, lending further support to the Teachability Hypothesis.

3.3 Pienemann and Johnston's Model

Based on the Multidimensional Model, researchers found similar stages of acquisition in English as an L2 (ESL) and elaborated a model for ESL (Johnston 1985a, b; Pienemann & Johnston, 1987a, b; Pienemann, Johnston & Brindley, 1988). The original work for ESL was based on a cross-sectional study by Johnston (1985b) in which a total of twenty four samples from the same number (i.e., twelve) of Polish and Vietnamese adult immigrants in Australia were used. The subjects, whose oral proficiency were different (0 to 2 on the Australian Second Language Proficiency Rating [Igram & Wylie, 1981]), were interviewed twice. Each of the interviews lasted for approximately forty minutes, which was considered to be sufficiently long enough for statistical validity since it provided more than a hundred utterances. However, data from the follow-up longitudinal studies of eight of the same subjects used in the cross-sectional study were also included for analysis. This is because,

just as for Meisel et al. (1981), the researcher believes that in order to reveal developmental stages in language acquisition, longitudinal studies could provide more convincing evidence than cross-sectional studies. Johnston (1985b) states:

Actual case studies of individual learners, however, have shown that progress can be somewhat less linear than might be expected and therefore the “freeze frames” provided by cross-sectional studies must be viewed with some circumspection. (p. 21)

The follow-up sessions were conducted in the form of three additional interviews⁹ with eight subjects over the period of one year.

Johnston looked at a wider variety of syntactic phenomena, including morphology, than did the ZISA researchers. The results show that these data constitute an implicational hierarchy. The stages of ESL development by adult learners are outlined in the following table:

Table 3.4

Developmental stages of ESL structures

Stage	Rules	Example
Stage 1	Words and formulae	<i>I don't know.</i>
Stage 2	Sequence of words ordered in terms of meaning or information and not by grammatical knowledge	<i>You are student?</i> (SVO?) <i>I no like.</i> (no +X) <i>I like Sydney.</i> (SVO)
Stage 3	Canonical order with items at the beginning or end of the sentence	<i>Yesterday, I sick.</i> (ADV-FRONTING) <i>Do you have apartment?</i> (DO-FRONTING) <i>Why you no eat?</i> (WH-FRONTING)
Stage 4	Moving an element out of the middle of a string to either its beginning or end	<i>Can you tell me?</i> (YES/NO QUESTION) <i>I like to eat my friend house.</i> (COMPLEMENTISER INSERTION) <i>You can take your coat off.</i> (PARTICLE SEPARATION)

⁹ It is not clear from the article exactly how long the interval was, however, it can be inferred from the available information that it was probably two to three months.

Stage 5	Sentence-internal inversion	<i>What can you tell me about this course?</i> <i>She does not know.</i> <i>I wrote it myself.</i> <i>He gave the money to the police.</i> <i>She eats too much.</i> (Third person singular “s”)
Stage 6	Moving elements out of sub-strings and attaching them to other elements	<i>He asked me to go.</i>

(Based on Pienemann and Johnston, 1987b with some examples supplemented from Larsen-Freeman and Long, 1991)

Pienemann and Johnston’s Model made important contributions to the advancement of the notion of the Multidimensional Model. Firstly, this was the first research that extended the Multidimensional Model to languages other than German as an L2 by testing the existence of a series of developmental stages in ESL using empirical data. Secondly, this model successfully attempted to identify stages not only for word order rules, but also for morphology in English.

3.4 Processability Theory

In the preceding two sections, a hypothesis and a model which were developed from the Multidimensional Model were presented. With the further evolution of these transitional frameworks, the concept of processability has now grown into what is now known as the Processability Theory (PT). This will be described in detail in this section.

PT is a theory that Pienemann (1998b) built up by reconceptualising the previous framework in order to respond to some criticisms he had received (Larsen-Freeman & Long, 1991; Hudson, 1993; Ellis, 1994). These criticisms about the Multidimensional Model include its lack of logical explanation on the workings of L2 cognitive process required for each stage of language development, its failure to establish the definition of variational features through theory, and the uncertainty as to its applicability to morphology. This time he successfully

combined the research findings from cognitive psychology with those based on linguistic theories, and suggests that, due to the constraints of human cognitive abilities, “learners cannot acquire what he/she cannot process” (Pienemann, 1995, p. 19, 1998b, p. 87). More specifically, Pienemann relates the processability of morpho-syntactic structure to Lexical-Functional Grammar (LFG) (Kaplan & Bresnan, 1982) and Incremental Procedural Grammar (IPG) (Kempen & Hoenkamp, 1987). These two grammatical theories are outlined below.

Incremental Procedural Grammar (IPG) (Kempen & Hoenkamp, 1987) explains psychologically the grammatical encoding process which involves a time-constrained set of language production mechanisms. Kempen and Hoenkamp (1987, p. 202) claim that, although the production of fluent speech requires the processes of conceptulising, formulating and articulating, which are *temporally aligned* (Italics as used by Kempen and Hoenkamp), ordering the sub-processes of language production serially is impossible in a natural language. Therefore, they propose that sentence production is *incremental* or *piecemeal* (Kempen & Hoenkamp, 1987; Levelt, 1989). They also propose that “...the next processor can start working on the still-incomplete output of the current processor...(Levelt, 1989, p. 24). Further, by exchanging information in a parallel manner, processing sub-components can operate automatically and in parallel, but do so in a particular sequence (Pienemann, 1998b). The sequence is illustrated below:

- (1) lemma access,
- (2) the category procedure,
- (3) the phrasal procedure,
- (4) the S-procedure,
- (5) the subordinate clause procedure – if applicable.

This notion was then applied to PT. On the other hand, Lexical Functional Grammar (LFG) (e.g., Kaplan & Bresnan, 1982) is a theory which treats linguistic phenomena on the same level as grammatical functions, that is, based on syntactic, morphological and semantic information contained in the lexicon, rather than at the level of phrase structure as seen in Transformational Grammar (Arnold, 1995).

LFG consists of two parallel levels of syntactic representation, that is, constituent structure (c-structure), which has the form of context-free phrase structure trees, and functional structure (f-structure), which is sets of pairs of attributes and values. Attributes may be features such as tense and gender, or functions, such as subject and object (Arnold, 1995). LFG shares some important characteristics with Incremental Procedural Grammar (IPG). These are (1) the assumption that grammars are lexically driven, (2) the functional annotations of phrases (e.g., “subject of”), and (3) the reliance on lexical feature unification as a key process of sentence generation. Feature unification, meaning the matching of features within and across constituents, is a concept which relates LFG to a psycholinguistic model of language generation presented by Levelt (1989). For example, the NP “three dogs” is well-formed because the feature “NUM (number)” in ‘three’ and ‘dogs’ are matched (Pienemann, Di Biase, Håkansson & Kawaguchi, 2005). LFG was chosen as the grammatical formalism for PT because every level of its hierarchy of processing procedures can be represented through feature unification.

One of the major problems with the prototype models of PT was that predictability and universality were not fully dealt with, despite the fact that these issues were referred to from time to time. Therefore, the conceptualisation of these questions became the main task for Pienemann. First, the actual mechanisms of a learner’s ability to produce certain structures in developmental stages needed to be explained more clearly and logically. Larsen-Freeman and Long (1991) described the need for this explanation in the following way:

Identifying the nature of the processing strategies governing some aspects of acquisition (assuming this is achieved) will be an especially important advance due to their universal status and consequent cross-linguistic generalisability, but it would still not in itself specify how it is that learners learn whatever they manage to produce despite the constraints. What kinds of grammatical rules, for example, underlie the structures that are produced in conformity with the processing constraints, and how are they acquired, or are they or some other kind of knowledge innate? (p. 285)

In order to address this requirement, Pienemann used both cognitive assumptions and a psychological rationale. For example, in the Multidimensional

Model, he explained that structures were able to be produced at a certain stage because of the availability or lack of availability of certain strategies (e.g., +IFG, -COS and +SCS at Stage X+2, see Chapter 3.1, p. 80). This mechanism was applied on the basis of the speech processing strategies approach (Clahsen, 1984) which used the notion of constraints on the movement of elements in a sentence in the context of developmental sequence of GSL word order. However, it must be noted that this explanation has been dropped in PT because the movement of elements based on the concept of “transformations” is now considered to be psychologically implausible and thus no longer relevant in linguistic theory (Altmann, 1990; Horrocks, 1987; Levelt, 1989). Even so, Pienemann’s underlying premise relating to processing remains. For instance, using LFG and IPG, Pienemann claims that processing complexity constrains “the transfer of abstract grammatical material information across constituent boundaries”. The learner whose processing ability is at a certain stage can handle a certain level of the exchange of grammatical information, thus being able to produce a certain structure. In this way, PT no longer relies on the movement of elements, which is at best accountable for word order rules, because the new concept of information exchange can be applied to both syntactic and morphological phenomena.

It is on this basis that Pienemann claims through PT that the production of certain structures depends on the availability of the necessary grammatical processing procedures which enable the learner to exchange a particular type of information. The skills to utilise those processing procedures are developed by the language learners themselves. Further, he claims that a hierarchy for the acquisition of these processing procedural skills is universal to human beings. The mechanisms for processing procedures are outlined by Pienemann (1998b) as follows:

...the real-time production of language can only be accounted for in a system in which word retrieval is very fast and in which the production of linguistic structures is possible without any conscious or non-conscious attention, because the locus of attentive processes is short-term (or immediate) memory, and its capacity is limited to fewer operations than are required for most of the simplest utterances. Such language production mechanisms therefore have to be assumed as being highly automatised. Given these psychological constraints on language production, acquisition has to be viewed as the process of automatisisation of linguistic operations. (p. 5)

Following this notion, Pienemann suggests five developmental stages of grammatical processing procedures which form an implicational hierarchy. At the first stage are word and lemma, i.e., “certain semantic and grammatical aspects of a word ” (Pienemann, 1998b), to which learners need to have access before they are equipped with procedural skill for the grammatical category (category procedure). Using the category procedure skill, they are able to produce lexical morphemes (e.g., tense marking morphemes such as “go”, “went” and “has gone”) before reaching the next stage for phrasal procedure. In the phrasal procedure stage, phrase agreement can occur and a diacritic and other features of the head can be exchanged with the modifier. And, next, with the sentence procedure (S-procedure) skill available, the learner can store the relevant phrasal information, enabling inter-phrasal information exchange and so the agreement process to occur. If the learners are able to demonstrate all the procedural skills mentioned so far, they are ready to acquire subordinate clause procedure, with which they can produce main and subordinate clauses. This stepwise hierarchy of processing procedures, which is claimed to be universal, is illustrated in the following table:

Table 3.5

Hypothesised implicational sequence of processing procedures and predicted structures

Stage	Procedure	Structural outcome	Time 1	Time 2	Time 3	Time 4	Time 5
1	Word/ lemma access	“words”	+	+	+	+	+
2	Category procedure	Lexical morphemes	-	+	+	+	+
3	Phrasal procedure	Phrasal information exchange	-	-	+	+	+
4	Sentence procedure (S-procedure)	Inter-phrasal information exchange	-	-	-	+	+
5	Subordinate clause procedure	Main and subordinate clause	-	-	-	-	+

(Based on Pienemann, 1998b, pp. 8-9)

As seen in the table above, some grammatical morphemes are entered as

“lexical morphemes”. This is because Pienemann clearly makes a distinction between “pure syntax” and “pseudo syntax” in this theory. Pseudo morpho-syntactical structures appear as morpho-syntactical structures, however, in fact, they function as lexicon. Therefore, some types of morphemes are considered to be lexicon due to the notion that no complex mechanism is required in order to process them. For example, a tense marking morpheme such as “ate” or “talked” is considered as a lexical morpheme because there is no need for information exchange between words or phrases. Therefore, this type of morpheme is distinguished from other morphemes. However, ‘s’ which marks plural such as ‘s’ in “many books” is categorised as a phrasal morpheme, because information regarding the diacritic feature “NUM (number)”, i.e., “many” and that on plural marking “s” must be exchanged within the same phrase. Marking ‘s’ for S-V agreement such as “He speaks English” is an inter-phrasal morpheme because information regarding number and person must go beyond the phrase boundaries. This level of information exchange is acquired in Stage 4 of the sentence procedure.

One major difference between the Multidimensional Model and PT concerns the distinction between developmental and variational features. It is claimed in the Multidimensional Model that while developmental features of grammatical structures emerge in a fixed order, this is not the case with variational features (see Chapter 3.1, pp. 74-77). Although Clahsen, Meisel and Pienemann (1983) identified fourteen variational linguistic features from implicational scales, or through the comparison of developmental patterns between subjects, it has been pointed out that there needs to be “clarity over identifying variational features *a priori*” (Larsen-Freeman & Long, 1991, p. 285). Pienemann (1998b) admits that this lack of clarity in the Multidimensional Model leads to the danger of falsifiability, particularly in regard to the Teachability Hypothesis, stating that:

(However,) in the context of the teachability hypothesis the stakes were raised higher and this hypothesis was falsifiable only if the features tested in a given experiment were already identified as being either developmental or variational. In other words, the falsifiability of the teachability hypothesis for any previously undefined structure depended on an *a priori* definition of variational features. As long as this definition was absent a failed attempt to teach a given structure could have been attributed to premature teaching and a successful

attempt could have been attributed to the variable status of the structure in focus. This is indeed a serious limitation which I hope has now been overcome. (p. 233)

However, it is also clear that the attempt to provide an *a priori* definition of variational features, using socio-psychological factors, is problematic because of the descriptive nature of these factors. Therefore, instead of defining the variational dimension separately from the developmental dimension, Pienemann now defines them, “from the same vantage point” (Pienemann, 1998b, p. 233), i.e., from the perspective of their Processability. Both of the features are integrated and considered to be constrained in the same way by the processing procedures in each stage of the developmental sequence. This means that variational features are also defined by using structural boundaries within a framework of PT. Space created in each of the stages accommodates any processable structure, which includes what Meisel et al. (1981) called both developmental and variational features in the Multidimensional Model. This space is called the “Hypothesis Space”. The concept of the Hypothesis Space is illustrated in the figure below:

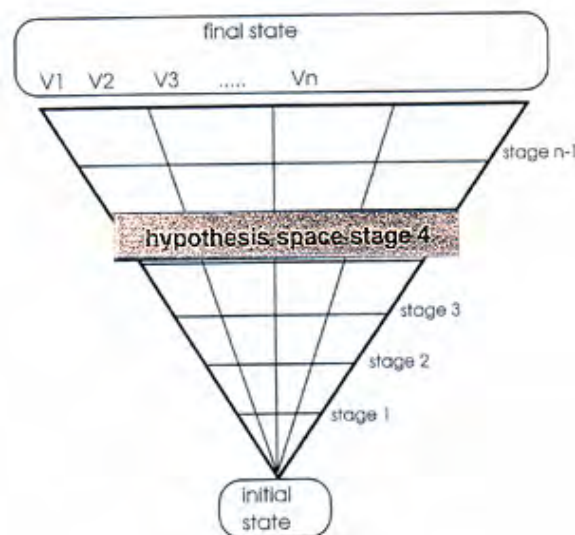


Figure 3.4 Hypothesis Space, developmental and variation (From Pienemann, 1998b, p. 232)

Hypothetically, a range of structures can be produced as a result of the constraints of the processing procedures available at any stage of development. While processable structures in each of the stages, which can be compared vertically, form implicational relationships, the existence of interlanguage varieties within each of the same processable structures also can be viewed horizontally.

On this basis, it is possible to say that, due to a range of interlanguage varieties among learners, the same structures appear in different forms. For example, some learners use target-like forms and others non-target like forms, or the structure may be even absent for some learners. In other words, there is Hypothesis Space which rigidly constrains interlanguage development but it also implies the existence of “a degree of freedom” (Pienemann, 1998b, p. 233).

One crucial modification that Pienemann made to PT relates to the definition for the criterion of “acquisition point”. He advocates that the general principle for data analysis remains the same whether the focus of analysis is on syntactic or morphological aspects of interlanguage development, namely emergence criterion. Compared to accuracy or “end point” criterion, which was widely used in “morpheme order studies”, emergence criterion is believed to be superior not only from a descriptive point of view in that researchers can reveal the whole process from the beginning of acquisition, but also from a speech processing point of view in that emergence can be considered to be “the point in time at which certain skills have, in principle, been attained or at which certain operations can, in principle, be carried out” (Pienemann, 1998b, p. 138). However, calls for more fine-tuned definition for the emergence criterion has been made in the literature, particularly pertaining to morphology. This relates to one of the falsifiability problems indicated by Larsen-Freeman and Long (1991). They write:

Pienemann and Johnston’s (1985, 1987) extension of the analysis to morphology explicitly assumes (following Selkirk, 1983) that morphemes have the psychological status of words, with a syntax of their own. As Pienemann and Johnston are, of course, aware, however, this is not always the case with early ‘chunked morphology’, since SL learners, like children acquiring their L1, frequently produce their first tokens of such items as English irregular past, plural s, and

even third-person singular –s as parts of unanalysed forms, such as *went* and *stairs* and *breaks* (for discussion, see, e.g., Pica, 1982; Young 1988). This means that some tokens of such items will occur in the speech of learners well before they reach the stages at which they are predicted to attain productive use of them. (p. 285)

Pienemann himself recognised a need to make a distinction in the criteria used for acquisition in syntax and in morphology, stating:

Therefore it makes sense to apply emergence criteria to syntactic development on the basis of (minimally) one occurrence in a sample while the same criterion may generate misleading results for the analysis of morphological development (Pienemann, 1998b, p. 133).

Therefore, in order to deal with the “morphological chunks”, he proposes that data on the emergence of morphology should be “filtered through more refined analyses which ‘neutralise’ the effect of unanalysed entries into the learner’s lexicon” (Pienemann, 1998b, p. 144). For example, to make sure of the genuinely productive occurrence of SV-agreement, he suggests that both subject and verb should vary morphologically and lexically, as for when, as evidence for the presence of third person singular “-s”, both “he goes” and “I go” are necessary. In testing PT in the contexts of Italian and Japanese as an L2, Di Biase and Kawaguchi (2002, p. 288) followed the criterion that “a morphological rule is supplied more than once in lexically and structurally varied environments”.

In relation to this new criterion, Pienemann (1998b, p. 145) suggests that a distributional analysis should be undertaken in order to take account of the suppliance of a morpheme in not only obligatory but also non-obligatory contexts. Furthermore, he also suggests that researchers provide not only linguistic contexts such as those mentioned above, but also lexical environments, so that information on possible relationships between lexical items and interlanguage rules of development can be given.

As a result of the linguistic analysis of German word order and morphology in relation to hierarchical grammatical processing procedures, the prediction of developmental sequence of both word order and morphology in GSL was proposed. The stages of word order rules had already been verified by empirical evidence as shown in the previous sections, and the stages of morphology development were also tested in another study by Pienemann (1987). The same data used to investigate morphological development in the adult GSL learner called Guy were re-examined using this new framework (Pienemann, 1998b). One more stage was added to the proposed framework by separating the sentence procedure into two: simplified sentence procedure, and, sentence procedure. The former procedure involves the exchange of information from internal to salient constituent position and the latter, the exchange of information between just internal constituents. The structures that result in the latter procedure include inter-phrasal morphemes. These stages are illustrated in the following table:

Table 3.6

The general developmental picture for GSL

Stage	Exchange of information	Procedure	Word order	Morphology
1	none	Word/lemma access	words	-
2	none	Lexical categories (Category procedure)	SVO	Lexical morphemes: Tense, number etc
3	Phrasal	Phrasal procedure	ADV	Phrasal morphemes: Plural agreement
4	Inter-phrasal with saliency	Simplified S-procedure	SEP	
5	Inter-phrasal with no saliency	S-procedure	INV	Inter-phrasal morphemes: SV-agreement
6		Subordinate clause procedure	V-End	

(Based on Pienemann, 1998b, p. 87 & p. 118)

As it has been seen, Pienemann's PT made a contribution to SLA by giving explicit explanation about the roles of processing in language acquisition and to our understanding of which morpho-syntactic structures are processable. Despite this "explicitness" (Pienemann, 1998a, p. 36), some researchers found problems with this innovative theory and demanded more "completeness" (Pienemann, 1998a, p. 36). For example, it is claimed that PT should integrate further explanations as to how language learners acquire L2 procedural skills (Carroll, 1998) and how they enable the formal principles (i.e., lemma, category, phrasal, sentence and the subordinate clause procedures) to compete with semantic-informational principles (i.e., perceptual salience) at various developmental stages (Hulstijn, 1998) and so on. (See also Bialystok, 1998; Kees De Bot, 1998; Kempen, 1998, Muysken, 1998, Schachter, 1998; Schwartz, 1998, for further critiques and suggestions about Pienemann's work.) However, Pienemann clearly takes "a reductionist" (1998a, p. 36) stance and declares his intention of concentrating on roles that the processing mechanisms has for language acquisition and typological plausibility, and in the mean time to leave out other theory components.

In sum, unlike the original framework which dealt with the developmental sequence of quite a limited area of syntax, namely German word order, PT has been extended to a variety of morpho-syntactical structures based on processing procedure and feature unification, i.e., the exchange of grammatical information. The theory is claimed to be universal because of a hierarchy of cognitive processing procedures applicable to any language. Empirical evidence for this theory is provided by studies of GSL (e.g., Pienemann, 1998b), GFL (Håkansson, Pienemann & Sayehli, 2002), ESL (Pienemann & Johnston, 1985), Swedish as an L2 (Pienemann & Håkansson, 1999), Italian as an L2 (Di Biase & Kawaguchi, 2002) and JSL (Di Biase & Kawaguchi, 2002; Pienemann, Di Biase, Håkansson & Kawaguchi, 2005).

Although there is evidence from European languages (as mentioned above), clearly it should be further tested in a variety of languages, particularly typologically different languages such as Japanese. Also, the stages covered to date are all at beginner to intermediate levels. Therefore, formalisation and testing for more

complex structures at more advanced levels must be undertaken to validate PT for interlanguage development as a whole. In the next section, those JSL studies which have been undertaken within the framework of PT will be presented.

3.5 The Acquisition of JSL and the Processability Theory

The application of the Processability Theory (PT) to JSL is a relatively new area of research. Some of the studies that have been conducted were undertaken within a framework of the antecedents of Processability, although a few have actually tested PT. However, they are still small in number, compared with the majority of empirical, descriptive JSL studies.

Doi and Yoshioka (1990) based their research on cross-sectional assessment of accuracy. They applied the Pienemann-Johnston Model (e.g. Pienemann & Johnston, 1987a, b) to the explanation of the acquisition order of case particles “*wa*”, “*o*” and “*ga*”. This model is an elaborated version of the Multidimensional Model (Clahsen, Meisel, & Pienemann, 1983). The subjects were twenty four Japanese as a foreign language (JFL) adult university learners of three proficiency levels. The researchers undertook an interview of approximately fifteen minutes duration with each of the subjects, who were asked four questions, e.g., “What do you do in your free time?”, written in English on cardboard and answered orally in Japanese. The researchers assumed that the structure, “X *wa* [sentence]” in Japanese was similar to the structures, “Yesterday, [I go school]” or “Do [you understand me?]” at stage 3 of the Pienemann-Johnston Model for ESL. In English, the canonical word order of the sentence in [] is not disturbed by the fronted items. Likewise, the accurate use of topic marker “*wa*” did not require learners to be able to analyse the sentence after X “*wa*”. In other words, the ability to produce “X *wa*” has nothing to do with the structure in the [sentence], therefore there are less processing constraints to produce “*wa*” accurately. On the other hand, in order to use the subject marker “*ga*” and the object marker “*o*” within a sentence, learners are required to know which noun is the subject or object in relation to the verb used, and as such it is assumed that learners are subject to more processing constraints. This stage is

similar to the stage 5 of the Pienemann-Johnston Model. Therefore, the researchers hypothesised that “*wa*” would be acquired before “*o*” and “*ga*”. Using implicational scaling based on accuracy, they found that their hypothesis was supported.

More recent work, specifically on the overall acquisition sequences of Japanese syntax, was conducted by Huter (1996). The study used the Multidimensional Model (Clahsen, Meisel, & Pienemann, 1983) as a framework. Huter presented the first five stages of acquisition of JSL. She also explained two typical kinds of learner errors that occur in these stages. The subjects were ten adult learners of JFL, all native English speakers and university students. The study involved a cross-sectional design and data were collected by means of “communicative tasks” or “researcher-specified tasks” (from the description provided these appear to be one-way communication games) which the subjects played in pairs. Although it is not clear how many tasks were performed per dyad, it is reported that one data collection session lasted about thirty minutes (Pienemann, 1998b, p. 214). As per the Multidimensional Model, and the successive processability hypothesis, emergence criterion was used to determine an acquisition point. More than two productions of a particular structure were counted as an indicator of acquisition, but one or two productions and structures which seemed to be “rote-learned” were not considered to be part of the implicational scale. Based on the analysis of the data, eleven different structures were used to determine the stages of acquisition. Huter claims that the stages determined by the implicational hierarchy are universal and systematic. She suggests this explains developmental acquisition in JSL from pre-nominal modification through to pre-verbal modification and the typical errors made during this development, namely the overuse of the case particle “*no*” in noun modification such as “*atarashii no kuruma* (new car)”. It is interesting to note that this is the same error that was the subject of investigation by Yokoyama (1990) (see Chapter 2.2.4, pp. 30-32) in the L1 context, and Shirahata (1993) (see Chapter 2.3.4, pp. 60-62) and N. Iwasaki (2000) in the L2 context.

Huter explains the five stages of acquisition of JSL as follows: In the first stage, the learners are able to produce canonical word order, that is NP NP V and NP

N copula. Complex noun phrases consisting of two nouns occur in the second stage. In the third stage, learners are able to produce the two noun structure by using modifying-before-modified. This has not been mastered in the previous stage, where reversing the order, e.g., “**ue no yane ni* (*on the roof of the top)” instead of “*yane no ue ni* (on the top of the roof)” occurs. In the third stage, they can also inflect verbs by marking with only one suffix. Next is the stage where, following N1 plus N2 structure, the learners place the modifier before the modified with the use of an adjective. However, this fourth stage is still a pre-syntactic stage where learners do not categorise adjectives differently from nouns. Also appearing at this stage is the juxtaposition of two simple sentences which are semantically related using “*demo* (but)” and “*to* (and)” and the coordination of clauses using “*ga* (but)”. The word “*to*” is used for connecting two sentences in a non-target like way because “*to*” is used to connect only nouns with other nouns. Adverb phrase-fronting also occurs in this stage. This is different from GSL where adverb-fronting occurs only after the canonical word order is acquired (Clahsen, Meisel & Pienemann, 1983; Meisel, Clahsen & Pienemann, 1981; Pienemann, 1984, 1995). According to Huter, in Japanese an adverb appears as an adverb phrase, i.e., noun plus particle, that is the structure of the noun phrase, which takes one of the positions if the canonical word order is used. In the fifth stage, where knowledge of the basic grammatical categories, noun, verb and basic sentence structures is finally established, a complex verb phrase such as adverb-before-verb structure can be produced. The following table is a summary of these five stages as described by Huter.

Table 3.7**Five developmental stages with eleven structures by adult JSL learners**

Stage	Structure	Example
Stage 1	1 Copula sentence	N p N p desu 1 <i>Ryooshin wa Malaijiajin desu.</i>
	2 Sentence with existential verb	N p N i/arimasu 2 <i>Tsukue ni arimasu?</i>
	3 Sentence with full verb	N p N p V 3 <i>Sannin wa duressu ni kimasu.</i>
Stage 2	4 Complex noun phrase	N to N p 4 <i>Bumpoo to conversation shimashita.</i>
	5 Complex noun phrase	N no N p 5 <i>Isu wa hidari no tsukue e imasu.</i>
Stage 3	6 Verb negation:	V-masen 6 <i>Mado arimasen.</i>
	7 Verb inflection for past	V-mashita 7 <i>Igirisu ni ikimashita.</i>
	8 Order of modifier and modified	N1 no N2 p 8 <i>Benchi ga ki no shita ni arimasu.</i>
Stage 4	9 Complex noun phrase	Adj N p 9 <i>Onnanohito wa aoi duressu o kimasu.</i>
	10 Complex sentence	Adv P S 10 <i>Tasmania de chuugokugo benkyo suru koto ga dekimasen.</i>
Stage 5	11 Complex verb phrase	Adv V 11 <i>Kuruma ga nidai arimasu.</i>

(Huter, 1996, p. 46)

Huter claims that the overuse of the case particle “no” in noun modification (e.g., *atarashii no kuruma* [new car]) occurs when learners who are still at stage 1, 2 or 3 attempt to produce NP → adj N p, which is a stage 4 structure. As they have not developed the necessary skills to produce this structure yet, they may avoid producing it or they may inappropriately apply structures that they have mastered. Thus the use of NP → N1 no N p: the structure for modifying before the modified, using nouns, is a logical solution for those learners.

Further, Huter (1996) has noted that in order to test the results of this cross-sectional study, a longitudinal study of two subjects, including one native speaker of Korean, was also conducted. Data were collected on a three-week basis

over a period of two years. However, information on the data collection method such as the tasks used, the length of a session and coding criteria, is not provided in her 1996 paper.

Together with her 1998 thesis, which will be described in detail below, the study by Huter (1996) is a valuable one because it is the first JSL research in which the acquisition of different syntactic structures was presented in stages and various aspects of development were explained from the perspective of PT. However, her results are problematic due to a degree of uncertainty about some features and a lack of explanation about others. She excluded from her analysis utterances with structures that seemed to have been “rote-learned”. However, no example of these or the number of such utterances are given, therefore it can be speculated they appear to be based on arbitrary decisions rather than stringent requirements. In addition, information about the research design, including the nature of the tasks used, is somewhat ambiguous. It is also possible that some variability existed among the subjects but this information was not provided. These issues will be discussed in detail later in this chapter.

Subsequently Huter (1998) undertook a longitudinal study of developmental sequences, using five of the subjects who participated in her initial cross-sectional study (1996). All subjects had begun studying Japanese at university as complete beginners. Four of them continued their studies for the following six semesters and one for four semesters (because this subject could not participate in the last two sessions). While one subject had constant exposure to Japanese outside the university, the others seem to have had limited exposure. The Japanese course¹⁰ which the subjects took was taught from the textbook “Colloquial Japanese” (Clarke & Hanamura, 1981, 1991) for the first five semesters, and with authentic material during the sixth semester. Oral production data were collected at the end of each semester, with the first session beginning after three months of instruction. From this it can be estimated that data collections were conducted at an interval of approximately four to eight months, or six months apart on average. It seems that

¹⁰ It is not clear from her thesis how many hours of instruction the subjects had per week.

each data collection session lasted about thirty minutes.

From the description provided by Huter (1998) the tasks used varied in each session. In the first session, two subjects were paired together and asked to perform an information gap task “where information flow was one way” (p. 64) (i.e., a one-way communication task during which one of them described a picture and the other had to draw it). Then the subjects “swapped roles” (p. 64) so that data could be collected from both of them playing both roles. After this task, the researcher had a session with each of them for “another picture description task” (p. 64), in which the researcher played the role as drawer of the picture. This was followed by a conversation session, where topics such as daily activities, sports, part-time jobs and so on were discussed. It is not clear either from her thesis (1998) or from the 1996 article which of the three different pictures¹¹ in the Appendix of the thesis were used when two subjects in one pair swapped their roles during the first task. The provision of this information is important as two similar pictures (with some variances) would help to ensure comparability, as well as to avoid practice effect. However, it does not seem that these variables were controlled in this study. Given that only two pictures were provided in the appendix in the 1996 article, it may be inferred that one of them was used for a task between the two subjects and the other as the task used between the researcher and each subject. Therefore, the first picture may have been used twice when the pairs swapped their roles. In this case, a practice effect might have occurred. If the pairs had used two different pictures, eliciting completely different structures, then a comparison of the outcomes is difficult.

From the second session until the last, all the tasks were undertaken only

¹¹ Huter (1996) states that “[c]ommunicative tasks are given, always with the aim of facilitating conversation, almost never to elicit a certain grammar structure” (pp. 44-45). However, these three different pictures all depict different contexts, from which different structures naturally seem to be expected to occur. Aside from the picture descriptive task which the researcher herself performed with each of the subjects, where it is believed the same picture(s) was/were used across all dyads, the use of at least two of these three pictures for tasks performed between the subjects was controversial in terms of controlling of variables concerning comparability.

between the researcher and each of the subjects one at a time. Seven different pictures in total were used for the subjects to describe to the researcher. At each session, after the story telling of one or two pictures, free conversation was also undertaken between the researcher and each of the subjects.

In Huter's longitudinal study the emergence criterion was used as the indicator for acquisition. For the acquisition of morphology, a morpheme was considered to have been acquired when it occurred with three different lexicons and one other morpheme in one data collection session. In addition, in order to avoid a case that "a seemingly productive utterance had been "rote-learned" (Huter, 1998, p. 57) or that "rules used by the subjects had been different from the one inferred by the researcher" (Huter, 1998, p. 57), "the measure of a minimum of three productive utterances of an identical structure per one collection session" (Huter, 1998, p. 57) was applied.

Based on all data collected in the three-year longitudinal study, Huter (1998) presented a revised version of the developmental sequence in JSL. She outlines these final results presenting a sequence of structures (not stages as previously) for the acquisition of syntax and of morphology. Huter's acquisition order for syntax is shown in Table 3.8 below. In this table, the first four structures are grouped in Step 1, which means that they were acquired by the time of the first data collection session. The results show that basic phrase and sentence structures appear first and that they are then extended both to the phrase and the clause level.

Table 3.8

Sequence of JSL syntax acquisition

Structure	Syntax	Example
Step 1 (Structures 1-4)	NP -> N p S -> NP NP S -> NP V NP -> N p NP	<i>Ki wa. Ki desu.</i> <i>Zubon wa aoi desu.</i> <i>Hito wa gohan o tabmasu.</i> <i>Hito wa shita no ki ni imasu.</i>

Structure 2	NP -> N1 no N2 p	<i>Hito wa ki no shita ni imasu.</i>
Structure 3	NP -> det N p	<i>Onnanohito wa aoi doresu o kimasu.</i>
Structure 4	adverb fronting	<i>Kinoo arubaito o shimashita.</i>
Structure 5	coordination	<i>Tanjoobi desu ga sabishii desu.</i>
Structure 6	subordination	<i>Nihon ni ita toki ni takusan gohan o tabemashita.</i>
Structure 7	relativisation	<i>Ki no shita ni iru hito wa onnanohito desu.</i>
Structure 8	serial sentence	<i>Daigaku ni itte benkyoo shimasu.</i>

(Huter, 1998, p. 245)

Huter has noted that, although there were differences in the number of structures acquired by the five subjects, overall, all the subjects appeared to have acquired syntactic structures in a similar way. Interestingly, a comparison of this sequence with the Japanese textbook which the subjects used at university reveals that the acquisition order of the structures found in the study does not match the order presented in the textbook. Also the results showed that the subjects did not acquire those oral production skills related to the structures they were taught. That is to say, they developed their interlanguage independently of instruction.

At the same time when Huter compared to the description produced by Clancy (1985), the acquisition order of sentence structures by these adult JSL learners was generally found to be similar to that of children acquiring Japanese as their L1.

With regard to the acquisition order of JSL morphology, Huter also found a similar order among the five subjects. This is shown in Table 3.9. First, learners are able to produce one predicate affix (predicate, i.e., verbs, existential verbs and copula, with only one affix) before they can multiply affix. Also, verb inflection, either with a single affix or multiple affixes, appears earlier than adjective inflection (finite adjective). However, Huter explains that this would occur quite naturally because adjectives are not inflected in English.

Table 3.9**Sequence of JSL morphology acquisition**

Structure	Morphology	Example
Structure 1	Predicate affixation	<i>Benkyoo shimashita.</i>
Structure 2	Multiple affix OR V-te V	<i>Okyakusan wa yorugohan o tabemasendeshita.</i>
Structure 3	V-te V OR multiple affix	<i>Hito wa tabete imasu.</i>
Structure 4	Finite adjective	<i>Nihongo wa muzukashikatta to omoimashita.</i>

(Huter, 1998, p. 246)

Huter reveals that some morphemes were not found in this study. In particular, only a few subjects managed to produce inflections such as those required for adverbs, e.g., “*haya-ku* (quickly)” from “*haya-i* (quick)”, and the rest did not. In addition, no passive nor causative morphologies were observed.

It is possible that some methodological problems resulted in the absence of some structures. Compared with a natural acquirer of L2, the exposure of Huter’s subjects to Japanese was limited and therefore the emergence of some apparent “advanced structures” (e.g., causative or passive) would be expected to be late. Consequently, the three-year data collection period may not be sufficiently long to record the development of these structures. In addition, the interval of the data collection may have been too long (one per one semester, i.e., every four to eight months or six months on average) and this may have resulted in some structures being missed, and behaviour such as backsliding and U-shaped acquisition being overlooked. Also the number and nature of the tasks used in this study might have had an effect on those structures that could be observed. Specifically it might be possible that using only one or two communication tasks at each session might not be sufficient to elicit structures such as passives. Apart from the “big and small fish” picture which Huter noted was to elicit passive structures, she does not state what syntactic and morphological structures she expected to elicit from the remaining tasks. In fact, Huter (1996) states that she did not intend to elicit any particular

structures. The shortcomings of a methodology such as this, particularly regarding task variation, are noted by Pienemann (1998b) thus:

That research [= a study of task variation cited in Section 6.4 of Pienemann (1998b)] demonstrates that linguistically monotonous samples are often produced in data collection sessions in which communicative demands do not vary and it further demonstrates that linguistically varied data sets can be obtained by employing a variety of communicative tasks. (p. 150)

While Huter's studies were motivated by PT and her research methodologies adopted similar approaches to analysis as used by Pienemann and his colleagues, e.g., the emergence criteria and implicational scaling, much of the acquisition order she found is not fully explained by this theory. Specifically, in order to demonstrate that the acquisition order of the morpho-syntactic structures she found is in fact in line with a hierarchy of L2 processes hypothesised in PT (Pienemann, 1998b, see Table 3.5 on p. 92), some explanations as to why such L2 procedural skills are required for the production of those Japanese structures are necessary, and should include the use of a grammar theory such as LFG.

Subsequently, the prediction of a hierarchy of the acquisition of JSL was attempted by Pienemann (1998b), using data in the studies by Huter (1996, 1998) and Kawaguchi (1996). According to Pienemann (1998b, p. 213), there are three levels in the acquisition of verb morphology in Japanese. These are:

- (1) no affix
- (2) lexical affix
- (3) phrasal affixes

No affix on verbs will occur at level 1 where no lexical material has been categorised according to lexical classes. Next at level 2, verb affixes will occur but this is still a lexical process. Therefore, the only processing requirement for the insertion of most of the verbal morphemes such as causative, passive, aspect, desiderative, negation and tense, is that "the formal lexical class 'verb' is so marked

in the lexicon.” (Pienemann, 1998b, p. 210). At level 3, phrasal affixes will occur. Unlike European languages, there is no agreement marking for person or number on verbs in Japanese, therefore, inter-phrasal information exchange, which is required for the acquisition of S-V agreement, appears to play no crucial role on the acquisition of Japanese verb morphology. However, phrasal processing is, in fact, crucial for the verb morphology in Japanese, such as when more than one verb is used. This is the case for the “V-*te* V” structure, which consists of a verb marked “-*te*” in the penultimate position and another verb in the sentence ending position. The verb in the penultimate position can contain some other inflections such as causatives and passives but they are always marked “-*te*” at the end, thus syntactic information needs to be exchanged with the subsequent verb. The sequence of these three levels of structures in Japanese is in line with the three stages of processing procedure as described in PT, as shown in the third column of Table 3.10 below.

Table 3.10

Processing procedures applied to Japanese

Processing procedure	L2 Process	Morphology	Syntax
6 Subordinate clause procedure	Main and sub clause		
5 S-procedure/ WO Rule -saliency	Inter-phrasal info		
4 S-procedure/ WO Rules +saliency	Inter-phrasal info		
3 Phrasal procedure	Phrasal information	V- <i>te</i> V	Topi
2 Category procedure	Lexical morpheme	Vaff	Canonical order SOV
1 Word/ lemma	‘words’	Invariant forms	Single construction

(Pienemann, 1998b, p. 211)

This hypothesis was empirically supported by the findings of Kawaguchi (1996) in her cross-sectional study of seven Australian university students, all of whom had English as their L1 and who were learning Japanese as an L2. The subjects were involved in thirty minute communicative tasks with both a native speaker and a non-native speaker. Pienemann used Kawaguchi's data to analyse three types of verb morphology as discussed above. Although no evidence is obtained at the "no affix" level (which is assumed due to the limitation of the data base), an implicational relationship was found between the lexical affix and the phrasal affix. Similarly, using a subsection from Huter's (1996, 1998) longitudinal data, Pienemann found that there was an implicational pattern between the lexical affix and the phrasal affix. Unfortunately, once again evidence at the "no affix" stage was missing due to the limited database. Pienemann's assumption is that this stage occurred during the three months between the time when the subjects began learning Japanese and the first data collection session.

With regard to the sequence of syntax acquisition in Japanese, Pienemann predicts three levels of word order related rules which parallel European languages, despite the fact that SOV is the word order for Japanese. Pienemann (1998b, p. 212) explains that a canonical schema is thus the initial underlying principle for JSL acquisition:

Therefore the canonical schema is hypothesised to be utilised initially, i.e., at level 2. This is possible because in Japanese "SOV" is the preferred word order, even though Japanese is a non-configurational language. Learners of Japanese can therefore rely on this canonical schema as the organising principle of their initial IL grammar.

This hypothesis is counter to the strategies described by Clahsen (1984) in the Multidimensional Model, in which he suggests only SVO word order is predicted to be the canonical word order for all languages. However, the subjects used in both Huter's (1996) and Kawaguchi's (1996) studies started with a "SOV" word order pattern, thus supporting Pienemann's hypothesis.

Pienemann (1998b, pp. 212-213) hypothesises that “topicalisation” is acquired at level 3. According to him, “topicalisation” occurs when constituents not marked by subject or topic are placed in sentence-initial position. The following is the example which Pienemann uses for “topicalisation”:

<i>Uchi ni</i>	<i>tsui-ta</i>	<i>toki,</i>	<i>ame ga</i>	<i>furi-dashi-ta.</i>
Home LOC	arrive-PAST	time	rain SUBJ	fall-start-PAST

When I arrived home, it began to rain.

According to Pienemann, this phenomenon is similar to “the learner’s first deviation from the canonical schema” in the developmental stages of European languages. Therefore, this is predicted to occur after the level of canonical word order (level 2).

Within the framework of PT, Kawaguchi (1999, 2002, cited in Pienemann, Di Biase, Håkansson & Kawaguchi, 2005), investigated the acquisition of word order and null subjects, often referred to as “pro-drop” - meaning the ellipsis of co-referential grammatical subjects. This was a longitudinal study using two Australian adult learners of JSL who had no previous exposure to Japanese before they began studying it at university. Data collection consisted of four interviews undertaken approximately every three months from the very beginning stage of acquisition. The results of the study show that neither of the learners, whose L1 conforms to SVO word order, produces verbs in a non-final position from the first data collection session until the last. With regard to null subjects, which are ungrammatical in the subjects’ L1 (i.e., English), the results also indicate that both of the subjects consistently omit subjects once they began the process of learning Japanese. Similar results were obtained in a subsequent replication of this study (Kawaguchi, 2002). Again in this second study, Kawaguchi used a longitudinal approach with a JSL learner whose L1 was Portuguese, which is a well known pro-drop language with SVO word order preferred.

Her findings are significant on two counts, which Kawaguchi summarises as follows: First, the initial transfer hypothesis, which is held in models such as “Full

Transfer/Full Access Model” (Schwartz & Sprouse, 1994, 1996) and “Competition Model” (MacWhinney, 1997), can be easily refuted. This is because Kawaguchi’s subjects are from two different L1 backgrounds, but neither transferred their L1 rules to L2 at the initial stage. Second, the fact that the subjects began with SOV word order can be explained by psycholinguistic constraints on L2 processability. Unlike Clahsen’s strategies used in the Multidimensional Model, which would predict that SVO word order is universal to all languages as canonical word order (Vainikka & Young-Scholten, 1994; Towell & Hawkins, 1994), PT predicts that both SVO and SOV can act as canonical word order because no grammatical information is required to be exchanged within the sentence at Stage 2, and both SVO and SOV can be produced without such processing procedures as information exchange.

Di Biase and Kawaguchi (2002) tested the typological plausibility of PT. They did this by investigating the acquisition of morpho-syntax in JSL from a three-year longitudinal study of one subject, Lyn, and a cross-sectional study of nine subjects. The subjects were all native speakers of English who were learning JSL at an Australian university. For the longitudinal part of this study, Lyn participated in thirteen interviews at intervals of between one to two months, in which free conversation and picture tasks were used for the purpose of speech elicitation. Each interview lasted 20 to 30 minutes¹². The occurrence and distribution of selected structures, namely verbal morpho-syntax, were then analysed. The acquisition criteria used for data from both the longitudinal and cross-sectional studies followed Pienemann (1998b, p. 144; also see Chapter 3.4, p. 96), which makes a distinction between syntactic and morphological development by imposing more “refined analyses” on criteria for morphemes. Di Biase and Kawaguchi (2002, p. 288) ensure adherence to Pienemann’s principle, stating:

The full distributional analysis must display a productive application of the rules in appropriate contexts. This excludes echoic or formulaic applications by demanding that the rule is supplied more than once in lexically and structurally varied environments.

¹² Details of the method used for the cross sectional study (i.e., interview time, tasks and so on) were not provided in the paper.

Based on Pienemann's (1998b) hierarchy of processing procedures, Di Biase and Kawaguchi hypothesised developmental stages of acquisition of verbal morpho-syntax which includes verb inflection, the V-*te*V structure (a combination of two different verbs, e.g., "*tabe-te mi-masu*" (eat-INF AUX-NONPAST-AFFIRM: try eating)), and passive/causative/benefactive structures. This is shown in the table below.

Table 3.11

Hypothesised hierarchy for Japanese L2

Stage	Processing procedure	L2 process	Japanese verbal morpho-syntax
4	S-procedure	Inter-phrasal information	Passive Causative Benefactive
3	Phrasal procedure	Phrasal information	V- <i>te</i> V
2	Category procedure	Lexical morphemes	Verbal inflection
1	Word/lemma	Words	-

(Di Biase and Kawaguchi, 2002, p. 291)

Their prediction is based on the notion of LFG, and therefore, verbal inflection is placed in Stage 2 as it is regarded as a lexical operation in the hierarchy of processing. Di Biase and Kawaguchi (2002) argue that, although Japanese verbal morphology involves agglutinating a variety of suffixes including tense, politeness, negation and so on to add semantic features to the whole word, no exchange of information (feature unification) between the morphemes is required. Therefore, only a lexical operation is needed for the acquisition of verbal inflection. However, they warn that phonological or morphological processes accompanying general word formation may operate within different domains and outside the scope of PT.

Secondly, Di Biase and Kawaguchi predict that the “V-*te* V” structure requires the phrasal procedure of Stage 3 as it is a combination of two verbs with the first one marked with the COMP(lementaiser) *-te*, forming the gerund. This information exchange between the two verbs is what Sells (1995, 1996) calls “combinatoric TYPE”. According to Sells (1995) the verb stem and the right-most suffix hold crucial information since the former determines the category and the latter the combinatoric TYPE. Note that Japanese suffix can be categorised into one of the following TYPE values (Sells, 1995 cited in Di Biase & Kawaguchi, 2002):

- TYPE: V-sis = the verb which the suffix is attached to has V as a sister;
- TYPE: N-sis = the verb which the suffix is attached to have N as a sister;
- TYPE: ROOT = the verb which the suffix is attached to has no sister, i.e., the verb should appear at the end of a sentence.

Di Biase and Kawaguchi claim that, if the TYPE of the first V is V-sis, which is always the COMPS (e.g., *-te*) in Japanese, the element which follows the V should be V. Therefore, learners need to exchange the information between the two Vs in this way and so they need to have acquired phrasal procedural skills to produce the structure “V-*te* V”.

Lastly, the production of the passive, causative or benefactive requires learners to be capable of the inter-phrasal processing procedure (Stage 4) because information must be exchanged beyond the phrase boundaries in the grammatical encoding process. Based on Bresnan’s (2001, p. 30) premise that English passivisation is not just the verb inflections but has their accompanying syntactic effects, Di Biase and Kawaguchi (2002, p. 294) state:

In Japanese, a parallel situation applies: while the affixation of a passive, causative, etc suffix to a verb stem is a lexical process, the lexical relation change involved in passivisation, causativisation, etc also has syntactic effects including case alteration. The case of the NP (nominative, accusative, etc.) is indicated by a postposed particle and the order of the NPs is interchangeable.

In a passive sentence, learners need to exchange information from different sources, i.e., V and NPs, requiring an inter-phrasal process. In order to produce a passive structure with NP_{OBL} (oblique agent) marked with a case particle “*ni*”, learners must have acquired S-procedure, therefore it is predicted that learners can produce this structure at Stage 4. Di Biase and Kawaguchi set up some detailed criteria for the acquisition of passive depending on the level of provision of the required constituents. If only a passive verb form is produced as a result of null subjects or pro-drop, which is allowed in Japanese, it will be considered as a lexical procedure just as is the case with other verbal inflections, thus providing insufficient evidence for the passive. If only NP_{SUBJ}, which is actually a default topic, is provided with a passive form, it would not produce sufficient evidence for the acquisition of S-procedure, either. Therefore, only when a passive form is produced together with NP_{OBL} marked with a case particle “*ni*”, the learner will be credited with having acquired S-procedure. In other words, the presence of OBL_{ag} in a passive sentence indicates that mapping between grammatical and semantic functions can be successfully done by using appropriate morphological case marking with the particle “*ni*”. The number of occurrences in each case is indicated between slashes in the implicational table. The principles and criteria for the causative and benefactive sentences¹³ are the same as for the passive.

Di Biase and Kawaguchi found that the results from both the longitudinal and cross-sectional studies supported these hypotheses. The following table shows an implicational hierarchy of the acquisition of these structures by one subject in the longitudinal study (Di Biase & Kawaguchi, 2002).

¹³ Although the principle for the causative structures is similar to that for the passives, the case of the benefactive structures might be a little different. The lexical relation change involved in the benefactive structures also requires case alteration, therefore, as far as relation change is concerned, they are similar to the passive and causative structures. However, unlike the acquisition of the passive and causative forms (a lexical process at Stage 2), the acquisition of the benefactive forms (V-*te* V) are at Stage 3. It might be that the acquisition of benefactive structures (two NPs plus V-*te* V) is more difficult than that of the passive/causative structures (two NPs plus verb inflection).

Table 3.12

Longitudinal study of the acquisition of JSL by an adult learner

Interview number	1	2	3	4	5	6	7	8	9	10	11	12	13
Stages													
Interphrasal													
Passive	0	0	0	0	0	0	0	0	0	1/0/0	0/0/1	0/2/0	0
Causative	0	0	0	0	0	0	0	0	0	0	3/1/0	0	0
Benefactive	0	0	0	0	0	0/2/0	0	0	1/0/0	1/0/0	0/1/0	0	3/2/0
Phrasal													
V- <i>te</i> -PROG (<i>-te iru</i>)	0	0	0	6	2	0	2	1	1	4	2	4	5
Other V- <i>te</i> -V structures	0	0	0	0	0	4	0	0	1	5	1	3	6
Lexical													
Vstem-POL-PRES	9	18	0	11	17	2	4	5	23	13	13	16	15
Vstem-POL-PAST	0	1	12	12	2	20	12	2	10	20	8	20	16
Vstem-POL-NEG	0	0	0	2	3	0	1	1	1	2	5	3	4
Vstem-POL-NEG-PAST	0	0	0	0	0	0	0	0	0	0	0	0	0

(Scalability: 1.0)

(Based on Di Biase and Kawaguchi, 2002, p. 298)

The result of these studies by Di Biase and Kawaguchi clearly show that their subjects both in the longitudinal and cross-sectional studies followed a common developmental sequence: category procedure > phrasal procedure > S-procedure, as predicted within a PT framework. Thus, in addition to GSL and ESL (Pienemann, 1998b), Swedish as an L2 (Pienemann & Håkansson, 1999), Italian as an L2 (Di Biase & Kawaguchi, 2002), the case for the typological plausibility of PT is further supported in JSL.

The acquisition of verbal morphology and syntax in Japanese was also studied in a bilingual context within a framework of PT. Itani-Adams (2003a, b) investigated the acquisition of these grammatical features using speech samples from Hannah, who had been acquiring Japanese and English simultaneously from her birth. Hannah was one year and 11 months old at the commencement of the study, and data were collected until she was four years and ten months. Following the “one parent one language” (Dopke, 1992) policy, this girl spoke to each of her parents in their

native language, namely to her mother in Japanese and to her father, in English. She was born and raised in Australia and her conversation in Japanese was mostly limited to that held with her mother. Her spontaneous interaction with her mother during picture book reading, playing lego and cooking, which was an average of 45 minutes in length per session, was tape-recorded. The tape recording session took place every month in the first year and every three months in the following two years. The entire data, which were collected over a period of 38 sessions, were all transcribed but only 21 of these sessions were used for analysis. On the basis of the occurrences of Hannah’s oral production of three structures, namely verbal morphology, the *V-te V* structure and the dative marker “*-ni*”, Itani-Adams applied the emergence criteria (Pienemann, 1998b) in order to determine the points of emergence for these three features. The verbal affixes that she investigated were *-te*, *-ta*, *-chatta*, *-u*, *-teru* and *-nai*. These are also the morphemes Clancy (1985) investigated in her study on the acquisition of Japanese as an L1. The results of Itani-Adams’ study are shown in Table 3.13.

Table 3.13

The acquisition of verbal morpho-syntax in Japanese as an L1 in a bilingual context

	Session	1	2	3	4	5	6	7	8	9	10	11	12	13	16	19	22	25	28	31	34	38	
Processing procedure (Morpho-syntactic structure)																							
S-procedure (IO- <i>ni</i>)																							+
Phrasal procedure (V- <i>te</i> V structure)																							+
Lexical procedure (Verbal morphemes)																							+
Word																							+

(Itani-Adams, 2003a, b)

The results of the study show that Hannah’s acquisition of verbal

morpho-syntax was in line with the order of developmental stages of verbal morpho-syntax in Japanese L2 hypothesised by Di Biase and Kawaguchi (2002). Importantly, the results of the study provide further support for the order of word/lemma access > lexical categories > phrasal procedure > S-procedure as hypothesised by PT for a Japanese L1 bilingual child.

As with PT in general, PT based JSL studies (e.g., Di Biase and Kawaguchi, 2002) also faced some criticism in that they did not contemplate the acquisition of some of the most difficult features in Japanese such as setting viewpoints in voices (the passive, causative, and benefactive structures) (Mine, 2002). However, as Shirai (2002a, p. 22) suggests, it is a ‘one way or another’ issue, i.e., whether one theory should incorporate a wide range of linguistic aspects including the acquisition of viewpoints or it should leave some of the aspects to other theoretical modules. As mentioned before, Pienemann clearly opts for “a reductionist and explicit approach” (1998a, p. 36) to SLA, which he believes leads to robustness in one area, that is processing the L2 procedure of morpho-syntax.

In sum, the application of PT to JSL is in its early stages of development with only a few morpho-syntactic structures for four levels of processability hierarchy having been tested. So far the outcomes from this small number of JSL studies have been encouraging with the findings supporting the validity of PT and, at the same time, its cross-linguistic plausibility. Also, more PT motivated work on JSL is currently in progress.

3.6 Conclusion

This chapter presented a range of theoretically based SLA research related to Processability Theory undertaken since the 1980s. In general these studies were conducted by a group of researchers who were cognisant of both the methodological flaws in acquisition order studies and the lack of empirical explanation provided by these. In particular, the ZISA researchers were involved in the investigation of GSL

word order, and developed the Multidimensional Model as a framework to explain the developmental sequence of GSL word order. The central concept of this model is that the acquisition of GSL word order rules occurs step by step as a result of the removal of each of the speech processing strategies which constrain the learner's processability. The researchers provided empirical evidence from both longitudinal and cross-sectional studies to support this model. Out of this model, the Teachability Hypothesis and Pienemann and Johnston's Model were developed and together these had some influence on teaching pedagogy and studies of the acquisition of ESL respectively. Recently, a more refined theory emerged from these archetype models and hypotheses, namely the Processability Theory (PT). This is a theory which Pienemann (1998b), one of the ZISA members, established by reconceptualising the Multidimensional Model. He did so because of the need for a more plausible explanation and to extend its applicability to a wider range of structures and languages. In order to do this, Pienemann related the processability of morho-syntactic structures to Lexical-Functional Grammar (LFG) and Incremental Procedural Grammar (IPG). Finally, a number of PT motivated studies in JSL, which have just recently begun, provide evidence to support the cross-linguistic validity of PT on four levels of the processability hierarchy.

3.7 Motivation of the Current Study

From the literature review in this and proceeding chapters, several principal issues pertaining to the current study have emerged. One of these is whether or not there is a common acquisition pattern, either an acquisition order or a developmental sequence, in L2 learners' interlanguage regardless of their L1 backgrounds, age and whether the learners received instruction. Whilst there is considerable agreement about the existence of a common acquisition pattern among L2 learners in general, the picture of JSL is much less certain. Furthermore, to date only a handful of the research outcomes in SLA and JSL have been tested against a common theory.

Another issue to emerge is whether child learners follow the same acquisition pattern as adult learners in SLA. Although, as reviewed in the previous chapter, it

is generally recognised that both children and adults have similar patterns of acquisition in some areas such as grammatical morphemes in ESL, not much is known about whether this also occurs in JSL. Further, just like SLA in general where researchers (e.g., Oliver, 1995, 1998; Mackey & Oliver, 2002) acknowledge that too little research has been undertaken on child L2 compared to a vast amount of literature on adult L2, studies of adult learners outnumber those of child learners in JSL, thus offering insufficient data regarding children's L2. A comparison of the adult JSL findings with those of child JSL also may have significant implications for the notion of maturational constraints (e.g., Long, 1990, Hyltenstam & Abrahamsson, 2003; Butler & Hakuta, 2004). This is the concept that the age of onset (AO) limits some aspects of SLA and in fact the majority of the studies on maturational constraints to date have concentrated on dealing with the effect of AO on aspects such as the rate and ultimate attainment of learners of different ages. Growing evidence suggests that maturational constraints exist not only in phonology, where passing the AO of 6 appears to make it difficult for many learners to master a native-like accent (and passing the AO of 12 for the remainder), but also in morpho-syntax where learners with the AO of greater than 15 seem to have problems in handling some structures in a native-like way (Long, 1990, p. 274). (A number of other comments on maturational constraints have recently appeared. See, for example, Hyltenstam & Abrahamsson, 2003; Butler & Hakuta, 2004). On the other hand, it appears that there is general agreement that there is no impact of age on the other aspect of SLA, namely the route of acquisition. Even so, it is important to find out whether this also is the case for JSL. Any discrepancy between the results of the acquisition order of JSL children as compared to adults may create a contradiction with the arguments and evidence for the 'natural route' of language development (Ellis, 1985, p. 99). Testing the previous results of the adult JSL, with children, preferably within the same theory, is therefore needed.

Finally, in this review, the differences and similarities between L1 and L2 emerged as an important issue. Currently there is not sufficient data available from previous studies to indicate whether L1 acquisition patterns are the same as L2 patterns. For example, comparisons of the acquisition order of English morphemes between L2 learners and Brown's (1973) L1 learners have found both differences

and similarities. When it comes to JSL, again no clear picture has been established. Clearly more research is needed in this area of SLA, and in JSL in particular.

So far, there is no theoretically motivated study of acquisition of JSL by young children conducted longitudinally nor cross-sectionally. In order to validate a theory such as PT, more empirical evidence in a variety of settings, such as for different L2 backgrounds, different age groups, and different acquisition environments, i.e., whether the learner is a naturalistic or instructed language acquirer, are needed. Therefore, it is hoped that the current study, in which an Australian child was naturalistically acquiring Japanese as his L2, will contribute to SLA theory, and to JSL theory in particular.

3.8 Research Questions

In the light of the previous studies of acquisition in SLA, and, JSL in particular, the following research questions are raised.

- RQ1: Do the developmental sequences of acquisition exist in the interlanguage of a child learner of JSL as have been found for adult learners of JSL?
- RQ2: Do the developmental sequences of acquisition by a child learner of JSL match those of adult learners of JSL?
- RQ3: Do the developmental sequences of acquisition by a child learner of JSL parallel those of children acquiring Japanese as L1?

In order to answer these questions, the current study will focus on the acquisition of three verbal morpho-syntactic structures in Japanese, namely verbal affixes, the *V-te V* structure, and the passive/causative. These structures were chosen to ensure the comparability of the results between the current study and the previous studies that were conducted within the framework of PT. Di Biase and Kawaguchi (2002) hypothesised the acquisition order of verbal morpho-syntax for

verb inflection, the *V-te* V structure, and the passive/causative/benefactive in Japanese, and the results of their study found for adult JSL learners support a hierarchy of acquisition as hypothesised in PT. Similarly, Itani-Adams (2003a, b) conducted a study on the acquisition of Japanese in a bilingual L1 context with a focus on verbal morpho-syntax within the framework on PT. Therefore, it was decided that the morpho-syntactic structures in Japanese were the most appropriate linguistic features for the current study.

CHAPTER FOUR

METHODOLOGICAL ISSUES

In the previous chapters, literature about descriptive studies from first language acquisition (FLA) and second language acquisition (SLA) as well as Processability Theory (PT) motivated studies were reviewed. It is believed that a discussion of research methodologies will be a useful starting point for the method chapter of the current study, therefore some key methodological issues which emerged from the previous studies described earlier are examined in detail in this chapter. The chapter consists of six sections. After the two main approaches to SLA research are described in the first section, issues such as the definition of acquisition criteria, the organisation of a valid data base, the use of instruments, and the interpretation of data collected are discussed in the following four sections. The last section summarises this chapter.

4.1 Longitudinal and Cross-sectional Studies

Just as the developmental sequence and acquisition order studies described in the previous chapter are distinct, so too are the methodologies that researchers use within each. To describe and follow the developmental sequence in detail, a longitudinal approach, i.e., a case study design, rather than a cross-sectional approach has been selected as the most appropriate by a number of researchers (e.g., Schumann, 1979; Wode, 1978, 1981). This is because it is difficult for researchers to describe the process or the transitional aspects of language acquisition by using one-off research outcomes obtained through a cross-sectional approach. Acquisition order studies, however, generally employ a cross-sectional (e.g., Dulay & Burt, 1973, 1974) rather than a longitudinal approach (e.g., Brown, 1973). In these studies, acquisition order is determined by the rate of accuracy obtained from an experiment or grammar test. The principle underlying the accuracy order

approach is that a particular grammatical structure which a large number of subjects have been able to use more correctly in a test or experiment is considered to be acquired earlier than one which they have been unable to use correctly. Since these tests or experiments are usually conducted only once, researchers rely on statistical analysis in order to argue accuracy order equates to acquisition order.

Various researchers have argued for or against both longitudinal and cross sectional approaches, and it is fair to say both have their inherent strength and weakness. The following table is a brief summary of the comparison between longitudinal and cross-sectional approaches.

Table 4.1

Comparison of characteristics between longitudinal and cross-sectional approaches

	Longitudinal approach	Cross-sectional approach
Instrument	Naturalistic because of the use of spontaneous speech.	Obtrusive and controlled measurement because of the use of artificial tasks.
Data collection	Process-oriented in that it takes place over time.	Outcome-oriented in that it takes place at only one point in time.
Results	Ungeneralisable due to very few subjects.	Generalisable due to large group of subjects.
Examples ¹⁴	Wode (1977) German L1 Schumann (1975) English L1 Cancino et al. (1978) ESL Butterworth (1972) ESL Adams (1974) ESL Bellugi (1967) ESL Bloom (1970) ESL Ravem (1970) Norwegian L1 Wong-Fillmore (1976) Spanish L1	Dulay & Burt (1973,1974) ESL de Villiers & de Villiers (1973) ESL Bailey, Madden & Krashen (1974) ESL Larsen-Freeman (1976c) ESL Krashen, Butler, Birnbaum & Robertson (1978) ESL

(Based on Larsen-Freeman and Long, 1991, pp. 11-12).

The terms characterising longitudinal studies such as “naturalistic”,

¹⁴ These examples are those appearing in the 60s and 70s and used to illustrate the beginnings of research in this area.

“process-oriented” and “ungeneralisable” in the Table 4.1 are attributes of the qualitative paradigm, and those typifying cross-sectional studies such as “obtrusive and controlled”, “outcome-oriented” and “generalisable” are attributes of the quantitative paradigm (Reichardt & Cook, 1979, p. 10). Most early case studies were observational and descriptive, relying heavily on qualitative analysis, whilst most cross-sectional studies relied on the use of quantitative analysis. This is in line with the claim of Reichardt and Cook (1979) that researchers must use only one of the methods of inquiry and that being the one associated with a paradigm to which they subscribe. However, Table 4.1 apparently has numerous inadequacies because it was based on the nature of the studies conducted in 1960s and 1970s, which relied on rather simple research designs. In contrast, many recent researchers are fulfilling the shortcomings by devising more workable methods. For example, Larsen-Freeman and Long (1991, p. 13) argue against Reichardt and Cook’s (1979) claim by stating that paradigm attributes should not be linked to one method. Further, despite the apparent differences between these two approaches, the methodological distinction is not categorical, therefore for the purpose of acquisitional pattern research, some methods exemplified in one approach can be used in the other. For instance, it is possible to incorporate instruments such as artificial tasks in a longitudinal approach. Also, unlike early descriptive case studies, in recent studies most researchers have quantified their data using longitudinal approaches. It is also possible to use some subjects in one approach and others in the alternative under the same conditions, e.g., the use of the same instrument, to investigate the acquisition of the same grammatical features. In their developmental research, Meisel, Clahsen and Pienemann (1981) used two groups of subjects, studying one using a longitudinal approach and the other with a cross-sectional approach to determine developmental stages for German word order. Similarly, Johnston (1985b) used a cross-sectional design with a group of twenty four subjects, but, at the same time, continued collecting data from eight of the same subjects in a longitudinal study of one year’s duration to validate his results. Di Biase and Kawaguchi (2002) in their studies on the acquisition of Italian and Japanese L2 also used both cross-sectional and longitudinal approaches.

In sum, depending on the ultimate purpose of their research, i.e., whether it is

to find the accuracy order at one point in time or the process of language acquisition, researchers must choose an appropriate approach, cross-sectional or longitudinal, to validate their outcome. However, it is also possible to blend some of the methods, such as the choice of instruments, within an approach. Similarly, it is possible to use two approaches themselves in one research project so that shortcomings of one approach can be compensated by the other. Before further discussion of these methodological issues, it is first necessary to look at what criteria are used to determine ‘an acquisition point’ i.e., how researchers have determined that a linguistic feature is ‘acquired’.

4.2 Determining the Criterion for Acquisition

In this section, a review will be provided of how researchers have determined ‘the point of acquisition’. First, a description of a popular scoring system used in earlier acquisition order studies will be given along with a discussion on its shortcomings. Then an alternative method for investigating the language acquisition will be presented.

One fundamental problem with this type of research is actually determining the point of acquisition. For researchers conducting developmental sequence studies, the focus is on the ‘journey’ toward mastery by individual learners of a specific syntactic structure. For them an acquisition point is nothing but the ‘terminal station’ of the journey. However, for researchers looking for the acquisition order of different syntactic structures as applied to a large number of subjects it is vital that they determine the criterion for an acquisition point. How this has been done has changed over time in accordance with our understanding of the principles of acquisition.

Some early longitudinal studies on the acquisition of different grammatical morphemes (e.g. Brown, 1973; Hakuta, 1976) used a scoring principle based on the definition of the point of acquisition proposed by Cazden (1972) in her first language

acquisition (FLA) research:

the first speech sample of three, such that in all three the morpheme is supplied in at least 90 percent of the contexts in which it is clearly required. (p. 435)

Hakuta (1976) adapted this principle for his L2 studies, modifying the criterion to suit his data analysis. In his study on acquisition of ESL by a Japanese speaking girl, his scoring criterion was:

First of three consecutive two-week samples in which the morpheme is supplied in over 90% of obligatory contexts. (p. 137)

The notion of the obligatory context used in the criterion of Cazden and Hakuta is clearly explained by Brown (1973):

....so one can set an acquisition criterion not simply in terms of output but in terms of output-where-required. Each obligatory context can be regarded as a kind of test item which the child passes by supplying the required morpheme or fails by supplying none or one that is not correct. This performance measure, the percentage of morphemes supplied in obligatory contexts, should not be dependent on the topic of conversation or the character of the interaction. (p. 255)

As seen from Brown's explanation above, earlier L1 studies on acquisition order (e.g., Brown, 1973) treated misformed morphemes in the same way as no suppliance and therefore gave no credit to the learners for their attempts.

Dulay and Burt (1973, 1974) adopted this "output-where-required" notion in their L2 cross-sectional studies. However, they accounted for learner attempts by scoring according to accuracy, with more points (i.e., two) being given for correct usage, less (i.e., one) for a misformed attempt and none where no attempt was made. This is exemplified in the table below.

Table 4.2

Obligatory context scoring method

Criteria	Point(s) given	Example
Correct morpheme supplied	2 points	Two children
Misformed morpheme supplied	1 point	Two childs
No morpheme supplied	0 point	Two child

(Based on Dulay, Burt and Krashen, 1982, p. 219)

Pienemann (1998b) commends this approach by Dulay and Burt because “the fact that ‘misformed functors’ are included in this type of analysis is obviously an attempt to capture emerging interlanguage forms” (p. 135).

However, the definition developed by Cazden (1972) and the scoring method used by Brown (1973) and others has not escaped strong criticism (e.g. Huebner, 1983; Meisel, Clashen & Pienemann, 1981; Larsen-Freeman & Long, 1991; Lightbown, Spada & Wallace, 1980; Wode, 1980). For example, Larsen-Freeman and Long (1991, pp. 40-41) claim that there are two limitations of the acquisition-point definition. These are:

- (1) It involves the notion of obligatory context. For example, the morpheme scoring system does not take account of the misuse of morphemes in non-obligatory, or the overuse in inappropriate contexts;
- (2) It is often desirable to know how learners are using a particular structure long before the learners have “acquired” it.

Also, when researchers have a relatively short data collection period, they might not be able to use this method. One example is Sakuma (1995), who investigated her two children’s acquisition of English as an L2 everyday for four months. She defined the point of acquisition as the state when the subjects, who are Japanese native speakers, ceased making errors when using a particular grammatical

feature. However, because non-target like (NTL) forms, which are the important starting point in the process of the acquisition, are not considered, the definition by Sakuma appears to be much the same as Cazden's in that the measurement procedure is based on "accuracy" without regard to the emergence of a structure. Meisel et al. (1981) also question the logic of applying this notion of "accuracy" in the following way:

The central question to be discussed here is the following one: does a high number of errors in a certain area of grammar really indicate that this structure (or rather, the use of rules which generate it) has been acquired late, and vice versa? First of all, the inherent logic does not appeal to us as imperative. There is absolutely no reason to believe that an L2 learner, especially in a natural setting, should always start with the "easy" parts of the grammar and leave the "most difficult" ones for later. Rather, he uses whatever is necessary to express his communicative needs, possibly choosing the least difficult of several alternatives. (p. 113)

In response to these difficulties with accuracy, an alternative approach, based on emergence criterion, was developed by the Zweitsprachenerwerb Italienischer und Spanischer Arbeiter (ZISA) group. By using this method, they were able to successfully describe the stages of acquisition for German as an L2. The rationale behind this approach is described by Pienemann (1987):

In principle, every productive usage of a structure is treated as an instantiation of an interlanguage rule. Thus the development of L2 structures is described as a dynamic process, taking the early 'deviant' interlanguage structures as the starting point rather than defined as some arbitrary criterion for 'acquired' or 'mastered'. (p. 89)

Subsequently this definition of acquisition criterion was extended so that languages other than German could also be investigated. For example, Johnston (1985a, b) and Johnston and Pienemann (1986) used this approach to examine the stages of acquisition for ESL learners. Kanagy (1991, 1994) and Huter (1996, 1998) did likewise as a way to investigate the acquisition stages of JSL.

In addition, it could also be argued that what is really important for both language acquisition researchers and language educators to know is probably not just a point of mastery in time, nor just an emergence (either as a NTL or a target like [TL] form). They need to know both. That is, to know the point of emergence, or when use is toward TL (TTL) form as well as the point of mastery.

The pattern of acquisition for each syntactic structure might be systematic but these patterns may differ depending on the ‘complexity’ of a form. Some forms might be acquired in a linear way, from NTL (and TTL) to TL, some may go through a TL, NTL and TL (U-shape pattern of acquisition), whilst some others may develop from NTL to a period of the co-existence of NTL and TL (free variation) and finally reach TL, and yet others might take an even more complicated route. Time spent moving from one phase to another might also be different depending on the forms and, if so, this difference might be dependent upon factors such as a learner’s L1, age and so on. Therefore, the earlier emergence of a structure might not necessarily mean that acquiring the form is easier than others. For instance, it is hard to substantiate early acquisition if early emergence is accompanied by backsliding or if NTL forms co-exist with TL forms for a long time after the emergence of that structure. On the other hand, even if the emergence of a structure is relatively late, ultimate mastery of that form may occur sooner than others.

To accurately document acquisition orders and developmental sequences, it is important to capture this dynamic process of language acquisition. Cross-sectional approaches seem less likely to be able to do this compared to longitudinal approaches. However, even a longitudinal approach requires certain conditions in order for the dynamic process of acquisition to be precisely captured. The data collection needs to be of a sufficient duration of time for the details of the acquisition process to be accurately documented. Also there needs to be an appropriate interval between the data collection sessions so that any important transitional phases (e.g., TL > NTL > TL) are not missed.

In summary, the scoring system widely used in acquisition order studies in

the 1970s was found to be inadequate because it placed too much emphasis on accuracy and on obligatory context. To overcome this, some researchers developed an alternative approach, namely the emergence criterion. It is believed that this method makes it possible to analyse all the important transitional phases of interlanguage, including both emergence and mastery points.

4.3 Structuring a Valid Data Base

Regardless of whether a target-like or emergence criterion is used to determine which features represent acquisition, a fundamental consideration for researchers is whether or not the amount of data they collect can substantiate the phenomena called acquisition. In the case of a longitudinal approach, in order to structure a valid data base, two important factors must be taken into consideration in the research design: an interval between data collection sessions and the whole duration of data collection. These two factors are discussed in detail below.

First, how often the data should be collected must be decided pragmatically. This is because it would be extremely difficult to record every utterance subjects produce, unless they are continuously audio or video taped day and night, which is not only impractical but would result in an unwieldy volume of data. However, in order to draw a valid conclusion, particularly in the light of possible intra-variation in learner language, certain guidelines need to be applied regarding the appropriate length of an interval between data collection sessions. This is because such an interval can strongly influence how well the researchers can capture the development that does occur. As Adams (1978) suggests.

Unless everything is recorded – the input data, glosses and context – it is difficult to reanalyse data for answers to new questions we wish to ask. In observational studies of second-language acquisition it is extremely important that the observations be frequent; they cannot be once every two weeks or once a month as in first language acquisition. Most subjects learn much too quickly for such a schedule. If the observer is not present a good deal of the time, one cannot accurately talk about the acquisition process. Too many gaps occur in the data to allow us to be sure of much. (p. 277)

Similarly, referring to their subject, a child L2 learner, Huang and Hatch (1978) state:

One problem was immediately evident. The child, Paul, had to be observed more frequently than once a week. The speed with which the new language is learned can be so fast that daily observations are necessary if anything is to be said about the sequence of acquisition of features of the new language. (p. 118)

A review of literature on L2 longitudinal studies shows that the interval between data collection sessions range from one day (e.g., Huang & Hatch, 1978; Sakuma, 1995) to longer intervals, even as much once every two months (Kanagy, 1991, 1994) or more (one per semester, i.e., assumingly five to seven months) (Huter, 1998). However, the majority of the researchers seem to favour the method of collecting data every one to two weeks.

In addition to the question of the intervals, there is also the need to determine the duration of the data collection. Butterworth and Hatch (1978) state:

Three months seemed a long enough period of time for us to expect that acquisition patterns would be evident in Ricardo's language. Both Ravem and Huang were able to describe several stages in linguistic maturation for their young subjects over a similar time period. First language learners do not show much change in three months, but they lack prior cognitive requisites. The adult should be aided by his prior learning of a language, his greater memory span, his full cognitive development, and a predisposition to analyse new information. (p. 244)

However from the L2 literature involving longitudinal studies, it seems that three months was the shortest duration for a study of this type (Butterworth & Hatch, 1978), whereas the longest was three years (Huter, 1998). Generally it seems that the duration most commonly used is approximately one year.

The rate of acquisition may affect a researcher's decision regarding the

duration and the interval of data collection and this, in turn, depends on the setting of acquisition, i.e., whether learners are acquiring their L2 in a naturalistic or foreign language learning environment. Those cases noted above involve children acquiring their L2 naturalistically and differences may occur when the learners are older and/or acquiring their L2 through instruction. Therefore, the decision about duration and interval length for data collection must be made carefully. In addition, the findings from many developmental sequence studies have revealed that language learners go through not only developmental but also regressive phases (i.e., “backsliding”) until they finally get to a point of mastering a TL form. That is to say, a route toward the mastery of a TL form is a bumpy road that includes many “peaks and valleys” (Larsen-Freeman & Long, 1991, p. 40). Also a route towards the mastery of a TL form may be “U” shaped (Kellerman, 1985). For example, Ellis (1994) illustrates this in the acquisitional pattern of English past tense forms as follows:

Table 4.3

Acquisitional pattern of English past tense forms

Stage	Forms to appear	Examples
Stage 1	Little or no use of English past tense forms	
Stage 2	Sporadic use of some irregular forms	went
Stage 3	Use of the regular -ed form including over generalisation to irregular verbs	goed
Stage 4	Target-like use of regular and irregular forms	went

(Based on Ellis, 1994, p. 77)

The U shaped pattern of development needs to be taken into account in relation to the duration and interval of data collection. This is because if the duration of the data collection is too short, part of the acquisition process, earlier or later, might be missed out. For example, it might not be possible for a researcher to notice the NTL form “goed” if the duration covers the period Stages 1 and 2. The same may also be true if the intervals between data collection is too long. If Stage 2

falls on one session and Stage 4 on the next, the NTL form “goed” will not be observed and the interpretation of the developmental sequence will be problematic. Other problems will occur if the data is collected frequently but only for a short duration of time. In this case a detailed description of transitional forms is possible, although the scope of the transition is narrow and the results may be inconclusive.

To summarise, collecting data for an adequate duration of time and at appropriate intervals in a longitudinal approach is important to validate research outcomes. In addition, other aspects of the methodology relating to oral language production impact on the reliability and validity of the study. In the next section the instruments that can effectively elicit the desired target linguistic features will be discussed.

4.4 The Use of Instruments and Oral Production

It is generally believed that the data for a longitudinal case study should be spontaneously produced oral language, and that this should be taken from one subject or a small number of subjects over a long period of time. In the majority of case studies on child bilingualism, the researchers were linguists using their own children as a subject of investigation (Dopke, 1998). In such cases, spontaneous speech is almost always accessible by these parent linguists, particularly when the subject is too young to go to kindergarten or school. This meant that researchers who are not the parent of a subject are disadvantaged with regard to the on-going access to a subject’s natural oral production. On the other hand, Larsen-Freeman and Long (1991, p. 26) point out that spontaneous speech itself can be, in reality, tricky “natural” data. They list three reasons for this claim:

- (1) It often contains too sparse a number of linguistic aspects which researchers are interested in finding, simply because subjects have no opportunity to produce all of those aspects of language in given contexts during data collection.
- (2) Subjects often use an avoidance strategy, where they tend to stay in a range of

easier linguistic aspects which they believe they can handle with confidence. That is, they will rarely show all of their language performance to researchers.

- (3) Solely relying on spontaneous data makes it difficult to compare the results of these various case studies.

Therefore, to overcome these problems, particularly when a longitudinal approach is used, it is beneficial if researchers use instruments that elicit particular linguistic features (Larsen-Freeman & Long, 1991). As they state:

There is no reason, for example, why the natural linguistic performance data obtained through a longitudinal study could not be supplemented by data elicited by some controlled, 'obtrusive' verbal task. Indeed, specific hypotheses generated by an analysis of the natural data are sometimes concurrently tested by means of data collected through elicitation procedures. Moreover, quantifying the data obtained by either means is standard practice in SLA. (p. 13)

A variety of tasks have been used in FLA and SLA studies, including reading tasks such as "read aloud" (e.g., Beebe, 1980; Flege, 1980), writing tasks such as "free composition" (e.g., Andersen, 1976) and oral production tasks such as "oral interview" and "role play" and so on (for a full explanation of these twelve different types of tasks, see Larsen-Freeman and Long, 1991, pp. 27-30). These oral production tasks have been used by researchers to elicit a variety of linguistic features, such as negation and subordination. Some of the tasks used in these previous studies to elicit particular linguistic structures are presented and discussed below.

1) Negation

Structured interviews, with or without the help of pictures, have been used to elicit negation. For example, Kanagy (1991) used a structured oral interview for her study on the acquisition of Japanese negation after having found that it would be difficult to collect a sufficient amount of data for negation in Japanese from

spontaneous conversation or from a communication task. When her subjects were asked a question in the oral interview, some of them responded with a one word answer, namely “*iie* (no)” or with the use of anaphoric negation such as “*iie, chiisai desu*. (No, it’s small)”¹⁵. In such a case, the researcher had to then ask “*mata wa?* (or?)” and then repeat the question, or, had to say “*Soo desu ne, chiisai desu ne. Mata wa?* (That’s right, it is small...Or?...)” which induced negation through repeating the beginning part of the word (*ooki*.... (big-....). After “*ooki* (big)” comes the inflection of the adjective, which indicates negation. However, the difficulty of using explicit elicitation is that it can seem neither natural nor communicative and therefore, the subjects in the study by Kanagy may have become aware of the researcher’s intention and may not have responded in their normal way.

The difficulty of naturally eliciting negation is a common problem in research. For example, it occurred in the study by N. Iwasaki (2000). This study was an investigation of the acquisition of negation in JSL using a ‘pseudo-longitudinal approach’. Her subjects were thirty one English speakers learning Japanese at an American university (15 at the beginners level, 10 at the intermediate level, and six at the advanced level). Hence the study was cross-sectional in nature but also formed a ‘pseudo’ longitudinal situation as the researcher examined findings from these three levels of subjects ‘chronologically’. The subjects were shown pictures on a computer screen and then recorded questions were asked to elicit negation. However, there were subjects who misunderstood the pictures or who used anaphoric answers, e.g., “it is quiet” instead of “it is not noisy”. Therefore, after completing their spontaneous turn, the researcher had to explicitly prompt (in English) each of the subjects to produce negative sentences by saying “Could you describe this picture again, using a word which means ‘noisy, loud’ this time?”. Thus, it seems difficult to balance efforts to elicit the desired features whilst maintaining naturalistic conversation.

¹⁵ In a small scale research study comparing the effectiveness of modelling and recasting on negation of Japanese adjectives, Iwasaki (1993) also found that subjects tended to avoid attempts at producing forms of negation in communicative tasks. As in Kanagy's study, some subjects simply said “*iie* (No)” or “*iie* (No) plus anaphoric negation i.e., affirmative form”.

Similarly, Butterworth and Hatch (1978) refer to the difficulty they had collecting natural oral production from their teenager subject, Ricardo. Further, they suggest that there is a risk that the tasks which aim at natural conversation end up being an interview.

We had hoped for a close friend relationship so that observational data could be collected on a wide variety of topics. This did not happen. Instead, a student-teacher relationship developed and the interviews were, indeed, interviews rather than conversations between friends. It became quite apparent that he considered many of the activities onerous tasks. Unlike younger children who often see the investigator as playmate, Ricardo was quite aware of the purpose of the visits because he had been told what we hoped to do. He did not like the formal activities that the tests imposed on him. The combination of unhappiness with frustration with some of the collection techniques may have had serious, but undetermined, effects on the data. (p. 234)

This example also shows the difference in the perceptions of researchers and their subjects. Specifically, what is naturalistic conversation to researchers, can be a test-type interview to subjects. Therefore, when dealing with linguistic features which are difficult to elicit naturally, such as negation, researchers need to make sure that their subjects are in a comfortable atmosphere that is conducive to natural conversation. This is pertinent for the current study.

2) Temporal sequences

To elicit temporal sequences, Hulstijn and Hulstijn (1984) used what is called “story telling” and what Connor and McCagg (1983) call “paraphrase recall”. Subjects are asked to retell or reconstruct a story verbally or in writing after they read or listen to the story (Larsen-Freeman, 1983) or watch a movie (Godfrey, 1980, Gass, Mackey, Alvarez-Torres & Fernandez-Garcia, 1999, Skehan & Foster, 1999). Similarly, telling a story about a picture or a picture book (i.e., a book with few, if any, words) (has been a popular way to elicit oral production from young subjects both in FLA and SLA.

One of the most popular stories used by many researchers in FLA is “The Frog story” (Mayer, 1969). This is a picture book without words, in which a boy and a dog embark a short journey to look for his other pet, a frog.

Van Der Lely (1997) investigated whether language impaired children could use a range of referential expressions (nominals, pronouns, and zero anaphor) in a narrative discourse elicited from this book. Van Der Lely used the story for the purpose of eliciting narratives containing different referents due to the following reason:

The story involves two main protagonists, the boy and the dog, who for the most part perform different actions from each other. This makes the narrator switch back and forth from one protagonist to the other in order to represent the actions in a temporal sequence. (p. 229)

The picture book has been chosen by many researchers because of these abundant “actions in a temporal sequence”. It is anticipated that the narrator will have ample opportunities to use not only verbal morphemes, but also complex sentences containing a temporal subordinate clause indicating “when”, “before” or “after” or compound sentences containing “and” and “but”.

The story is not only likely to elicit those linking words or forms, but also to attract the interest of subjects of a young age. For instance, Wigglesworth (1997) claims:

As Renner (1988, p. 44) points out, it is ideally structured in terms of what both children and adults consider a story to be with animate protagonists involved in a temporally sequenced set of goal-based events which are causally related. The number of pictures allows the child to become fully involved with the story, without being so long as to cause boredom. (p. 289)

This sort of consideration for child subjects is a way to maintain a natural and

comfortable atmosphere during data collection sessions, which is important to the current study.

3) Relative clauses

To investigate the L2 acquisition of relative clauses, Gass (1979) used a grammatical judgement test and a sentence combination task (oral and written) to ascertain the subjects' comprehension and production. Cook (1973) also investigated relative clauses comparing the performance of twenty children speaking English natively (mean age = 3;6) and twenty adult learners of English as their L2. He did so using an 'elicited imitation' test. The subjects were shown a picture and were read a sentence which the pictures illustrated and then had to repeat what was said. Analysis was undertaken as to how well the reproduced relative clauses were formed.

In FLA, more natural, communicative tasks such as providing definitions have been used to elicit relative clauses. For example, Kurland and Snow (1997) used such a technique in a study which examined growth rates in definitional skill in English over a period of three to six years for 68 low-income American children. In the study, the presence and quality of a relative clause contained in their definitions were used as the highest indicator of the definitional skill. They found that while some children attained high levels of formal definitional quality at 5;6 and their performance remained the same, others started at lower levels but reached a similar plateau by age 10. Thus children aged between 5;6 to 10 have acquired certain levels of definitional skill using relative clauses in English. Therefore, with regard to this study it is anticipated that a definition game or riddle would be useful to elicit relative clauses, even if in Japanese rather than English.

To summarise the previous section, the frequency and duration of data collection and the instruments used for this are crucial considerations in order to structure a valid data base. In relation to instrumentation, there are two important factors that impact on the validity of any research outcomes: whether the instruments

that researchers select successfully elicit the desired linguistic structure, and whether subjects engage in natural interaction without an explicit awareness of the researcher's intention. The next important issue to consider is how to process the data collected. This will be discussed in the next section.

4.5 Implicational Scaling

In order to make a claim for the existence of systematicity in learner interlanguage, data collected are very often reorganised and processed using implicational scaling (Guttman, 1944; DeCamp, 1971, 1973). This method was used in the approach taken by the ZISA project team on data collected longitudinally and cross-sectionally (e.g. Clahsen, 1980, 1981, 1982; Clahsen, Meisel & Pienemann, 1983; Meisel, 1980; Meisel, Clahsen & Pienemann, 1981; Pienemann, 1980, 1981). They did this in order to describe the hierarchy of acquisitional stages. This technique is used to represent variation in language performance with the notion that the presence of one linguistic form in learner language occurs only if one or more other linguistic forms are also present (Ellis, 1985, 1994). That is to say, if learners can produce Structure 5, then they are supposed to be able to produce any lower level of structures than Structure 5, i.e., Structure 1, 2, 3 and 4. Because of its hierarchical notion, the ability to produce Structure 4 does not guarantee the production of Structure 5. The following table is an example of the implicational scaling applied for individual interlanguage samples. “+” means the occurrence of the structure(s) at a certain point in time and “–” the absence of the structure.

Table 4.4**Implicational scale for a longitudinal study**

	Time 1	Time 2	Time 3	Time 4	Time 5
Structure 1	+	+	+	+	+
Structure 2	-	+	+	+	+
Structure 3	-	-	+	+	+
Structure 4	-	-	-	+	+
Structure 5	-	-	-	-	+

(Based on Pienemann, 1998b, p. 134)

The matrix above displays a clear implicational relationship for Structures 1 to 5, indicating the existence of a developmental sequence of these structures in the subject's interlanguage. That is to say, implicational scaling shows a process by which the subject accumulates more and more complex structures. Of course, if implicational relationships are found in just one subject's interlanguage, the robustness or the applicability of these claims for other learners are drawn into question. However, if data from other individuals for the same target structures fit in the same pattern found for the first subject, it will lead to a stronger claim that it is the ultimate acquisition pattern (Hatch & Lazaraton, 1991).

Similar claims are also made in the case of cross-sectional data collection methodologies, namely, an implicational relationship exists among structures produced. For example, using data collected at one point in time from five subjects, who have performed a common task designed to elicit Structures 1 to 5, a matrix such as the following might be constructed:

Table 4.5

Implicational scale for a cross-sectional study

	Subject 1	Subject 2	Subject 3	Subject 4	Subject 5
Structure 1	+	+	+	+	+
Structure 2	-	+	+	+	+
Structure 3	-	-	+	+	+
Structure 4	-	-	-	+	+
Structure 5	-	-	-	-	+

(Based on Hatch and Lazaraton, 1991)

From the matrix drawn above, the chronological development of Structures 1 to 5 can be hypothesised even if these are the results obtained from a one-off data collection session conducted on five subjects at one point in time.

Therefore, implicational scaling is one of the most powerful ways of identifying a general pattern of development (Ellis, 1994). It is also highly productive in representing the dynamic aspects of the interlanguage (e.g., Hyltenstam, 1978). It has been used by not only the members of the ZISA group for German as a second language (GSL) but also by researchers for the developmental sequences of ESL (e.g., Johnston, 1985b). It also provided a basis for some JSL studies conducted by Doi and Yoshioka (1990), Kanagy (1991), Huter (1996, 1998) and Di Biase and Kawaguchi (2002).

4.6 Summary of Chapter Four

This chapter dealt with methodological issues in language acquisition. In particular, it examined the two main approaches which have been used to investigate acquisition orders and developmental sequences: cross-sectional and longitudinal

approaches. The importance of setting acquisition criteria was then discussed. The majority of acquisition order studies have been conducted using a cross-sectional approach with accuracy rate used as the criterion for acquisition. The scoring system they used followed this target-like (TL) norm, however, this approach has been criticised for not adequately representing the process of language acquisition. On the other hand, researchers investigating developmental sequences have preferred to use a longitudinal approach in which the process of language acquisition is better represented because it can include the emergence of both non-target-like (NTL) and TL forms, as well as any transitional forms. However, in order to validate data from a longitudinal study, factors such as the longevity and frequency of the data collection and the adequate instrumentation play a crucial role. These were dealt with in detail in the third and fourth sections, followed by the fifth section where the reliable technique of data analysis, implicational scaling, was presented.

CHAPTER FIVE

METHOD

This study is a longitudinal study of a child acquiring JSL in a naturalistic setting over a period of one year. This chapter presents the background of the child, a description of the Japanese School which he attended, his Japanese oral proficiency at the commencement of the study, and a description of the research design, procedure and analysis.

5.1 Background

The child, Shaun, is the second son of middle class parents, both of whom speak Japanese a little but whose conversation with their children at home is always in their native language, English. Shaun was born on the 18th of December 1991 and turned seven years old just before the commencement of this study. At the time of the study, both Shaun and his brother, Matt, were enrolled in the Japanese School of Perth. They both spoke Japanese at school, where all the subjects, except English conversation, were taught in Japanese. Matt and Shaun often played with their Japanese school friends on weekdays after school. They also played with Australian peers with whom they spoke English. The Japanese school holidays sometimes coincide with the local school terms, during which time Shaun and Matt went to join a local Australian primary school. In this way, they “moved across the two languages”, Japanese and English. This means that Shaun and Matt were simultaneously developing both their L1 and L2 in two linguistically different, but natural settings. Therefore, their naturalistic L2 development is unique and, as such, a worthwhile and important area of investigation.

The focus of this study is Shaun, the seven year old second child, because his acquisition of Japanese as an L2 was still at an early stage. Matt, who was ten years old and in his fourth year at the Japanese school, appeared to have already attained age appropriate native-like oral proficiency in Japanese. According to the interview with his class teacher, Shaun's proficiency in Japanese was apparently zero when he enrolled in the Japanese school, although he was able to say some greetings such as "*Ohayoo gozaimasu* (Good morning)" and "*Sayoonara* (Good bye)" which Matt had taught him.

Shaun's family had lived in Japan for six years from August 1989 to 1994. Both parents were qualified school teachers in Australia and taught English at colleges and universities whilst staying in Japan. Shaun spent his first two years in Japan although he was born in Australia when Jenny, the mother, briefly returned to Perth. Being very young, the Japanese which he spoke at that time was restricted to just a couple of words such as "*kutsu* (shoes)". He seemed to learn this word early because he had to say it when he wanted to play outside. He needed to put on his shoes when he went outside and to take them off when entering the house in accordance with Japanese custom.

On the other hand, the family's other son, Matt spoke Japanese fluently as he was brought up in Japan until the age of five and half. He was looked after by a Japanese baby sitter and played with her daughter, who was his age, while Jenny was working. He also went to a Japanese kindergarten for one year¹⁶, immersing himself in two language/cultural environments, i.e., speaking Japanese at kindergarten and English at home.

When the family returned permanently to Perth in January 1994, Shaun was two years old and Matt five and half years old.

¹⁶ Although kindergartens are not part of the compulsory education system in Japan, most preschool children aged between three and five attend them. Starting age of Year One at primary school in Japan is approximately one year later than that in Western Australia.

The family's involvement in the Japanese School of Perth commenced after Matt attended a local primary school for one year upon their return from Japan. His parents switched schools because Matt seemed more comfortable and happier with a Japanese style of education than he did with that offered in Australia. Therefore, their decision to send Matt to the Japanese school was not initially made for linguistic reasons. Their main motivation was not to bring up their children in a bilingual environment, rather they chose the school for educational reasons and because they thought it suited Matt at that time.

When Matt was attending the local primary school, his parents felt that his teacher had not been very supportive of their son who had been immersed in a bilingual/bicultural environment and who had been suddenly thrown into the monolingual environment in Australia. The school is located in a suburb which is considered to be one of the most socio-economically advantaged areas in Perth. Therefore, most of the children in the school have already mastered spelling before they start Year One. The teacher thought that Matt's English was behind the other children as he did not know "his phonics". Consequently, he was given many worksheets to catch up with the other students without having many opportunities to interact with them. According to his mother, everyday he came home "very clean" and did not look happy. During one of the school weeks his parents took him to the Japanese School of Perth and he seemed much happier and seemed to fit in well. He came home "dirty" and seemed to have a lot of interaction with his peers. According to Jenny, if they had had a different teacher at the Australian school, Matt may not have gone to the Japanese school and would have had a different life.

It was apparent that Shaun's inclination to attend the Japanese school was a result of Matt's influence. Matt and Shaun have a close sibling relationship and are very attached to each other, spending a lot of time playing together. To an outsider, Shaun seems to adore his reliable big brother. At the same time Matt is a responsible child who always looks after his younger sibling.

In his first year of primary education, Shaun went to a local Australian primary school, which was situated on the same grounds as the Japanese school. Because Matt was attending the Japanese school as a third grader at that time, Shaun sometimes went to see his brother although he did not seem to have any significant interactions with the Japanese children. Shaun enrolled in the Japanese school as a first grader in the following year, 1998. This time line of events is shown in Figure 5.1 below.

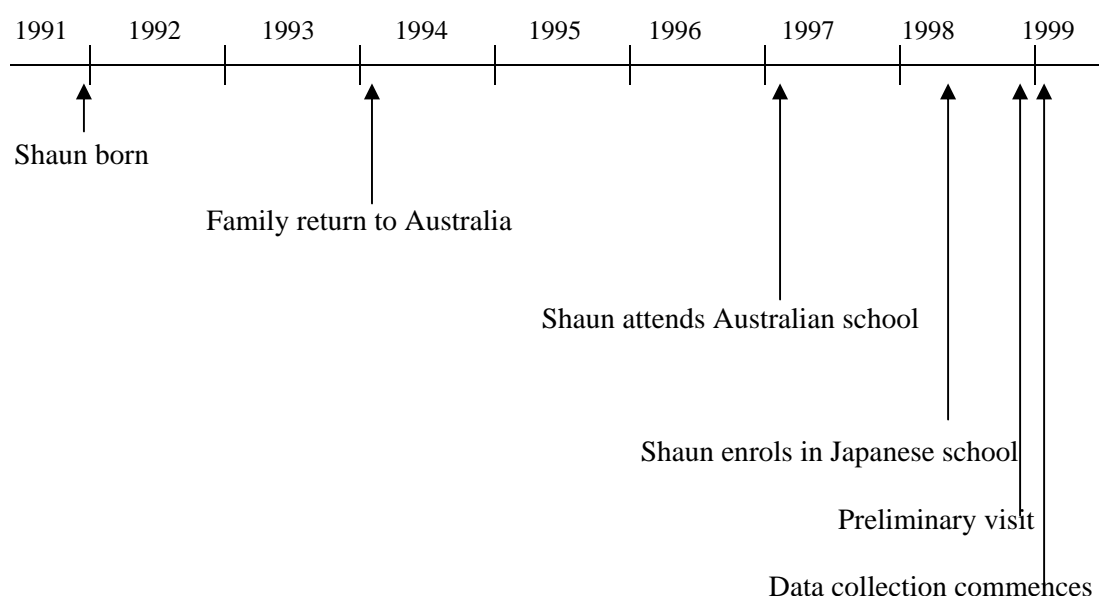


Figure 5.1 Time line

With regard to Shaun's personality, his mother described him as an energetic, outgoing child who takes things easy. She also said that Shaun loved reading and very often immersed himself in a book. The researcher also observed this. On one occasion, on arriving at Shaun's house, he was found to be in the midst of reading a "Paul Jennings" book and she waited for twenty minutes before Shaun stopped reading it to begin a tape recording session. To Mr. Honda, his first teacher at the Japanese School, Shaun was a nice child with a positive attitude, but who seemed to him a little too gentle compared with average Australian boys, who sometimes looked "naughty". However, he also described Shaun as a robust child compared with Matt who had been very gentle at Shaun's age.

Shaun's second teacher, Mr Tanaka indicated that Shaun is a creative, outgoing child with a lot of energy. Although Shaun sometimes did not settle down quickly to his studies in class, the teacher thought it was not a big problem as he knew that, at other times, Shaun could concentrate on things in which he was interested, such as reading a book. On the other hand, this teacher perceived that, while Shaun was outgoing and very active, he also had a sensitive aspect to his personality.

The researcher's observation during the data collection period was that Shaun was a very easy going, cheerful child with an affable nature. He co-operated willingly with his family and peers, and with the researcher.

5.2 The Japanese School

The Japanese School of Perth is a private school consisting of both primary and lower secondary levels. It was established and approved by both the Japanese and Australian Governments. The school's aim is to provide its students with an education at a level equivalent to that in Japan. This is done by covering the curriculum prescribed by the Japanese Ministry of Education and Science (*Monbukagaku-sho*). All the teaching staff, except an English conversation teacher, are qualified Japanese teachers. They teach all subject areas in Japanese. These subjects, most of which are similar to ones offered in Australian schools, include maths, the national language (Japanese), science, social studies, physical education, music, home economics and calligraphy.

Most of the students enrolled at the school are children whose parents are Japanese, but the school is also open to the local community so children of Australian parents or of Australian and Japanese parents can attend. As part of a community program, between 1989 and 1996 the school had an open school week called "J-course" twice a year, during which interested local children were invited to attend classes and participate in classroom activities together with the enrolled students. Apart from the open school program, the school had only approved the

enrolment of one other Australian child for the period of one year several years before Matt joined. Thus, Matt was the first Australian child who had attended the school for more than one year and Shaun the first who joined in the school from the beginning of Year One.

Shaun was taught by two Japanese teachers during the data collection sessions. Mr Honda was Shaun's class teacher in his first year at the Japanese school. The class was very small, like all classes at the school, consisting of only six children. At the beginning, the teacher had to use English to communicate with Shaun. Also sometimes he deliberately encouraged Shaun to use some English, mainly just words, believing that it would help him to maintain his self-esteem if he felt like making a contribution to class discussion. Therefore he often asked Shaun a question such as "*kore wa eego de nanto iu no?* (how do you say this in English?)" during class. According to his observation, Shaun readily mixed with the Japanese children and learned informal Japanese through interaction with his peers while playing. Even so, Mr Honda recollected that it took approximately three months before Shaun produced a Japanese word spontaneously - the first being "*Yatta!* (I've made it!)". These three months may be deemed to be Shaun's "silent period" (see Chapter 2.3.1, pp. 34-35).

According to his teacher, it took another six to seven months before Shaun started producing large quantities of Japanese. Until that time, which coincided with the beginning of data collection for this study, he still answered in English when questioned by the teacher in Japanese. Also the teacher himself seemed to rely on the use of English when he tried to help Shaun understand what was being taught. While it may be that the teacher intended to help Shaun with English, Shaun's mother had a different view. When parents were invited to observe their children's classes towards the end of 1998 (nine to ten months after Shaun began attending the Japanese school), she felt that this teacher used too much English with Shaun. During an interview conducted by the researcher, it appeared that the teacher at that time was most concerned with Shaun's Japanese vocabulary development, and particularly with regard to his written language, but that he paid little attention to Shaun's grammatical development. Further, the teacher did not use explicit

grammar instruction with Shaun, which would normally be the case for Japanese as a foreign language (JFL) learners. This meant that Shaun was acquiring Japanese more naturalistically than most JFL learners. By the end of his first year at the Japanese school, which was three months after the data collection began, Shaun was using Japanese to interact at a minimal level with his peers and to respond, in a limited way, in class.

In fact, five years on in 2003, when 10 year old Shaun was having a chat with the researcher, he recalled his first year at the Japanese school, saying “*taihen datta* (I had a hard time)”. Matsumoto (1999a, 1999b), who studied the acquisition of vocabulary in JSL by a nine year old Chinese boy in his first and second years after arriving in Japan, points out the child’s difficulties in learning JSL in early years. Even so, her subject had a Chinese speaking teacher in his JSL class, which ran separately during some of the main stream classes. The teacher helped him by explaining the meaning of abstract words and providing feedback on the child’s writing, using Chinese. Also the child was able to understand Chinese characters, which had been already familiar to him at the time of the study, although he was not able to pronounce them in Japanese. Matsumoto (1999b) states that it would have been much more difficult at early stages for children with no background of Chinese characters to learn JSL.

According to his first year teacher at the Japanese School, there were no particular problems with Shaun’s academic development as a whole. However, there were some areas of the curriculum in which Shaun’s lack of Japanese language proficiency seemed to have an effect. These were the subjects: the national language (Japanese) and application in maths, where his marks were a little lower than those of his Japanese peers. However, the teacher stated that the levels of his class that year had been higher than an average class in Japan. Four of the five Japanese children in his class obtained either a 4 or 5 in the five outcome scales (5 is the best) and the remaining child gained 3 to 5 across the different subjects.

Overall, it would seem that Shaun was an average student displaying good academic development despite his disadvantage in Japanese. Furthermore, he

outperformed the Japanese children in creative work, such as art. According to his first teacher, by the end of the year, Shaun understood about 80% of the Japanese language spoken and was able to scan Japanese texts and to understand written questions in maths.

In his second year Shaun's teacher was Mr Tanaka. He used much less English with Shaun than his predecessor, Mr Honda. This is the period when Shaun's mother felt his Japanese improved dramatically. It coincided with the last three quarters of the data collection period.

Mr Tanaka was very concerned about Shaun's lack of Japanese proficiency when he began teaching him. Therefore, he tried creating as many opportunities as possible to have a friendly talk with Shaun outside class as he believed that this could change Shaun's reservedness in terms of speaking Japanese.

With regard to the use of English, this teacher stated that at the beginning (i.e., one year after Shaun began attending the school) he had also had to resort to the use of some English, which accounted for approximately 30% of the whole of his speech to Shaun. The proportion gradually decreased and it was less than 5% towards the end of Shaun's second year at the school. The teacher used English mainly to help Shaun understand questions in math application.

5.3 Oral Proficiency in Japanese at the Commencement of the Study

At the commencement of this study, it was nearly nine months since Shaun had begun attending the Japanese School of Perth. Shaun's oral proficiency at this time was assessed, using the following three methods:

- (1) Shaun's proficiency was rated by Mr Honda, Shaun's first teacher, using a modified version of the Australian Second Language Proficiency Ratings (ASLPR) (Igram & Wylie, 1981, pp. 114-128)¹⁷;
- (2) a brief analysis of language he produced during the preliminary session, and;
- (3) a provisional comparison with eleven different structures which were found by Huter (1996) in her study on acquisition of JFL by adult learners.

5.3.1 Shaun's Proficiency in the Light of ASLPR

As part of the interview with Mr Honda, Shaun's first teacher, he was asked to rate Shaun's oral proficiency, using the ASLPR scale¹⁸ as a guide. Since the ASLPR was developed to rate the English spoken by adult migrants in Australia, some descriptions are not appropriate for a child second language learner or for the Japanese language context. Therefore, wherever necessary, some words were replaced with appropriate ones for Shaun's situation. For example, the word "work" in "casual conversations about current events, as well as work, family, and autobiographical information" in "S:2 Minimum social proficiency" was replaced with "school". The following figure outlines Shaun's developing proficiency prior to the commencement of the study using this method.

¹⁷ Shaun's proficiency in the light of the ASLPR during the data collection period for this study was also discussed with both Mr Honda and Mr Tanaka. (See Table One, Appendix B, pp. 335-337).

¹⁸ This was translated into Japanese for the teachers' convenience by the author of the current study.

Table 5.1**Shaun's oral proficiency rated with ASLPR by Mr Honda**

Date	Events	ASLPR Rating	ASLPR General Description "Teacher's additional comments."
4/98	Shaun enrolls in the school	S:0 Zero proficiency	<i>Unable to function in the spoken language.</i> ¹⁹ Oral production is limited, at most, occasional isolated words. Essentially no communicative ability. "Communication was done in English."
10-11/98	7-8 months at the school	S:0+ Initial proficiency	<i>Able to operate only in a very limited capacity within very predictable areas of need.</i>
10/98	7 months at the school	S:0+ Initial proficiency	Utterances rarely consist of more than two or three-words and are marked by frequent long pauses and repetition of an interlocutor's words. "Three word utterances emerged."
10-11/98 (and continued to 1/99)	7-10 months at the school	S:0+ Initial proficiency	Vocabulary limited to that necessary to express simple elementary needs and basic courtesy formulae. Syntax is fragmented, inflections and word endings frequently omitted, confused or distorted and the majority of utterances consist of isolated words or short formulae.
12/98	Preliminary session		
1/99	Commencement of the study		

On enrolment at the school, Shaun's oral proficiency was at "S:0" meaning "Zero proficiency - Unable to function in the spoken language". At the commencement of the data collection for this study, which was 9 months after his enrolment at the school, Shaun's proficiency appeared to be around "S:0+" level meaning an "Initial proficiency - Able to operate only in a very limited capacity within very predictable areas of need".

¹⁹ Italics in this table as used by Igram & Wylie, 1981.

5.3.2 Shaun's Level of the Japanese Language Observed During the Initial Visit

The main purpose of this initial visit was to assess Shaun's Japanese proficiency at that point in time. Since the other purpose of the visit was to establish a friendship or a rapport between the researcher and Shaun, only free conversation was conducted and other tasks were not performed. The conversation was led by the researcher. Just as any child and adult would do on meeting for the first time, she asked Shaun questions and he answered.

The utterances Shaun produced were all Japanese except the name of his English conversation teacher at the Japanese school. Throughout the conversation, both the researcher and Shaun used plain forms (informal speech style), which are commonly used between an adult and a child of Shaun's age in Japan. Apart from a couple of communication breakdowns, the conversation proceeded well. The following example shows one of the communication breakdowns which occurred during the preliminary session.

Example 5.1 Preliminary session

Shaun	Researcher
	<i>Otomodachi no uchi ni ittari suru.</i>
	friend GEN house DIREC go-REP do-NONPAST-AFFIRM
	Do you do something like going to your friend's house?
<i>Un.</i>	
Yeah.	
	<i>Hontoo.</i>
	Really?
<i>A, chigau, chigau. Fufu...</i>	
oh wrong wrong [giggle]	
Oh, no, no. He he.	
	<i>Chigau. Fufu. Amari ikanai?</i>
	wrong [giggle] not often go-NONPAST-NEG

No? He he. You don't go?

Un, chigau, chigau. Fufu...

yeah wrong wrong [giggle]

Yeah, no, no. He he.

Fufu... Jaa, nani shiteru no? Itsumo gakkou kara kaette kitara.

[giggle] well what do-ASP-NONPAST-AFFIRM EP
always school from return-INF AUX-COND

He he. Well, what do you do? I mean when you come back from school.

xxxxxxxxxx

[Unintelligible]

E, naani?

Oh, what?

In the example above, Shaun misunderstood a question and he tried to repair his original response, but his attempt was unsuccessful. The researcher's negative question in her third turn might have confused Shaun further as in Japanese the way to reply to a negative question is opposite to the way that it is done in English. That is, "*hai* (often translated as 'yes' in English)" means "what you said is right" and "*iie* (often translated as 'no' in English)" means "what you said is not right.

Over all, Shaun's conversational turns consisted of many one-word and two-word utterances. One-word utterances included many one-word prompts such as "*un* (yeah)", "*chigau* (wrong)", "*uun....(mmmm...)*". Most of the other one-word responses were nouns, some were verbs and others demonstrative pronouns. Verbs appeared to be correctly inflected. For example, a plain past affirmative form such as "*wasureta* (forgot)" and plain nonpast negative forms such as "*wakannai* (don't understand)" and "*iwanai* (don't say)" were observed. With regard to adjectives and copulas, no case appeared except two NTL forms: one plain nonpast negative form of an *i*-type adjective "*yasashii janai* (soft-IADJ

COP-NONPAST-NEG: [The teacher] is not soft.)” and one copula with no noun or *na*-type adjective placed before that, i.e., “*janai* (COP-NONPAST-NEG: [is] not)” alone.

Two-word utterances included such combinations as an adverb plus an *i*-type adjective, e.g., “*chotto kowai* (a little-ADV scary-IADJ)”, which does not require any inflection in the first constituent nor any particle placed between them. In addition, the combination of two words with a particle placed between them also appeared. There was a three-word utterance with a target-like (TL) particle and a four-word utterance with a non-target like (NTL) utterance. Overall, particles are omitted or supplied in a NTL way.

The following example shows an unintelligible case which occurred when he used a long utterance. It consisted of a topic plus a topic marking particle “*wa*”, an object plus an object marking particle “*o*”, a noun and a verb. The meaning of the utterance was unclear to the researcher due to the use of NTL particles and an unusual combination of words.

Example 5.2 Preliminary session

Shaun	Researcher
	<i>Kyoo wa nani o shita no?</i>
	today TOP what OBJ do-PAST-AFFIRM EP
	What did you do today?
<i>Puuru wa banana ga teppoo shita.</i>	
pool TOP banana SUBJ gun do-PAST-AFFIRM	
As for the swimming pool, a banana did a gun.	
	<i>Un? Banana?</i>
	Hmm, banana?
<i>Un, ookiku, konna.</i>	

yeah big-ADV like this

Yeah, (I did) big like this.

Fuun.

Hmm.

There were also three occasions when Shaun used a TL indefinite pronoun “no” in “*Ichiban ookii no wa Mokuyoubi* (The biggest one (i.e., day) is Thursday)” and two NTL indefinite pronouns in “*Ichiban suki no wa taiku* (My most favourite one (i.e., sport) is PE)” and “*Ichiban suki wa T booru* (My most favourite one (i.e., sport) is T-ball)”.

With regard to the development of verbal morpho-syntax, there were 26 cases involving verbal affixes, out of which four were echoic and 12 appear to be formulaic. These 12 formulae consist of one instance of “*koo yatte* (this way do-INF: by doing in this way)” and 11 instances of “*chigau* (wrong)”. In these cases, formulae mean “words and word strings which appear to be processed without recourse to their lowest level of composition” (Wray, 2002, p. 4). “*Yaru*” is a verb meaning “do”, but combined with a demonstrative such as “*koo*” or “*soo*”, its infinite form, “*yatte*” functions as an adverb or conjunctive and appears to be such, rather than a verb. Also, although “*chigau*” is a verb meaning “to differ”, rather than being analysed as “what you understand differs from what I mean”, it appears to be remembered as “no”. Therefore, these two verbs were considered to be formulaic (see a further definition of formulaic language in the current study in Chapter 5.6.2, pp. 179–180). The remaining ten cases, which contain six different lexicons, are listed below. Note that the number of instances are indicated in the bracket.

- 1) *tsuka-u* (use-NONPAST-AFFIRM) (2)
- 2) *ar-u* (exist-NONPAST-AFFIRM) (1)
- 3) *wasure-ta* (forget-PAST-AFFIRM) (1)
- 4) *wakan-nai* (know-NONPAST-NEG) (4)
- 5) *yat-tenai* (do-ASP-NONPAST-NEG) (1)
- 6) *kai-te* (write-INF) (1)

Although a total of ten instances of verbal affixes appeared with six different lexicons, only the affix –u had two lexicons, namely “exist” and “use”, neither of which appeared in a different form such as –ta, -nai and so on. Other affixes appeared with only one lexicon. It failed to satisfy the requirement of the emergence criteria (Pienemann, 1998b) (see more detailed discussion in Chapter 5.6.4 pp. 183-184) but this may be due to the much shorter data collection time than other regular sessions. Only a 25 minute interaction between Shaun and the researcher was audio recorded during this preliminary session although approximately 90 minutes were normally spent for audio recording during the subsequent data collection sessions.

5.3.3 Comparison with Huter’s Five Stages

Using eleven different structures, Huter (1996) presented the first stages of acquisition in JFL by adult learners. Her subjects were ten JFL university students who were all native speakers of English. It is important to note that there are clear differences in the level of formality (form) and rigidity (the omission of some non-obligatory grammatical elements) of utterances between Huter’s subjects, adult learners of JFL, and Shaun, a child learning JSL naturalistically. Whilst Huter’s subjects used polite form sentence endings and rarely dropped words and particles even if they were not obligatory, Shaun ended his utterances in the plain form and omitted many non-obligatory grammatical elements. While the utterances of subjects in Huter’s study sounded bookish, Shaun’s utterances sounded natural, particularly for a seven-year-old. If these differences are taken into account, Shaun’s utterances at the initial visit contain all of the eleven structures described by Huter. Five tables outlining the comparison are shown below. The use of strike through is for non-obligatory structures, and these were omitted by Shaun. It also can be seen that the style and degree of rigidity of his speech differs from that of Huter’s subjects:

Stage 1:

Structure	Huter's subjects	Shaun
1. Copula sentence	N p N desu. (Polite form) <i>Ryooshinn wa Malaijiajin desu.</i>	N p N da. (Plain form) <i>Yamada sensei.</i> N p N da. (Plain form) <i>Migi ga boku no.</i>
2. Sentence with existential verb	N p N i/imasu. (Polite form) <i>Tsukue ni arimasu?</i>	N p N Aru. (Plain form) <i>Un. (Kamoku ni...) Aru.</i>
3. Sentence with full verb	N p N p V (Polite form) <i>Sannin wa duressu ni kimasu.</i>	N p N p V (Plain form) <i>Gakkoo no tsukau.</i> N p N p N V (Plain form) <i>Puuru wa banana ga teppoo shita.</i>

Stage 2:

Structure	Huter's subjects	Shaun
4. Complex noun phrase	N to N p (a particle at the end) <i>Bumpoo to conversation shimashita.</i>	N to N p (no particle at the end) <i>Seekatsu to zukoo dake.</i>
5. Complex noun phrase	N no N p (a particle at the end) <i>Isu wa hidari no tsukue e imasu.</i>	N no N p (no particle at the end) <i>Eego no gakkoo.</i>

Stage 3:

Structure	Huter's subjects	Shaun
6. Verb negation	V-masen. (Polite form) <i>Mado ari-masen.</i>	V-nai (Plain form) <i>Wakan-nai.</i>

7. Verb inflection for past	V- <i>mashta</i> (Polite form)	V- <i>ta</i> (Plain form)
	<i>Igirisu ni iki-mashita.</i>	<i>Wasure-ta.</i>
8. Order of modifier and modified	N1 no N2 p (with a particle at the end)	N1 no N2 p̄ (with no particle at the end)
	<i>Benchi ga ki no shita ni arimasu. Eego no gakkoo.</i>	

Stage 4:

Structure	Huter's subjects	Shaun
9. Complex noun phrase	Adj N p (Noun is modified by adjectives.) <i>Onnanohito wa aoi duressu o kimasu.</i>	Adj N p (Indefinite pronoun is modified by adjectives) <i>Ichiban ookii no wa mokuyoobi.</i>
10. Complex sentence	Adv P S <i>Tasmania de chuugokugo benkyo suru koto ga dekimasen.</i>	Adv P S <i>Moo yatte nai.</i>

Stage 5:

Structure	Huter's subjects	Shaun
11. Complex verb phrase	Adv V <i>Kuruma ga nidai arimasu.</i>	Adv V <i>Moo yatte nai.</i>

A comparison was difficult with some structures because a precise definition for these was not provided by Huter. For example, in the fourth structure listed by Huter, it is not clear if it is obligatory for a particle to appear after the noun phrase “N to N (N and N)”. In Japanese the noun phrase “N to N” can be followed by a particle but, depending on what sort of particle it is, it is not always obligatory. In fact, it may be more often omitted if “N to N” is placed in a topic or subject position.

Also “N to N” can be placed before a copula and in this case, no particle should be placed after “N to N”. The same question can be asked for the fifth and eighth structures. Actually, Huter uses an example for one of the subjects who omitted an object marking particle “o” after “N to N”, suggesting that it is indeed optional. If it is the case that particles are just optional in the stages described by Huter, then all Shaun’s utterances parallel the stages of acquisition of Huter’s subjects.

The lack of a clear definition is also problematic with regard to the position and type of adverb in the eleventh structure. Huter describes it as Adv V. Here, Huter did not say whether or not Adv was specifically a numeral quantifier. If it includes any type of adverb, then Shaun’s production also fits this category as shown below. With regard to the position of Adv, Shaun placed an adverb just before a verb as did Huter’s subjects, however, because he omits the topic and object, which were clear in the context, the utterance consisted of just an adverb and verb. Again because of the lack of explanation accompanying Huter’s categories, it is not clear whether or not the omission of some non-obligatory structures should be taken into account. In Shaun’s case, if it is, the utterance in the following example may fit into the tenth and/or the eleventh category.

Example:

Shaun: *Moo yat-tenai.*
 any more-ADV do-ASP-NONPAST-NEG
 (I am) not doing any more.

5.4 Research Design

5.4.1 The Use of Tasks

Naturalistic data is considered to be a more reliable indicator of the way second language, and grammar structures in particular, are learned (Pienemann, 1994). Therefore, every effort was made in this study to provide as comfortable a setting as possible when collecting data from Shaun. However, it was impossible to

use what Nunan (1987, p. 159) calls “genuine” free-form interviews since, unlike most of the previous case studies, the researcher is not the subject’s mother and therefore did not have ongoing access to opportunities to tape-record the subject’s spontaneous utterances and monologues. Thus, a wide range of tasks, which seemed to interest a seven year old, were prepared and were then used to elicit as much oral production as possible in a naturalistic setting.

5.4.2 The Distribution of Tasks

It is possible that data collected by means of a particular task might not reflect the actual acquisition order of a particular syntactic feature due to factors such as avoidance strategies. It has been suggested by Ellis (1985) and Eisenstein, Bailey and Madden (1982) that researchers need to employ a range of data collection methods so that they can obtain an accurate picture of a subject’s current state of morpho-syntactic development. Therefore, in order to minimise the effect of the research design and data collection on the outcomes of the research (Nunan, 1987), it was decided to construct a variety of tasks, including oral interviews (free form and semi-structured), narratives (stories and six frame cartoon strips), two-way communication games (e.g., spot the difference puzzles, riddles). To ensure the comparability of outcomes between the same tasks over time, and for the prevention of monotony, most of the tasks were recycled. However, they were slightly varied each time to minimise practice effect.

The tasks were distributed over several data collection sessions as evenly as possible. Some of the tasks were designed to elicit the use of specific syntactic structures, while others were not. As the sessions went on, a couple of new tasks targeting other structures were added. In addition, commercial games such as chess, the “Pokemon” game and Japanese Monopoly were played on occasion and commercial picture books were used for the purpose of eliciting narratives.

Below is the task distribution table.

Sess ion	1 Free form Interview	2 Two-way Descriptive task	3 Two-way Locative task	4 Narrative (Picture book)	5 Narratives (Cartoon)	6 Riddles	7 Semi- structured Interview	8 Spot the difference	9 Other games
P									
1									Paper doll story
2									
3									
4									Chess, Pokemon
5									Describing people
6									
7									
8									Picture description
9									
10									Card game
11									
12									Describing people
13									The Snowman
14									Picture Description
15									Card game
16									
17									A Simpsons story
18									
19									Describing people
20									
21									Cartoon strips, Teddy bear story, Picnic stories Picture description Chess
22									Card game
23									Japanese Monopoly
24									Describing people
25									
26									Card game Japanese Monopoly

Note:  = that task performed in this session.

Figure 5.2 Task distribution

5.4.3 Materials

Eight different types of tasks were used. Most of these had four to five variants each which meant that there was a total of 19 different regular tasks and 12 additional tasks were prepared. A combination of a selection of these was used at each session to elicit oral production from the subject. These tasks included ones taken from commercial resource books for JFL or ESL teachers, modified versions of a book used in previous child language acquisition research, and other tasks developed previously by the researcher.

These tasks are described in detailed as follows.

1) Free form interview (free conversation)

This was usually done as warm up at the beginning of each session. A range of questions were prepared beforehand but topics often drifted back and forth during the interview. There were times when Shaun enjoyed talking about a particular topic for a long period of time, whilst some other topics were not talked about due to time constraints. Topics ranged from his school life, to sporting activities and hobbies, to his friends and the holidays which he had taken. No specific syntactic structures were targeted in this task.

Any short free conversation between the other tasks was also audio recorded for analysis.

2) Two-way descriptive communication game

Both Shaun and his conversation partner had a grid of 16 numbered boxes containing girls' faces. Some of these were complete, but others had features missing. The partners took it in turns to tell the other person what each face looked like so that she/he could draw it. (An example of this and all the other tasks are shown in Appendix C, pp. 338-353)

This information-gap task had been developed by Yamaguchi, Iwasaki and Oliver (1999, 2000) to elicit particular grammatical features, namely the conjoining of adjectives. This was also the purpose of this task in the current study. But it was also used to elicit different forms of adjectives, both attributive and predicative. There were four versions of this game and the hair, eyes, mouth and ears were varied using different colours, lengths and sizes in each version. This task was repeated every two sessions.

3) Two-way locative communication game

This task was based on games used in a study by Iwasaki (1997, 1999, 2000). The original game, partly taken from a commercial activity book for learners of Japanese as a foreign language (CAG Teaching Materials Development Group, 1993, p. 17), aimed to elicit the use of locative constructions including existence verbs, particles, numeral quantifiers and so on. The same grammatical features were expected to be elicited in this study.

For this task, Shaun and his conversation partner sat facing one another with the screen placed between them. This game incorporated locative information gap tasks, the purpose of which was to make two identical pictures after the participants exchanged information in Japanese. The subject and his conversation partner had different copies of the same base picture. They both gave and received information, taking alternative turns to complete the game by putting items in the correct location. This game, which had four different versions with different items and different settings, was repeated every two sessions.

4) Narrative of the Frog story (Mayer, 1969)

Shaun was asked to tell a narrative about a picture book (i.e., no words) entitled “Frog, where are you?” This is a story containing twenty four pictures, in which a boy and a dog go out to look for his other pet, a frog, which has been lost. During their extensive search, they come across several creatures and have several adventures and finally find the frog. This book was chosen because it had been used in a number of child and adult language acquisition studies (e.g., Bamberg, 1986, 1987; Berman & Slobin, 1994; Kail & Hickmann, 1992; Orsolini, Rossi & Pontecorvo, 1996; Van Der Lely, 1997; Wigglesworth, 1997).

As in previous studies, this story telling was used to elicit a range of referential expressions (nominals, pronoun and zero anaphor) and it was anticipated that the narrator would use a variety of verbal morphemes, compound sentences

containing “and” by using the “*te*-form” of a verb and so on and complex sentences containing a temporal clauses indicating “when”, “before” or “after”.

In order to compare the development of the targeted structures over time, this story was repeated every session initially and every two sessions later on. However, three different versions of the story were created by changing the characters and creatures. The actions that the characters performed remained unchanged. In the second version of this story, the boy and his dog were replaced with a girl and her cat. The lost pet was changed from a frog to a crab. The other creatures appearing in the wood such as a field mouse and a deer were also changed to a snake and a sheep. In the third version, an old man, a dog and a tortoise appeared as the main characters and an old woman, a cat and a snail were used in the fourth version. These new versions were developed with some pictures taken or adapted by the researcher from illustrations in the story “Esio Trot” (Dahl & Blake, 1990).

5) Cartoon narratives

Shaun described one of four different stories based on a six frame cartoon taken from two resource books for ESL teachers (Heaton, 1966, pp. 50, 54 & 58, 1975, pp. 47-48). He did this approximately every two sessions. The stories were about a bus, a thief, someone being chased and a game of table tennis. This task was used to elicit verbal morphemes and complex and compound sentences.

6) Riddles

The targeted grammar structure in this game was relative clauses. Different versions of this task were initially undertaken every session and later (after four sessions) approximately every two sessions. Four different versions were available with different items taken from a commercial activity books and textbook for JFL/JSL learners (Kuriyama & Ichimaru, 1992; Maruyama, 1991, pp. 22 & 35; Tohsaku, 1994, p. 439).

Shaun and his conversation partner had a grid of sixteen boxes containing various items on a sheet, such as a bed, wallet, flower vase. He was asked to define each of the items without saying its name and his partner was to guess its name after looking for the defined item on his own sheet. When the subject played this game with his peer or his brother, both of the participants took turns giving definitions. However, when the subject played the game with the researcher, only the subject gave directions.

In order to look closely at the use of relative clauses, a describing game (Kuriyama & Ichimaru, 1992, p. 50) was introduced and used to supplement the riddle task. In this game, Shaun and his conversational partner took turns to describe people in a picture of a party scene. The people were doing things such as sleeping, eating, watching TV. When one of participants described a person, the other looked for him/her in the picture and said his/her name. This task was undertaken every five to seven weeks.

7) Semi-structured interview - “Play student and teacher”

In order to elicit the use of negation in the polite form of Japanese, a semi-structured interview was constructed. This was undertaken as a role play in which the researcher acted as a teacher and Shaun as her student. The “teacher” asked questions in the polite form and the “student” had to answer them politely and truthfully.

Topics dealt with in the interview were from the subject’s daily life. Both polite affirmative and negative forms, including nonpast and past, of verbs, *i*-adjectives, *na*-adjectives and nouns were targeted but sometimes all of the four grammatical items could not be covered because, just as in the free form interview, planned topics often moved to unplanned topics, due to the communicative nature of this role play. At the beginning of the role play, Shaun was asked to answer properly i.e., in full sentences not with just “*hai* (yes)” or “*iie* (no)”. However,

when he answered using anaphoric negation, the researcher went on to the next question without interference.

Japanese children of the subject's age usually use plain forms (casual speech style) in their conversation with their family members, peers and teachers although they may have a knowledge of polite forms. Therefore, eliciting polite forms (formal speech style) from a child subject is a difficult task. However, one of the very few possible settings for a seven year old child to use polite forms was thought to be conversation with school teachers. According to Shaun's class teacher at the Japanese school, teachers consciously start using polite forms to students during class and formal occasions when they are in Year One. At first teachers mix both polite and plain forms but try to gradually increase the use of polite forms. When students enter the staff room, they must speak to teachers in a formal polite way. However, from the comments of Shaun's teachers and the researcher's observation during the pilot session and the first session, it appeared that Shaun usually used plain forms around the time of the commencement of the study.

The game was repeated with slightly different questions every two sessions.

8) Spot the difference

These were typical "Spot the difference" games taken from some commercial resource books for ESL and JFL/JSL teachers. There were five different games entitled "Family room" (Murano, & Tanimichi, 1988, pp. 43-44), "Park" (Takahashi, Hirai & Miwa, 1996, p. 37), "Classroom" (Takahashi et al., 1996, p. 48), "Hansel and Gretel" (Thomas & Sydenham, 1995, p. 21), and "Japanese style room" (CAG Teaching Materials Development Group, 1993, p. 9).

The aim of the task was for Shaun to point out as many differences as possible between a pair of pictures. He played this with his brother or his peers or the researcher if they were not available. The target structure for this game was negation in the plain form.

9) Other tasks

Twelve additional games were also occasionally played with Shaun. These included chess, the “Pokemon” game and Japanese Monopoly. They are commercially available and played by many children in both Australia and Japan. Other commercial products included a paper doll story, a Simpsons cartoon story, a picture book with no written text entitled “*Yukidaruma* [The Snowman]” (Briggs, 1978), some Japanese cartoon strips, the Teddy Bear story and two stories about having a picnic (Education Department of Western Australia, 1998). No particular structures were targeted in these games.

Also, while the data collection went on, the researcher felt that it was necessary to examine whether Shaun had acquired other grammatical features such as tense/aspect and passives in Japanese. In order to elicit these features, a picture description task and a “passive structure” card game were used.

In the first task, the subject described various situations depicted in a picture, such as a fallen tree, an open door, a person laying down, and a broken window. The picture was developed and used by Kyo (1997) for her cross-sectional study on acquisition of Japanese tense/aspect.

For the second task, two sets of fifteen picture cards each with numbers were prepared. On each of the cards, different situations were depicted, for example, a boy named Shaun (the subject) was bitten by a dog, the boy was scolded by his mother, his foot was stepped on by someone and so on. Cards depicting other situations where the boy had toothache, headache and so on, were also included as distracters. Shaun shuffled the cards and took one card and explained the situation to his conversation partner. The partner had a sheet with the same pictures drawn on it. He looked for the correct picture and said the number. They repeated this until all the cards were finished. This game was from an activity book for JFL/JSL teachers (Takahashi et al., 1996, pp. 69-70, 121-122, 140), partly modified and

performed to elicit passive forms.

5.4.4 Interlocutors

It might be possible that the nature of interacting with just one interlocutor could trigger differences in the outcomes of the research. In order to minimise the effect of this, as many people as possible were sought to interact with Shaun. This included those who knew him very well, so that he could perform tasks in a relaxed way. The subject's father, mother and brother were always happy to act as interlocutors. Also the subject's mother was very cooperative in creating opportunities to have the subject's peers at home on the data collection days. As a result, apart from the researcher, a total of ten different people participated in the tasks with Shaun.

5.5 Procedure

5.5.1 Initial Visit (Preliminary Session)

The initial visit had two purposes:

- (1) to prepare the child and his family for the following data collection sessions and;
- (2) to ascertain the child's Japanese proficiency at that point in time.

When the researcher visited Shaun for the first time for the preliminary session at his home, it was just before his seventh birthday. While the subject's brother and their Japanese friends were playing, the first interaction between Shaun and the researcher was recorded. Shaun was initially curious about the audio tape recorder, but his speech appeared to be less affected by the tape recorder as the conversation progressed. Tape recording of the conversation lasted for approximately 25 minutes and an informal interview with Shaun's mother and brother followed.

5.5.2 Subsequent Sessions

After the preliminary visit, interactions between the subject, the researcher and other speakers of Japanese were recorded fortnightly in Shaun's family home by the researcher. The twenty-four regular data collection sessions were conducted over a period of one year, followed by two follow up sessions four months and nine months later. Each session lasted for approximately one hour and thirty minutes. The length of each data collection session was adjusted depending on Shaun's level of participation. When Shaun was very talkative, the recording session would continue for the entire ninety minute period. However, when he appeared tired or less than attentive, the session was shortened accordingly.

In most of the sessions, Shaun's mother was at home. Apart from when she participated in two communication games, she was usually doing housework and away from the table at which the tasks were performed.

Each session usually began with free conversation between Shaun and the researcher. This was followed by the various communication tasks. Tape recordings were made continuously in order to catch any utterance produced naturally by the subject between the tasks. Four to seven tasks were performed in one session. All sessions except the last two follow up sessions were carried out after school. When Shaun had his school friends to play at his house on a data collection day, they were allowed to join in the free conversation, and they also participated in some of the communication games. When they were not available, Shaun's brother Matt acted as his conversation partner for the recordings. There were a couple of occasions that Shaun's father and mother played a game with him, or, when no one else was available, the researcher acted as a conversation partner throughout the session.

5.5.3 Interviews with the Subject's Parents and Class Teachers

Informal interviews with the subject's parents were conducted after some of the recordings. Shaun's class teachers at the Japanese School were also interviewed

after obtaining permission from Shaun's parents. The interview with Mr Honda was done towards the end of Shaun's first school year and that with Mr Tanaka towards the end of Shaun's second year. Both of the interviews were audio recorded. These interviews provided useful background information and insights about Shaun's two language environments.

5.6 Analysis

5.6.1 Transcription

All the audio taped interactions were transcribed using Japanese orthography. That is, a mixture of three types of scripts as is common practice were used by the researcher: these were two types of syllabics called hiragana and katakana, and kanji (Chinese characters). When speakers used English, it was written in English. However, English words pronounced in a Japanese way, being considered as loan words, were written down in katakana. These data were the basis for both quantitative and qualitative analysis. This meant that the data collection over the 26 sessions had yielded a total of 20,988 turns by Shaun and his interlocutors²⁰. Of a corpus of all these turns, 47.1 % were produced by Shaun, totaling 9,884 turns.

5.6.2 Data Base for Verbal Morpho-syntactic Structure

The linguistic features investigated in the current study were those verbal morpho-syntactic structures in Japanese found by Di Biase and Kawaguchi (2002) to exist in the interlanguage of adult JFL learners. Specifically, the following three verbal morpho-syntactic structures were the focus of the investigation in the current study. These are:

²⁰ When more than one interlocutor was present, only the turns of the interlocutors who actually participated in conversation with Shaun were counted. Also, the interlocutor's backchannellings and noddings such as "*un* (yeah)" and "*un un* (uh huh)" during Shaun's story telling were not counted unless Shaun responded to those or paused after them.

- (1) Verbal affixes
- (2) the *V-te V* structure
- (3) The passive/causative structures

Based on the method developed by Kawaguchi (personal communication, 2003), the raw data (i.e., transcription) were transferred from the Microsoft Word program to the Microsoft Excel program for these verbal morpho-syntactic structures to be coded systematically and accurately.

From the entire corpus, the interlocutors' turns were separated. Also Shaun's turns which contained no utterance with these verbal morpho-syntactic structures were separated. The verbal morpho-syntactic structures in Shaun's remaining turns were the basis for analysis. However, Shaun's other utterances and his interlocutors' utterances were also used as contextual evidence to support the accuracy of the transcription and the reliability of the analysis. The reliability of the coding was also supported by notes that had been taken during interactions between the subject and the other speakers²¹. In addition, retrospective notes that had been made after the recording session provided contextual information.

Some of Shaun's utterances were not included in the data base for quantitative analysis in the current study, and these included:

- (1) inaudible utterances;
- (2) unintelligible utterances;
- (3) utterances read from a textbook, diary or speech script; and
- (4) utterances sung in songs.

²¹ This was not possible, however, when the researcher was the subject's conversational partner. No notes were taken in order to maintain a relaxed atmosphere and as 'naturalistic' an atmosphere as possible.

Note, however, 3) and 4) were used for the descriptive analysis when they contained the focused structures and were thought to have an effect on the acquisition of the forms.

Also, in order to construct valid data for the measurement of the acquisition of the focused linguistic features, all verbal morpho-syntactic forms that were found to be echoic, formulaic or incomplete were separately coded and later excluded from the quantitative analysis. It is important to note that these excluded forms, incomplete forms in particular, remained useful sources for qualitative analysis. The following example shows each of the excluded forms:

1) Echoic forms

Repetition of the interlocutor's utterance. Echoic language involving Shaun's interlocutor's utterance was entered separately. That is, when the occurrence was a repetition of part of Shaun's interlocutor's proceeding utterance or turn, it was marked as echoic so that it could later be excluded in the final analysis. The following is an example of this:

Example 5.3 Repetition of the interlocutor's utterance

Shaun	Researcher
<i>Nani ookaasan no koko o, iru tokasorede.....</i>	
what OBJ mother GEN this place OBJ exist-NONPAST-AFFIRM and then	
What.....this place of a mother.....is or somethingand then.....	
	<i>Deru</i>
	come out-NONPAST-AFFIRM
	Comes out?
<i>Deru. To sorede, ichi nen o ni nen o nattara, nan desu ka.</i>	
come out-NONPAST-AFFIRM then 1 year OBJ 2 year OBJ become-COND what COP Q	

Comes out. And then when 1 or 2 years become (SIM: pass), what is it?

Akachan.

Baby.

(S4.5 Riddle with the researcher)

Note: S4.5 = Session 4, Task 5.

In the example above, the verbal affix *-u* for *der-u* (come out-NONPAST-AFFIRM) was coded as echoic. Sometimes Shaun seemed to repeat his interlocutor's utterance naturally and productively in the course of the communicative interaction. That is he appeared to have used others' language as a 'scaffold' for his own production. However, these occurrences were not included in the final analysis.

Repetition of own utterance. When Shaun repeated his own word or utterance exactly in the same way within the same turn, only the last word or utterance was coded as one occurrence. In the following example, *yatte* (do-INF) was counted only once.

Example 5.4 Repetition of own utterance

Shaun

Matt

Dekita.

be completed-PAST-AFFIRM

Finished.

Fun fun.

Hum hum.

Yatte, yatte.

do-INF do-INF

Do (it), do (it).

(S4.2 Descriptive game with Matt)

However, when the last word or utterance accompanied other word(s), the proceeding word or utterance was coded separately. Also, when Shaun repeated one word or utterance of his own after the interlocutor's turn, it was coded separately as one occurrence. See the following example.

Example 5.5 Repetition of own utterance beyond the turn

Shaun	Researcher
<p><i>Atari. Sofuto ka haado dee, taberu mono.</i></p> <p>right soft or hard COP-INF eat-NONPAST-AFFIRM thing</p> <p>You are right. Soft or hard, something to eat.</p>	<p><i>Un. Moo ichido.</i></p> <p>Hum? Once more, please.</p>
<p><i>Taberu mono. Taberu mono dee...</i></p> <p>eat-NONPAST-AFFIRM thing eat-NONPAST-AFFIRM thing</p> <p>COP-INF</p> <p>Something to eat. Something to eat and</p>	

(S6.4 Riddle with the researcher)

In the example above, only one of the instances of “*teber-u* (eat-NONPAST-AFFIRM)” in Shaun’s second turn was coded as one occurrence but one instance of the same affix (i.e., *-u* in *taber-u*) in his first turn was also coded as one occurrence.

2) Incomplete forms

Incomplete forms included intermediate, interrupted or incomplete forms. The majority of these cases were intermediate forms and the interrupted forms were rare. Hence all of these were later grouped together as ‘incomplete’. The following interactions are examples for each of the cases.

Intermediate form. When Shaun tried to rephrase one word, intermediate forms produced until the final word came out were counted separately.

Example 5.6 Intermediate form

Shaun

Taroo

Te ni nanika o su...yatteru.

hand DIREC something OBJ do-INTERM
do-ASP-NONPAST-AFFIRM

(I) d...am doing something to my hand.

Juu san ban.

No 13.

Atari.

You are right.

(S10.3 Card game with Taroo)

“*Su*” in the example above is assumed to be part of “*suru* (do-NONPAST-AFFIRM)” but Shaun rephrased it with “*yat-teru* (do-ASP-NONPAST-AFFIRM)”, using a different verb with the same meaning.

Interrupted form. Shaun’s utterance was incomplete because it was interrupted by his interlocutor’s utterance.

Example 5.7 Interrupted form

Shaun

Researcher

Sorede etto, Koogo ga nige.....

and then let me see [name] SUBJ run away-INTERPT

And then, let me see, Koogo ru....

Koogo ga nani nani.

[name] SUBJ what what

Koogo what?

Koogo ga nigeyoo to shita

[name] SUBJ run away-VOL do-PAST-AFFIRM

Koogo tried to run away.

(S10.1 Free conversation with Koogo and the researcher)

This is in fact similar to intermediate as Shaun completed what he wanted to say in the subsequent turn.

Incomplete form. Incomplete forms are ones where Shaun could not complete a form despite the fact that he tried to rephrase one word. The following example shows this.

Example 5.8 Incomplete form

Shaun

Researcher

*Honto? Jaa, natsuyasumi ni ojiichan no
ucih ni ikimashita ka. Ojiichan toka
obaachan no....*

really grandpa GEN house DIREC
go-POL-PAST-AFFIRM Q Grandpa or Grandma
GEN...

Really? Well then, did you go to your grandpa's
house during the summer holiday? Grandpa's or
Grandma's....

Chigau, ikima...ikimashita n.....

no, go-INTERM....go-INCOMP²²

No, I go-[part of the affix]...It is that I
go-[part of the affix].....

*Honto. Are... Demo ojichan to obaachan
iru deshoo.*

really but grandpa and grandma
exist-NONPAST-AFFIRM PRESUM

Really? But you have Grandpa and Grandma, don't
you?

Un. Iru.

yeah exist-NONPAST-AFFIRM

Yeah. I do.

(S2.5 Student/teacher play with the researcher)

In the example above, it appeared that the second immediate form in Shaun's first turn, i.e., "*ikimashita n....*" was not followed by a complete form. Shaun simply kept silent and the researcher changed the topic. Therefore, this was coded as an incomplete form.

3) Formulaic language

Formulaic language includes words or utterances that appeared to be used as unanalysed chunks. More specifically in the current study, following Wray (2002, p. 4 & 9), it means verbs, verb phrases, and verbal sentences - the whole of which appeared to be saved and retrieved from memory. The following instances were classified as such because it was believed that Shaun did not use them as verbs but rather without analysing them.

²² Although "*ikimashita n*" can be part of "*ikimashita n desu* (go-PAST-AFFIRM EP COP) meaning "It is that I went", it cannot be assumed that Shaun intended to use an affirmative answer in this context. This is because he began this utterance with "Chigau (No)". Also Shaun's subsequent silence clearly indicates that this is an incomplete utterance. Therefore, the whole of "*ikimashita n*" was analysed as "go-INCOMP" rather than "go-PAST-AFFIRM EP".

Table 5.2

Formulaic languages involving verbs in Shaun's interlanguage

Form	Verb contained	Examples
word	<i>chiga-u</i> (differ-NONPAST-AFFIRM)	<i>chigau hito</i> (different person), <i>Chigau.</i> (Wrong/No)
Part of a fixed phrase	<i>shite</i> (do-INF)	<i>koo shite</i> (in this way), <i>dooshite</i> (why)
Part of a fixed phrase	<i>yatte</i> (do-INF)	<i>koo yatte</i> (in this way), <i>dooyatta</i> (how)
Part of a fixed phrase	<i>iu</i> (say-NONPAST-AFFIRM)	<i>koo iu fuu ni</i> (in this way), <i>soo iu fuu ni</i> (in that way), <i>doo iu fuu ni</i> (in what way), <i>koo iu fuuna</i> (like this), <i>soo iu koto</i> (something like that), <i>koo iu mono</i> (something like this), <i>Taroo tte iu hito</i> (someone called <i>Taroo</i>), <i>doo iu imi</i> (what do you mean?)
Part of a structure	<i>Shire-nai</i> (be known-NONAPST-NEG) <i>Ik-e-nai</i> (go-POT-NONPAST-AFFIRM)	<i>-kamoshirenai</i> (may ~, might ~) <i>-nakucha ikenai/ nakya ikenakatta</i> (have to/had to)
Fixed expressions	<i>kit-ta</i> (cut-PAST-AFFIRM) <i>tasu</i> (add-NONPAST-AFFIRM) <i>hajime-te</i> (start-INF) <i>itadaki-masu</i> (eat-HON-POL-NONPAST-AFFIRM) <i>nai</i> (exist-NONPAST-NEG)	<i>Tanma kitta</i> (Children's jargon used in play situations: Can't hang on any more.) <i>Ich i tasu ichi wa</i> (1 plus 1 equals...) <i>hajimete</i> (for the first time) <i>Itadakamasu.</i> (I will be honoured to eat it. [greeting before a meal]) <i>Shikata ga nai.</i> (It can't be helped.)

Among the formulaic language listed above, there were a large number of occurrences of “*chigau* (No/wrong)” and “*chigau* (different)” and so these were coded separately from other instances, which were grouped together as formulaic.

5.6.3 Coding Criteria and Procedure

After the exclusion of echoic, incomplete and formulaic items from the data base for verbal morpho-syntactic structures, the remaining verb forms were coded in accordance with the following rules.

1) Verbal affix

If an utterance contained any verbal affix, the type of the affix (e.g., *-u*, *-ta*, *-nai* and so on) was entered, and the occurrences for each affix were then added up in each of the sessions. In the current study, following Di Biase and Kawaguchi (2002), any verbal affix that had appeared in a compound or complex sentence (and in either a main or subordinate clause) was also coded for this category. Also, based on Pienemann (1998b), the context in which each of the verbal affixes was supplied was examined. If a form was supplied in a TL context, it was marked as such. If it was supplied in a NTL context, it was marked as overuse and the correct context in which the form should have been supplied was sought and marked as absence of the form. If the verb was ill formed as a result of affixation, this was also noted. The following example shows the uses of *-ta* (the past affirmative marking affix) in a TL context.

Example 5.9 Suppliance of *-ta* in a TL context

Shaun

Mizu ni haitta.

water DIREC enter-PAST-AFFIRM

(They) entered the water.

(S1.2 A narrative of the Frog story)

In the example above, the affix *-ta* was entered for “*haitta*”, and then coded as +1 as this was supplied in a TL context. (See also examples of coding for verbal affixes supplied in NTL contexts in Chapter Six on pp. 197-203.)

2) V-*te* V structure

In a similar way, if an utterance contained any V-*te* V structure, the type of the V-*te* V structure (e.g., -*te iru*, -*te aru*, -*te miru* and so on) was entered, and a total number of occurrences for each structure was calculated in each session. It is important to note that V2 (second verb) in the V-*te* V structure had already been coded as the occurrence of the verbal affix contained in the V2 (Di Biase and Kawaguchi, 2002). The procedure for the registration according to the different contexts and for ill formation was the same as that for verbal affixes. The following example shows the uses of -*te iru* (durative/imperfective aspect marker) in a TL context.

Example 5.10 Suppliance of -*te iru* in a TL context

Shaun	Researcher
	Etto, Sotsugyooshiki dewa Shaun wa supiichi o shimashita ka.
	graduation ceremony LOC TOP Shaun TOP speech OBJ do-POL-PAST-AFFIRM Q
	At the graduation ceremony, did you make a speech?
Hai. Spiichi o yarimashita. Tto, Matto-kun ga umai tte yutte imashita.	
yes speech OBJ do-POL-PAST-AFFIRM and Matt SUBJ good-IADJ QUOT say-INF AUX-POL-PAST-AFFIRM	
Yes. I made a speech, and Matt was saying that [I] was good.	
	Kikiakatta wa.
	I wanted to hear that!

(S6.5 Student/teacher play)

In the example above, “*omotte imashita*” was coded as the suppliance of -*te iru* in a TL context. (See also examples of coding for the V-*te* V structures supplied in NTL contexts in Chapter Seven on pp. 239-243.)

3) The passives and causatives

Following Di Biase and Kawaguchi (2002) and Kawaguchi (personal communication, 2004), if an utterance contained any passive or causative sentence, it was coded as either sufficient evidence, positive but insufficient evidence, and, negative evidence depending on whether or not the sentence was accompanied with an oblique agent (OBLag). (All the examples of coding for the passives/causatives are shown in Chapter Eight. See pp. 269-287.)

5.6.4 Analysing the Data

1) The emergence criteria (Pienemann, 1998b)

There has been debate for some time about what should be regarded as an “acquisition point” i.e., an emergence or target-like performance. However, rather than using only one point for acquisition, the current study looked at both of them, that is an emergence point and a route taken from the emergence toward a target-like point i.e., the subsequent development. The primary purposes of the current study were to investigate the developmental sequence of the acquisition of the three verbal morpho-syntactic structures in Shaun’s interlanguage and to compare the results of the current study to those for adult learners (Di Biase & Kawaguchi, 2002). To do so, the point of emergence was used as the valid measure. However, it was also believed that, in order to capture the whole picture of the acquisition of verbal morpho-syntax by Shaun, it would be necessary to examine not only when a particular form emerged productively, but also at what level the rule for the form was applied at the time of the emergence, and, how the rule application varied over time before reaching a mastery point.

The three stages of acquisition of Japanese verbal morphology and syntax, namely, verbal inflection, the *V-te* V structure and the passive/causative/benefactive structures, presented by Di Biase and Kawaguchi are based on Lexical Functional Grammar (LFG) and within the bounds of Processability Theory (PT) (Pienemann, 1998b). Therefore it was decided that the emergence of these three structures by Shaun would be analysed, following the emergence criteria as proposed by

Pienemann in his PT (1998b). While the first production of a syntactic rule, such as the passive/causative structure, is considered to be “the point in time at which certain skills have, in principle, been attained or at which certain operations can, in principle, be carried out” (Pienemann, 1998b), more stringent criteria were applied to morphological development, such as verbal affix and the *V-te* V structure. In particular, the morphological rule needed to appear with more than one lexical and structural variety (Pienemann, 1998b). Also, utterances containing the passive/causative were coded following the method developed by Di Biase and Kawaguchi (2002).

In order to determine the point of emergence for a morphological structure, Pienemann (1998b) uses both the results of the distributional analysis for rule application of a structure in question based on four linguistic contexts, and those of the application of the emergence criteria regarding lexical and form variety (pp. 144–147). However, in the current study, these two issues, namely the point of emergence and distribution of rule application, were clearly separated because the emergence of a form is not necessarily compatible with the accuracy of its use since PT accepts forms overused in NTL contexts as a sign of a learner’s ability to process a morph-syntactic operation. Therefore, while, as far as the point of emergence is concerned, the current study fully complied with the emergence criteria that more than one lexical and form variety was required to appear to declare the emergence of a morphological structure, this is not the case for rule application. Although the criterion that four linguistic contexts need to be available for the examination of variation in rule application for a grammatical structure was used for each of the verbal affixes and the *V-te* V structures in the current study (Pienemann, 1998b, p. 146), it was not considered for the decision on the point of emergence for these structures. The results of these two different levels of distributional analyses, which were obtained separately, were then combined to be used for a discussion of the point of emergence and the subsequent development.

2) Implicational scaling

After determining the point of emergence for each of the verbal affixes, the *V-te V* structure and the passive/causative, an examination was undertaken to determine whether or not there were any implicational relationships between these emergence points for different levels of morpho-syntactic structures. To do this, implicational scaling was used in the current study. Implicational scaling (Guttman, 1944; DeCamp, 1971, 1973) is one of the most effective techniques to represent variation in L2 (Ellis, 1985) and has been used widely in recent studies on acquisition order in German as an L2 (e.g. Clahsen, Meisel & Pienemann, 1983; Clahsen, 1980, 1981, 1982; Meisel, 1980; Meisel, Clahsen & Pienemann, 1983; Pienemann, 1980, 1981) and other L2s (e.g. Johnston 1985b, 1997; Pienemann, Johnston & Brindley, 1988). It is usually used to handle the variability that occurs among more than one subject at one point in time (i.e., in cross-sectional studies), however, it is also useful to provide a picture of the developmental route taken by a single subject over time (i.e., longitudinal studies) (Ellis, 1985). In recent JSL research into acquisition order, some researchers have used this type of analysis to establish the accuracy order (Doi & Yoshioka, 1990; Kanagy, 1991). Also Huter (1996, 1998) used this technique to determine the developmental stages of some Japanese syntactic structures within the framework of the ZISA researcher's Multidimensional Model and so did Di Biase and Kawaguchi (2002) in their PT based research into JSL. Although there has been no JSL researcher who used implicational scaling for the analysis of the acquisition of JSL by a child learner, it was believed to be one of the most appropriate techniques for the analysis within the current study, particularly for the purpose of comparability to the results of other studies undertaken within a framework of PT.

A further examination was also undertaken to investigate whether or not these developmental stages match those found for adult learners of JSL and a child learner of Japanese L1.

5.7 Summary of Chapter Five

This chapter first described the background of Shaun, a naturalistic child learner of JSL who had lived with his Australian family but had attended a primary school for Japanese children in Australia at the time of this study. Therefore, this study is a longitudinal study of a child acquiring JSL in a naturalistic setting over a period of one year. Following this, a description of the Japanese School which he attended and his Japanese oral proficiency at the commencement of the study was given. Finally, a detailed description of the research design, procedure and method of analysis was given. It was decided that the current study would examine not only the points of emergence for various verbal morpho-syntactic structures but also whether there was any pattern of the variation in rule application for these structures after their emergence in the interlanguage of the child. The data were analysed within a framework of the Processability Theory (PT) (Pienemann, 1998b).

The next chapter will present the results of the analysis for the acquisition of verbal inflection in JSL by the child.

CHAPTER SIX

THE ACQUISITION OF VERBAL INFLECTION

BY A CHILD LEARNER

This chapter presents and discusses the results of the analysis for the acquisition of verbal inflection by a child learning JSL in a naturalistic context. The chapter consists of six sections. In each of the first four sections, the results of the different levels of distributional analyses are reported. These analyses were conducted to examine the overall occurrences of the verbal affixes, the suppliance and non-suppliance of the verbal affixes in different contexts, variation in rule application, and lexical and form variety of each affix respectively. In the fifth section, the order of the points of emergence for affixes is presented and the results are summarised in the last section.

6.1 Occurrences of Verbal Affixes in Shaun's Interlanguage

Firstly, coding was undertaken for all occurrences of verbal affixes found in data collected over the period of 26 sessions. The entire data yielded a total of 20,988 turns, including those of Shaun and of his interlocutors. Shaun turns ($n = 9,884$) accounted for 47.1% of the total number of turns. To undertake this analysis, turns which did not contain verbal affixes were deleted. From this reduced data base, 6,764 verbal affixes were identified. Among them were the affixes which only occurred occasionally and in small quantities. Some of these were grouped together as "other affixes", and others were kept for the purpose of comparison with affixes with similar functions. In this way, all the verbal affixes²³ were registered as

²³ It should be noted that, following Di Biase and Kawaguchi (2002), the affix *-te* attached to the first verb of the V-*te* V structure was not coded for the acquisition of verbal inflection but as part of the V-*te* V structure, which will be analysed in the next chapter. In other words, only the affix *-te* attached to the second verb in the V-*te* V structure was coded and analysed for this stage of verb inflection.

one of the common verb forms. If a verb did not appear in a complete form either because Shaun attempted to rephrase the verb in the middle of his speech or his speech was interrupted by his interlocutor, they were coded separately in order to be later eliminated from the analysis. Separate coding was also conducted for affixes contained in echoic and formulaic utterances (See Table Two for a summary of these in Appendix D, p. 354). For example, the nonpast affirmative form of the verb, “*chiga-u* (No. / Wrong. /different)” regularly appeared in large quantities throughout the data collection period, but it appeared that it was being used as an unanalysed chunk²⁴. Therefore, the occurrences of the affix *-u* in this verb were coded independently of the rest of the verbal affixes and other formulae. Following Pienemann (1998b), all of these echoic and formulaic forms were excluded from the analysis.

As a result of this elimination process, 5, 446 verbal affixes were used for the final analysis of verb inflection.

The affixes used for the analysis can be categorised into five different verb forms, which are constructed as a result of the affixation. These are:

- (1) plain forms (*-u*, *-ta*, *-nai*, *-nakatta*, *-oo*);
- (2) contracted plain forms of the V-*te* V structures (*-teru*, *-teta*, *-tenai*, *-tenakatta*, *-chatta*);
- (3) polite forms (*-masu*, *-mashita*, *-masen*, *-masendeshita*, *-mashoo*);
- (4) contracted polite forms of the V-*te* V structures (*-temasu*, *-temashita*, *-temasen*, *-temasendeshita*); and,
- (5) infinite verbs (*-te* [request], *-te* clause, *-naide* [negative request], *-naide/-nakute* clause, *-tete* clause).

²⁴ Although it was coded as an unanalysed chunk, in fact, by Session 13, Shaun appeared to have begun analysing this and by Session 16, a varied form of “*chiga-u*”, “*chigai-masu* (be wrong-POL-NONPAST-AFFIRM)” appeared.

Each verbal affix is a morpheme representing a combination of tense, polarity, aspect and/or politeness. For example, *-u* marks the plain nonpast affirmative, *-ta* the plain past affirmative, *-nai* the plain nonpast negative, *-nakatta* the plain past negative and *-oo* the plain volitional. A polite version of these five affixes are *-masu*, *-mashita*, *-masen*, *-masendeshita*, and *-mashoo*. The affixes *-teru*, *-teta*, *-tenai*, *-tenakatta* are contracted forms of the V-*te* V structures in the plain form, namely V-*te iru*, V-*te ita*, V-*te inai*, V-*te inakatta*, which mark imperfective/durative aspect (e.g., progressive, resultative aspect) on top of tense and polarity. Similarly, the V-*te shimatta* (V-*te Vaux*) is contracted to *-chatta*, indicating the completion of an action or an unfortunate or regrettable action which should not have taken place. The affixes *-temasu*, *-temashita*, *-temasen*, *-temasendeshita*, are a polite form of the four contracted forms of *-teru*, *-teta*, *-tenai*, *-tenakatta*. The verb *te*-form functions in a variety of ways, such as a request on its own and, when it is followed by another clause, a participle denoting a temporal sequence, a causal relationship or a coordinating relationship. *-Naide* is the negative counterpart of *-te*, denoting a negative request when it is used alone. The gerund marking negativity takes two forms; the affixes *-naide* or *-nakute*, although these are slightly different in meaning. The affix *-tete* is the *-te* form of the contracted form *-teru*, therefore it marks both aspect and infinity.

These affixes are summarised with an example each in the following table.

Table 6.1**Verbal affixes and forms with examples**

Affix	Verb form constructed as the result of the affixation	Example
<i>-u</i>	Plain nonpast affirmative	<i>I-u</i> (say-NONPAST-AFFIRM: I [will] say)
<i>-ta</i>	Plain past affirmative	<i>it-ta</i> (say- PAST-AFFIRM: I [have] said)
<i>-nai</i>	Plain nonpast negative	<i>Iwa-nai</i> (say-NONPAST-NEG: I don't or won't say.)
<i>-nakatta</i>	Plain past negative	<i>Iwa-nakatta</i> (say-PAST-NEG: I didn't say)
<i>-oo</i>	Plain volitional	<i>I-oo</i> (say-VOL: Let's say.)
<i>-teru</i>	Contracted form for the plain V- <i>te</i> Vaux (~ <i>te iru</i>)	<i>It-teru</i> (say-ASP-NONPAST-AFFIRM: I am saying.)
<i>-teta</i>	Contracted form for the plain V- <i>te</i> Vaux (~ <i>te ita</i>)	<i>It-teta</i> (say-ASP-PAST-AFFIRM: I was saying.)
<i>-tenai</i>	Contracted form for the plain V- <i>te</i> Vaux (~ <i>te inai</i>)	<i>It-tenai</i> (say-ASP-NONPAST-NEG: I am not saying. /I haven't said.)
<i>-tenakatta</i>	Contracted form for the plain V- <i>te</i> Vaux (~ <i>te nakatta</i>)	<i>It-tenakatta</i> (say-ASP-PAST-NEG: I was not saying. /I hadn't said.)
<i>-chatta</i>	Contracted form of V- <i>te</i> Vaux, (~ <i>te shimatta</i>)	<i>It-chatta</i> . (say-ASP-PAST-NEG: I have finished saying. /Unfortunately I have said.)
<i>-masu</i>	Polite nonpast affirmative	<i>Ii-masu</i> (say-POL-NONPAST-AFFIRM: I [will] say.)
<i>-mashita</i>	Polite past affirmative	<i>Ii-mashita</i> (say-POL-PAST-AFFIRM: I [have] said.)
<i>-masen</i>	Polite nonpast negative	<i>Ii-masen</i> (say-POL-NONPAST-NEG: I don't or will not say.)
<i>-masendeshita</i>	Polite past negative	<i>Ii-masendeshita</i> (say-POL-PAST-NEG: I didn't say.)
<i>-mashoo</i>	Polite volitional	<i>Ii-mashoo</i> (say-POL-VOL: Shall we say?)
<i>-temasu</i>	Contracted form for the polite V- <i>te</i> Vaux (~ <i>te imasu</i>)	<i>It-temasu</i> (say-ASP-POL-NONPAST-AFFIRM: I am saying.)
<i>-temashita</i>	Contracted form for the polite V- <i>te</i> Vaux (~ <i>te imashita</i>)	<i>It-temashita</i> . (say-ASP-POL-PAST-AFFIRM: I was saying.)

<i>-temasen</i>	Contracted form for the polite V- <i>te</i> Vaux (~ <i>te imasen</i>)	<i>It-temasen</i> (say-ASP-POL-NONPAST-NEG: I am not saying. / I haven't said.)
<i>-temasendeshita</i>	Contracted form for the polite V- <i>te</i> Vaux (~ <i>te imasendeshita</i>)	<i>It-temasendeshita</i> (say-ASP-POL-PAST-NEG: I was not saying. / I hadn't said.)
<i>-te</i> (request)	V- <i>te</i>	<i>It-te</i> (say-INF: Please say.)
<i>-te</i> clause	V- <i>te</i> followed by clause(s)	<i>Soo it-te, naita.</i> (so say-INF cry-PAST-AFFIRM: I said so and then cried.)
<i>-naide</i> (negative request)	Negative <i>te</i> form of a verb	<i>Iwa-naide</i> (say-NEG-INF: Please do not say.)
<i>-naide/-nakute</i> clause	Negative <i>-te</i> form of a verb / Negative form of the V- <i>te</i> followed by clause(s)	<i>Iwa-naide, yatta.</i> (say-NEG-INF do-PAST-AFFIRM: Without saying, I did it.) <i>Iwa-nakute, komatta.</i> (say-NEG-INF be troubled-PAST-AFFIRM: Not having said that, I was in trouble.)
<i>-tete</i> clause	<i>Te</i> form of the <i>-teru</i>	<i>Suru to it-tete, shinakatta.</i> (do-NONPAST-AFFIRM QUOT say-ASP-INF do-PAST-NEG: I was saying I would do, and I didn't.)

Other affixes: The desideratives (*-tai*), contracted forms of other V-*te* Vaux structures, such as *-tette* for V-*te* *-itte*, *-toite* for V-*te* *oite*, *-chau* for V-*te* *shimau*, *-tetta* for *-te itta*, V-*te* for permission (V-*te* *ii*) and *ba*-form as a conditional (*-ba*)

Note that *-ta* and *-te* are realised as *-da* and *-de* respectively if the root of a Group 2 verb (strong or consonantal verb) ends with a voiced consonant. This rule is also applied to contracted forms as in *-deta*, *-dete* etc. Some of the examples for these cases are *yon-da* (read-PAST-AFFIRM), *ton-de* (fly-INF), and, *nui-deru* (take off-ASP-NONPAST-AFFIRM). Similarly, consonantal verbs such as *shin-u* (die-NONPAST-AFFIRM) take the form of *-jatta* for *-chatta* as in *shin-jatta* (die-ASP-PAST-AFFIRM).

The occurrences of these 24 verbal affixes in Shaun's interlanguage which were observed during the data collection period are shown in Table 6.2

Table 6.2

Occurrence of 24 verbal affixes in Shaun's interlanguage based on token count

Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	Total
Verbal affix																											
-u	24	58	49	22	18	33	37	20	83	22	50	28	65	35	62	57	81	70	59	42	75	50	93	65	48	97	1343
-ta	19	23	72	45	25	35	27	40	33	39	47	36	20	38	36	60	38	40	47	42	44	47	75	49	47	63	1087
-nai	9	43	32	17	17	16	14	10	22	6	20	12	15	17	11	17	22	12	15	20	37	9	36	15	25	25	494
-nakatta	0	1	0	3	1	0	0	2	1	1	1	2	1	1	0	4	3	4	1	0	4	5	2	5	2	3	47
-oo	0	0	0	0	1	0	0	0	0	2	0	2	2	0	1	3	0	2	0	0	1	1	1	3	4	1	24
-teru	6	28	13	8	9	6	11	14	42	23	36	25	37	16	34	19	19	29	22	14	36	24	34	44	30	27	606
-teta	4	5	1	1	0	1	0	2	4	0	4	0	5	5	1	1	0	0	0	1	1	0	3	1	4	13	57
-tenai	3	9	4	2	1	6	10	2	7	4	12	8	5	7	3	3	4	2	12	1	3	7	7	17	13	4	156
-tenakatta	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	4
-chatta	0	0	0	11	2	3	0	2	0	1	0	0	1	2	0	1	0	3	3	2	3	1	1	0	0	2	38
-masu	0	1	0	0	0	7	0	7	0	4	11	33	1	3	1	12	0	1	1	0	5	6	7	1	23	1	125
-mashita	0	1	0	0	0	14	0	8	0	3	0	26	0	15	1	17	0	2	0	3	7	3	1	4	26	24	155
-masen	0	0	1	1	0	1	0	0	0	1	1	1	0	4	1	3	0	0	0	0	5	2	4	1	10	0	36
-masendeshita	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	2	1	9
-mashoo	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	4
-temasu	0	0	0	0	0	0	0	2	0	0	10	2	0	3	0	2	0	0	0	0	0	0	0	0	3	0	22
-temashita	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	11
-temasen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
-temasendeshita	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-te (request)	0	2	4	2	1	4	2	6	0	2	1	3	5	2	1	4	0	2	6	1	4	0	1	3	1	2	59
-te clause	2	1	19	11	1	39	32	13	19	37	38	16	69	27	26	54	40	67	58	70	44	55	35	46	36	34	889
-naide (negative request)	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	1	2	0	0	0	1	0	8
-naide/-nakute clause	1	0	0	0	0	0	0	0	0	0	3	0	5	0	0	2	1	1	1	0	4	3	1	2	2	1	27
-tete clause	0	0	0	0	1	0	0	0	0	8	2	1	72	25	0	2	2	1	1	1	0	1	0	0	0	8	125
Others	1	2	4	2	0	3	2	0	4	2	5	3	10	2	2	7	7	10	2	5	10	5	7	6	7	11	119
Total	69	174	199	125	77	169	135	135	217	155	241	200	313	206	180	273	217	249	228	203	285	220	309	262	284	321	5446

During the 26 session data collection period, the verbal affix which occurred most frequently was *-u*, which accounted for 24.7% of the total token counts, followed by *-ta* (20%) and *-te* clause (16.3%).

6.2 A Distribution of Suppliance and Non-suppliance of Verbal Affixes in Different Linguistic Contexts

In order to see the overall development for each of the verbal affixes in more detail, a distributional analysis of the suppliance and non-suppliance of these affixes in different linguistic contexts was undertaken. Specifically, and following

Pienemann's coding principle (1998), each verbal affix was coded as to whether it was supplied in a target-like (TL) or non-target like (NTL) context. In addition, the absence of an affix when it was required to appear was also coded. Therefore, each of the verbal affixes was categorised as belonging to one of the following three categories:

- (1) an affix supplied in a TL context (the number of the instances was indicated as +n);
- (2) an affix supplied in an NTL context (i.e., the overuse of the affix cases indicated as >n);
- (3) an affix which failed to be supplied in a TL context (the number of the instances was indicated as -n).

It is important to note that, in Japanese, unlike most European languages, there is no case for morphological agreement such as the provision of -s for S-V agreement or plurality. For example, if an S-V agreement marker -s is not attached to a verb in a TL context in English, e.g., "he come", this would be coded as belonging to the third category listed above. However, in the verbal affixation system in Japanese, it is impossible for the speaker to utter a verb root without attaching any affix, e.g., "*tabe*" in *tabe-ru* (eat-NONPAST-AFFIRM), *tabe-ta* (eat-PAST-AFFIRM) or *tabe-te* (eat-INF) unless it is an intermediate or interrupted form. Therefore, it may be questionable whether the third criterion is even applicable to Japanese. However, on occasions, Shaun used a nonpast tense affix when the context clearly required it in the past tense or vice versa. He also overused an affix marking aspect in the contexts where no aspect marker was required or vice versa. In fact, a majority of the overuses of affixes in the current study appeared to have involved the misplacing of tense/aspect markers, e.g., -u and -ta, and -teru and -u, and the mixing of infinite (i.e., V-te) and finite forms (e.g., -u). Although each case of overuse with regard to an affix in an NTL context was counted in the second category, a number of these cases also represent turns when affixes were missing in TL contexts. For example in Session 5, there were fifteen instances where Shaun supplied the affix -u in nonpast tense (i.e., TL) contexts and this is represented in the coding as +15, three instances where he overused the same affix in contexts other than nonpast (i.e., NTL) is represented as >3, and two cases

where he did not use *-u* in nonpast tense (i.e., TL) contexts is represented as -2. These two cases for missing *-u* were, in fact, two cases for the overuse of other affixes.

Also, when a verb was ill-formed as a result of the affixation, the number of these cases were indicated in the bracket next to the number of supplings and oversupplings. Only 37 cases of these, which accounted for 0.68% of the total number of occurrences of verbal affixes, were identified throughout the observation period. For example, ill formed negative forms of the verbs that appeared included [null verb root + *nai*], i.e., just “*nai*” by which Shaun meant “I didn’t go”, and [nonpast affirmative form + *nai*], e.g., “*iu-nai* (say-NONPAST-NEG)” and “*aru-nai* (exist-NONPAST-NEG)²⁵. As can be seen in these ill formed verbs, the affix, e.g., *-nai*, itself was supplied either in a TL or NTL context, indicating that Shaun was capable of processing lexical morphemes. (For more details, see Table Three and Four for the distribution of ill formed verbs in Appendix E, pp. 345-346).

Table 6.3 shows the results of distributional analysis of supplings and non-supplings of verbal affixes in these three linguistic contexts (i.e., +n, >n and -n).

²⁵ Similar cases of these two types of ill formed negatives are reported by Noro (1995) and Kamura (2001a) in their studies of the negation of JSL by a child learner and adult learners respectively. (See Chapter 2.3.4, pp. 65-70.)

<Please insert the first page of Table 6.3 here. >

<Please insert the second page of Table 6.3 here. >

When a decision was made as to whether each affix was supplied in a TL context, overused in a NTL context, or missed in a TL context, features such as tense, polarity, aspect and politeness, for which the affixes in question in this study mark, were considered. Even though PT was only developed for syntactic operations and does not take into account semantic notions such as aspect (Kawaguchi, personal communication, 2004), it was felt that it would be unjust not to include TL/NTL contexts for these because this study did examine the acquisition of morphemes denoting aspect for contracted verb forms, e.g., *-teru*, *-tenai*. The contracted verb forms, such as *-teru*, *-teta* are also regarded as independent “inflectional endings” (Clancy, 1985) in Japanese L1. Therefore, while decisions on emergence points in this study strictly adhere to the principle of PT, a description of the overall development of each affix will be given outside the domain of PT.

In order to illustrate how affixes were overused in NTL contexts, some examples are shown below.

1) Misplacement of a Tense Marker

In Session 1, Shaun responded using the nonpast negative affix *-nai* when the past negative affix *-nakatta* was required. In the example given below, Shaun and the researcher were talking about a recent Christmas holiday.

Example 6.1 Overuse of *-nai* in place of *-nakatta*

Shaun	Researcher
	<i>Dokka itta?</i>
	anywhere go-PAST-NEG
	Did you go anywhere?
* ²⁶ <i>Doko ni mo nai.</i>	

²⁶ From this chapter * is used for an ill formed utterance containing structures being investigated in this study.

place DIREC even [null verb root]-NONPAST-NEG

I don't anywhere (SIM: I didn't go anywhere).

(S1.1 Free conversation with the researcher)

Note: SIM = Speaker's intended meaning.

This *-nai* was coded as the overuse of *-nai* in a NTL context (>1). The verb root “*ika*” in *ika-nai* (go-NONPAST-NEG [don't go]) was not provided but Shaun's intention of saying “not go” can be assumed from the proceeding NP “*doko ni mo* (to nowhere)”, which in TL production must be used with a negative form. If the rule had been applied in the TL context, Shaun's answer should have been “*doko ni mo ika-nakatta* (go-PAST-NEG)”, meaning “I didn't go anywhere”, using the past negative affix (*-nakatta*). Therefore, this instance was also coded as absent in TL contexts (i.e., -1 for *-nakatta*).

The next example shows Shaun's overuse of *-ta* (PAST-AFFIRM) where *-u* (NONPAST-AFFIRM) was clearly required.

Example 6.2 Overuse of *-ta* in the *-u* context

Shaun	Yuuta
<hr/>	
<i>Onnanoko ga....Isu ga, hon ga....</i>	
girl SUBJ chair SUBJ book SUBJ	
A girl.....A chair, a book....	
	<i>Doko da.</i>
	where COP?
	Where are (they)?
 <i>Booshi ga atta ne.</i>	
hat SUBJ exist-PAST-AFFIRM AGR	
There was a hat, right?	

(S3.3 Locative game with a friend)

In this example, *at-ta* (exist-PAST-AFFIRM) was not appropriate to this context since both Shaun and his school friend, Yuuta had never played this information gap task previously and “*booshi* (a hat)” was a new topic. *Ar-u* (exist-NONPAST-AFFIRM) should have been used. The overuse of *-ta*, like that used in this example, often appeared when Shaun provided a description or definition in the locative description tasks and in Riddle puzzles, where affixes marking past were not required.

Aside from Session 7 and 8, the misplacement of tense marking affixes continued to occur from Session 1 until Session 10. After this, it ceased to appear.

2) Misplacement of an Infinitive Marker

Another type of overuse by Shaun involved the confusion of affixes for finite and infinite verbs. The affix *-te* for the infinite verb form was often supplied in contexts where an affix for the finite verb form (*-u* or *-ta*) was required.

When Shaun gave a definition while playing the Riddle puzzle, he often used the affix *-te*²⁷, when *-u* was required. A verb ending with the affix *-te* denotes a request when it is used alone. Therefore, the presence of the *-te* form when giving a definition is an overuse of this affix and as such is NTL, as shown in the following example:

Example 6.3 Overuse of *-te* in the *-u* context

Shaun

Researcher

Nani o ashi ni (t)sukete.

what OBJ foot onto attach-INF.

Please attach what to your feet (SIM: What do you attach to your feet?).

Ashi ni tsukeru mono. Kutsu.

²⁷ The affix *-ta* was also used in place of *-u* in the Riddle puzzles.

foot onto attach-NONPAST-AFFIRM shoes

Something we attach to our feet? Shoes.

Attari. Nani o suwaru no.

right what OBJ sit-NONPAST-AFFIRM EP

You are right. What do you sit (SIM: sit on)?

(S3.3 Riddle with the researcher)

This type of overuse often occurred in the Riddle puzzle games in Session 2, 3, 4 and 5²⁸, but ceased in subsequent sessions.

3) Misplacement of an Aspect Marker

The majority of the overuse that appeared throughout the data collection period seems to have occurred in relation to those affixes marking aspect. For example, in the Riddle puzzle, where Shaun was requested to give a definition for items such as a pen, a bed, a car and so on, he often used the aspect marker *-teru* when it was not required.

Example 6.4 Overuse of *-teru* in the *-u* context

Shaun

Mother

Oshiete kudasai.

tell-INF AUX-POL-IMP

Please tell me.

²⁸ The affix *-te* being used as a replacement for *-u* also appeared in Session 10 and 18. However, in these two instances, *-te* occurred in the subordinate clause of the sentence, e.g., “*inu ni sasarete to omotte* (dog OBLag sting-PASS-INF QUOT think-INF) meaning “(The bees) thought they were stung by the dog”. It might be possible to assume that the omission of *-u* in these cases is related to the acquisition of interclausal procedure required for Stage 5. Hence, it might be that the nature of the misplacement of *-te* and *-u* in these cases is different from that of the misplacement of *-te* and *-u* in lexical morphology for Stage 2.

What do you write with?

But you say it in Japanese.

OK. *Nani ga kaiteru no?*

ok what SUBJ write-ASP-NONPAST-AFFIRM EP

OK. What is writing (SIM: What do you write with)?

(S1.3 Riddle with Shaun's mother)

In the example above, despite the presence of *-teru*, it appears that because of the English version in his preceding turn, Shaun did not intend to mark the progressive aspect. Rather it seems that Shaun used “*kai-teru* (write-ASP-NONPAST-AFFIRM)” as a replacement for “*kak-u* (write-NONPAST-AFFIRM)”.

The following example shows the use of *-u* (the affix marking tense) in place of *-teru* which marks aspect.

Example 6.5 Suppliance of *-u* in the *-teru* context

Shaun

Yuuta

Etto, kono hito ga beer o nomu.

let me see, this person SUBJ beer OBJ drink-NONPAST-AFFIRM

Let me see, this person drinks (SIM: is drinking) beer.

Jaa, Hiroshi.

well Hiroshi (Name)

Well, it's Hiroshi

Atari.

right.

You are right.

(S5.2 “Describing people” task with a friend)

In this picture task, Shaun’s description was missing an affix marking the progressive aspect. Although Yuuta managed to find the right person, the one who “is drinking beer” at the party, the verb *nom-u* (NONPAST-AFFIRM) means “will drink” or “drink (habitual action)”, and is not appropriate in this context. Instead, Shaun should have used the affix *-teru* which marks aspect or *-te iru* (the V-*te* V structure), hence in the coding –1 was entered for *-teru*.

This type of confusion regarding aspect marking also occurred in the case of the *-te* and *-tete* clauses. The following example was taken from Shaun’s story-telling of a picture book, “*Yukidaruma* [The Snowman]” (Briggs, 1978) in Session 13²⁹.

Example 6.6

Overuse of *-tete* clause in the *-te* clause contexts

Shaun

Sorede, etto mokkai kaidan no ue ni ittete, to sorede, kono naka ni ittete.....

Then once more stairs GEN top DIREC go-ASP-INF then this inside DIREC go-ASP-INF

And they have gone (SIM: are going) to the top of the stairs, and have gone (SIM: are going) inside this...

(S13.6 Story telling)

²⁹ There were a total of 72 instances of *-tete* that occurred during the story telling in this session. At first most of them sounded as if they were supplied in NTL contexts, that is, Shaun appeared to be unnecessarily using *-tete* clause (denoting aspect) in place of *-te* clause. However, it was found that Shaun had given a description of each of the picture frames by saying “the boy is doing something (in this frame) and then doing something (in this frame)” rather than narrating the story. The use of *-tete* was appropriate as a description. Therefore, only nine cases of *-tete* were coded as overuse. This phenomenon could be attributed to clustering. It occurred with a total of 52 instances of *-tete* mainly during narratives of different stories in the following session. However, despite the fact that Shaun had story telling every session, clustering did not appear after the session 14.

In the pictures that Shaun was describing, the snowman and the boy were going up the stairs and were just about to enter the boy's parents' room. However, because of the semantic features of the verb "*iku* (go)" in "*it-tete* (go-ASP-INF)", in this case the *-tete* clause denoted a resultative state of this action rather than his intended meaning (i.e., the progressive aspect)³⁰.

In summary, Shaun's interlanguage showed evidence of the supply in both TL and NTL contexts as well as the absence of affixes. In the next section, a distributional analysis of relative frequency based on Table 6.3, will be conducted to see how the three situations varied for each affix over the period of 26 sessions.

6.3 A Distribution of Rule Application and Non-application

On the basis of the tally of the verbal affixes supplied or missed in the three linguistic contexts, a distributional analysis was undertaken in order to examine how the level of rule application of each verbal affix varied over the period of 26 data collection sessions.

It is important to note that the relative frequency rate for rule application was not used for the final decision about the point of emergence for each affix. In this sense, it is clear that it was used differently from the "mastery criterion" made popular by FLA and SLA in the 1960s and 1970s. Pienemann (1998b) criticised this criterion for being "arbitrary and TL oriented" (p. 149), and states that "a distribution of 60 to 0 [% of frequency rate for rule application] would have been just as much grounds for rejecting the null hypothesis" (p. 144). According to Pienemann, rule application does not need to parallel the TL norm since the final decision on the emergence point relies on the emergence criteria in terms of lexical

³⁰ This is because "*iku* (go)" is an achievement verb (Shirai, 1994, 2002b). For detailed discussion about the semantics of *-te iru* (the V-*te* V structure), see Chapter 7.2, pp. 240-242).

and form variety, rather than on rule application. Under the emergence criteria, overused affixes in NTL contexts equally qualify as emergent morphemes as do correct ones in TL contexts. Therefore it is possible to recognise that affixes supplied productively, even at a zero level of rule application or at a zero accuracy rate, and that these indicate emergence.

Based on Pienemann's (1998b) criteria, the variations in Shaun's suppliance, over-suppliance and absence of each affix over the 26 sessions were compared. The relative frequency for a particular verbal affix supplied in TL environments was calculated by dividing the number of the suppliances of the affix in TL contexts by the total number that occurred in the three linguistic contexts. The results of these calculations are shown in Table 6.4 below. In this table, the rate of rule application is indicated in the first row in each cell. Indicated in the second row in each cell is the relative frequency for the overuse of the same affix in NTL contexts. This was obtained by dividing the number of the suppliances of the affix in NTL contexts by the total number of cases of the affix in the three linguistic contexts. Finally, in the third row in each cell is the relative frequency for the missing cases of the same affix (in TL environments) which was calculated by dividing the number of absent, but required, affixes in TL contexts by the total number of cases in the three linguistic contexts.

<Please insert the first page of Table 6.4 here. >

<Please insert the second page of Table 6.3 here. >

This table illustrates two things. Firstly it shows the patterns of variation in frequency rates for correct rule application for the different affixes. It also indicates how much evidence for rule application was available from the data in relation to the opportunities for linguistic contexts (Pienemann, 1998b, pp. 145-146). With respect to the second point and in accordance with Pienemann, there are four categories of evidence for rule application, namely:

- (1) Evidence of rule application: a sufficient number of linguistic contexts are available and the evidence shows that rules were applied in TL contexts;
- (2) Insufficient evidence: the relative frequency rates were obtained from less than four³¹ linguistic contexts, thus these were categorised as insufficient evidence. It is difficult to draw a conclusion for rule application for these affixes. In the table above, such a result is indicated by figures in brackets;
- (3) No evidence: In this case, there is no evidence for nor against rule application, often because there was no opportunity for such affixes in that context. In Table 6.4 this result is indicated by a blank cell.
- (4) Evidence of non-application of the rule: that is verbal affixation was not applied despite the availability of contexts. This was coded under a 0 and Table 6.4 gives the clearest case for non-application of the rule.

Pienemann (1998b) claims that data need to include both the opportunity for and an examination of as many instances as possible of evidence for application and non-application of a certain structure in order to obtain a clear picture of the interlanguage grammar development.

In order to see the variations in Shaun's i) suppliance, ii) over-suppliance and iii) absence of affixes over the 26 sessions more clearly, the results for these are set out separately in the three figures below. It is important to note that these figures are based only on the frequency rates obtained from the sessions in which there were four or more opportunities for them to occur. In other words, these figures show only cases when there is evidence of, or opportunities for, rule application. For this reason, the six affixes, *-tenakatta*, *-masendeshita*, *-mashoo*, *-temasen*,

-temasendeshita, *-naide*, do not appear in these figures because they lacked a sufficient number of linguistic contexts.

Firstly, Figure 6.1 shows the variation in rule application, i.e., suppliance of affixes in TL contexts.

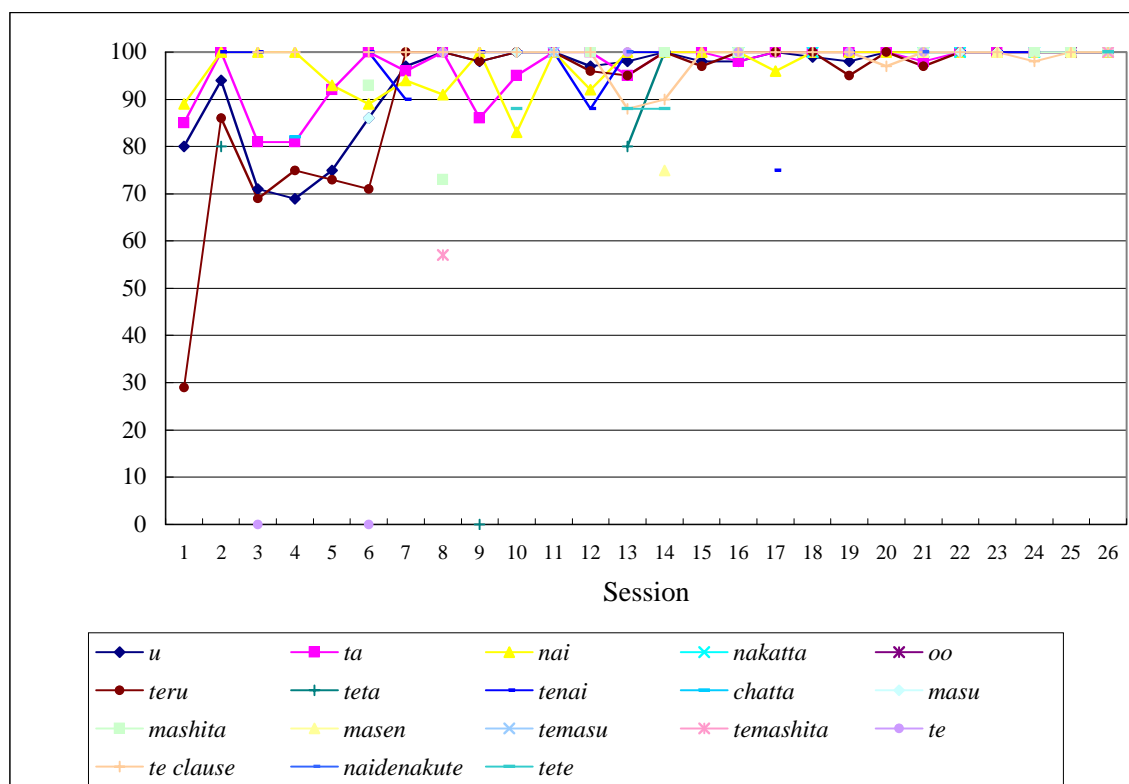


Figure 6.1 Variation in rule application for verbal affixes

An examination of Figure 6.1 shows that there was a general increase in rule application for some affixes from the beginning of the observation period until the end of it, although it was accompanied with some fluctuation (e.g., *-u*, *-ta*, *-nai* and *-teru*). Even so, the rules for these affixes appear to have been mastered before the end of the observation period. For other affixes (e.g., *-te* clause, *-teru*) there does not appear to have much variation in Shaun's rule application during the observation

³¹ This criteria was also based on Pienemann (1998b, p. 145).

period. Finally, for a small number of structures (e.g., *-te* [request] and *-teta*) there was a non-application of the rules.

In the next figure (6.2), the variation in the overuse of affixes in NTL contexts is represented.

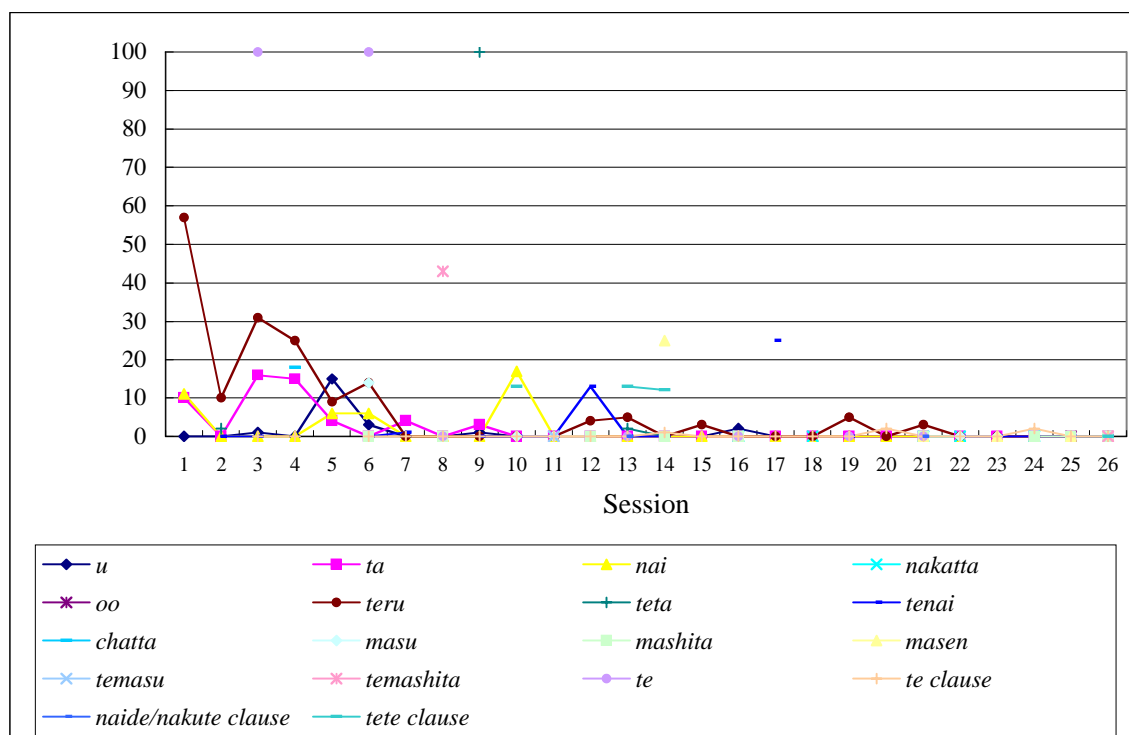


Figure 6.2 Variation in overuse of verbal affixes

Figure 6.2 clearly shows the reverse pattern of Figure 6.1, which is a general decrease in the overuse of affixes, even though there was some fluctuation from the beginning of the observation period until the end of it for some of these affixes (e.g., *-u*, *-ta*, *-nai* and *-teru*). Also there were affixes which showed almost no longitudinal change in the level of overuse. For example, the affixes, *-nakatta*, *-mashita* and *-naide/nakute* clauses were never overused and the overuse of *-te* clause was minimal. In contrast, for the two affixes, *-te* (request) and *-teta* (past affirmative aspect) their overuse ranged from 0 to 100% during particular periods of

time (i.e., between Sessions 6 and 8, and, Sessions 2 and 11 respectively) and as such these forms were not reliable indicators of Shaun's stage of development during these periods.

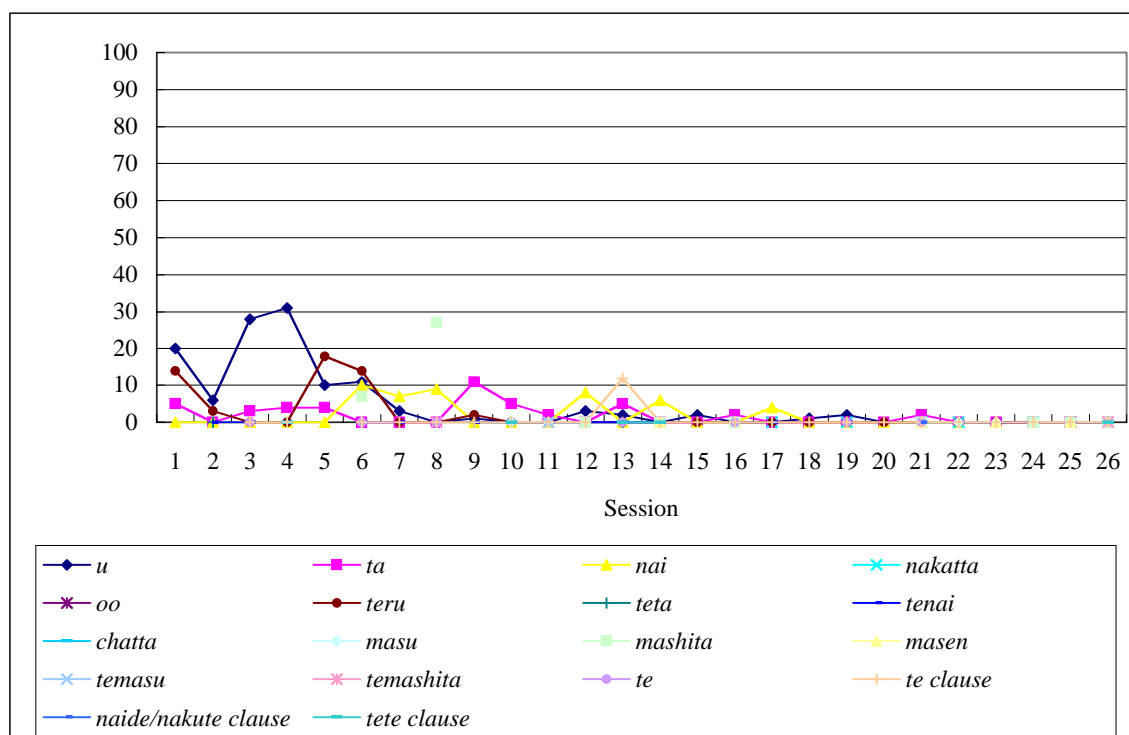


Figure 6.3 Variation in absence of verbal affixes

Finally, the variation in the absence of affixes in TL contexts is shown in Figure 6.3. As can be seen once more, there was a general decrease in the absence of some affixes in the TL contexts, with some fluctuation from the beginning of the observation period until the end of it. In addition, there were nine affixes which were always used when they were required. These are *-nakatta*, *-teta*, *-tenai*, *-masu*, *-masen*, *-mashita*, *-te* (request), *-naide/nakute* clauses, and the *-tete* clause. Overall, a similar pattern to Figure 6.2 can be seen in Figure 6.3. The only difference is that, unlike *-te*, *-teta* (0-100%), and *-teru* (0-57%) in Figure 6.2, there was no such marked variation in the absence of any affix throughout the observation period.

A closer examination of the results presented in these figures show that there are four patterns of rule application for verbal affixes over the data collection period.

Pattern One

In this first pattern, there was an overall increase in rule application with decreasing fluctuation. During the first several sessions, rules for these affixes were applied at a near TL standard (with the exception of *-teru* in Session 1, where its rule was applied at a much lower rate than others) but they steadily became close to a TL standard, and reached a mastery point before the end of the data collection period. This pattern applied to *-u*, *-ta*, *-nai*, and *-teru*. This observation was based on sufficient evidence that was available for all these affixes in all sessions. Pattern One is shown diagrammatically in Figure 6.4.

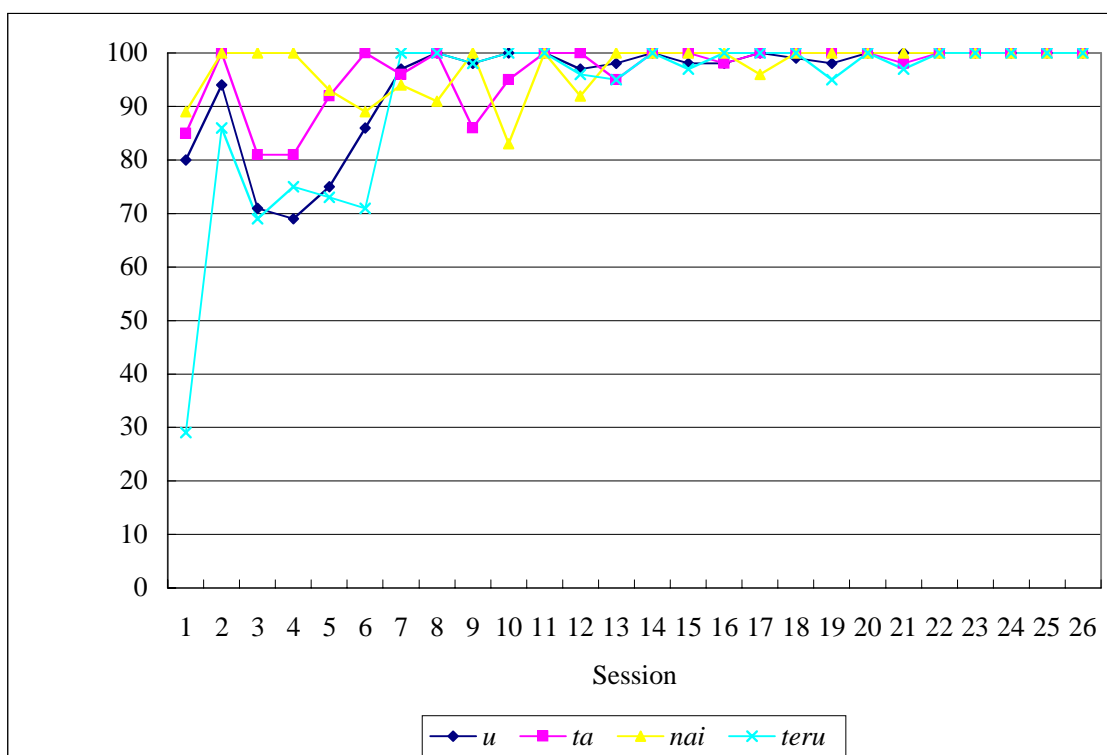


Figure 6.4 Rule application – Pattern One

Pattern Two

The pattern for the affixes, *-te* clause, *-nakatta*, *-tenai*, *-masu*, *-mashita*, and *-masen* was one in which a TL standard was maintained almost consistently throughout the observation period. In particular, the rule for the affix, *-te* clause was applied at a near 100% level throughout the observation period. As for the remaining five affixes, *-nakatta*, *-tenai*, *-masu*, *-mashita*, *-masen*, overall, there was positive evidence that these affixes also maintained a TL level or near TL rule application throughout the observation period. (See Figure 6.5)

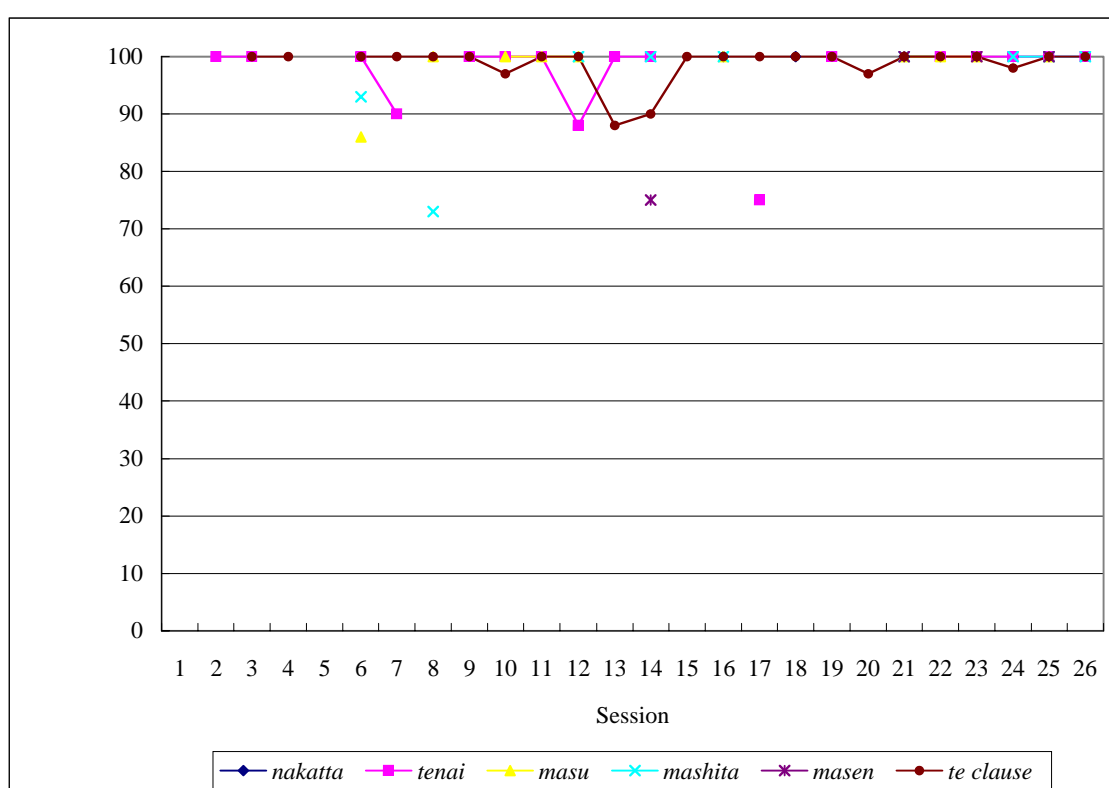


Figure 6.5 Rule application – Pattern Two

Pattern Three

For *-teta* and *-te*, the pattern for these affixes appears to be that the rule was either applied to a TL standard or not applied at all. It is interesting to note that there was a clear changing point for *-te* from non-application to application of rule

between Sessions 6 and 8. (See Figure 6.6)

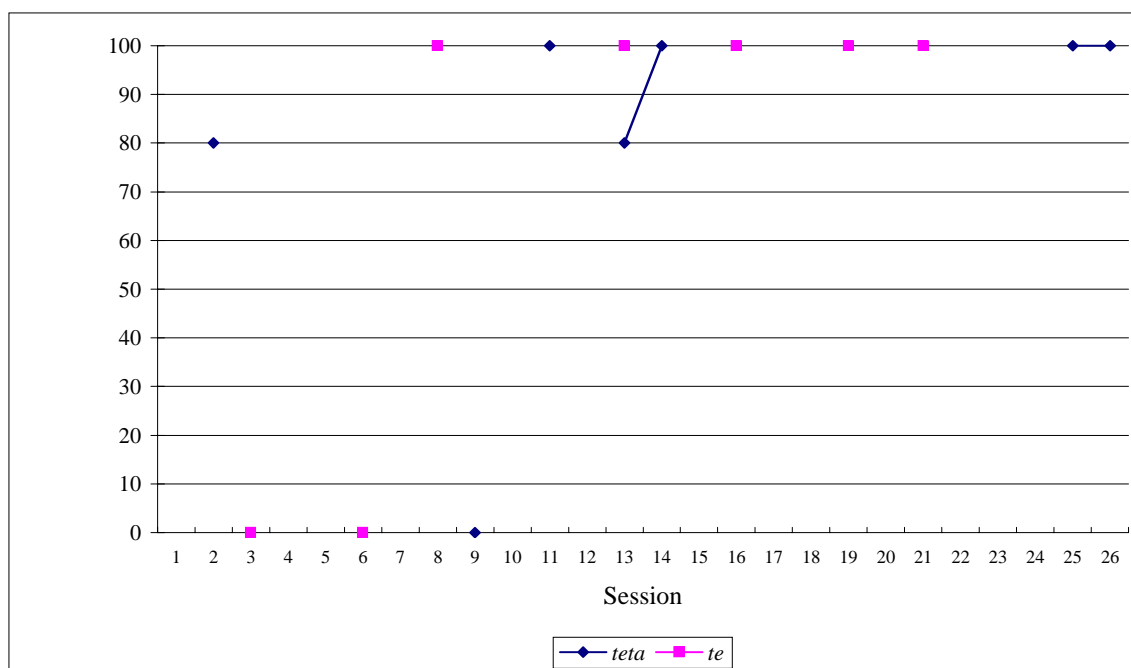


Figure 6.6 Rule application – Pattern Three

Pattern Four

For the affixes *-oo*, *-chatta*, *-temasu*, *-temashita* *-naide/nakute clause*, and the *-tete* clause there were too few cases with evidence to show variation in rule application. Together with *-tenakatta*, *-masendeshita*, *-mashoo*, *-temasen*, *-temasendeshita*, *-naide* (negative request), which already had been excluded from the figures due to lack of evidence for rule application, the observation regarding rule application for these affixes was inconclusive. (See Figure 6.7)

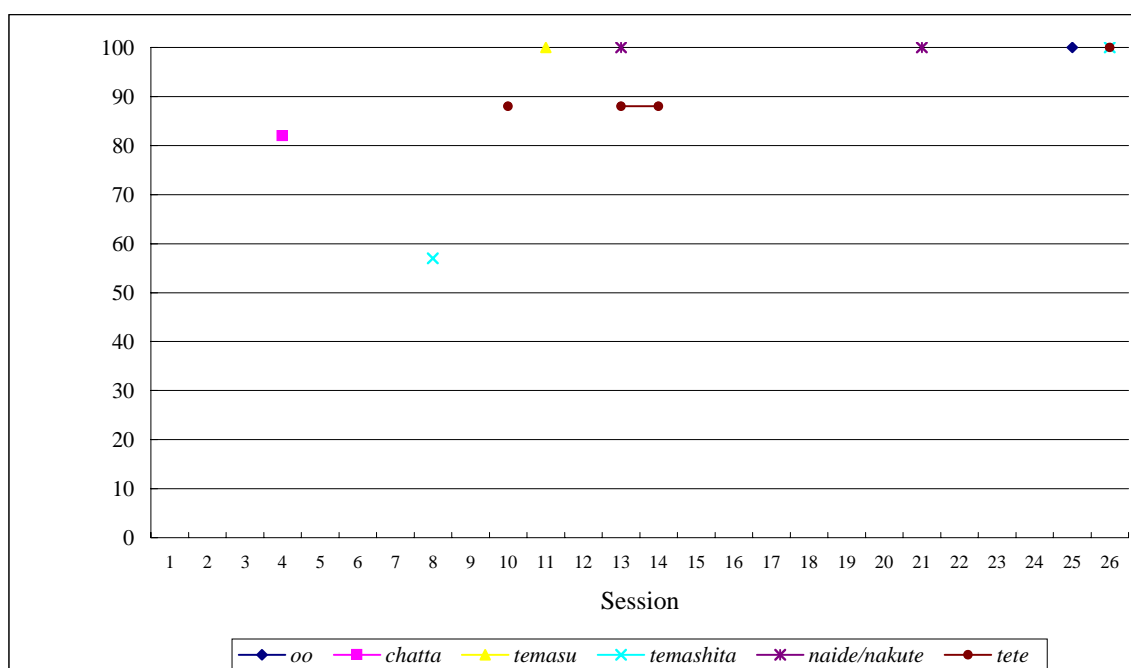


Figure 6.7 Rule application – Pattern Four

In summary, there were different patterns of rule application for the verbal affixes investigated in this study. For some affixes, the level of rule application varied from near TL > TL > mastery; whilst for other affixes, they were applied in a TL way throughout the observation period; and, for others the pattern went from non-application to TL application. Unfortunately, for some of the affixes investigated in this study, there was insufficient evidence for any conclusions to be drawn.

In the next section, the emergence criteria (Pienemann, 1998b) will be applied and the points of emergence for verbal inflection will be determined.

6.4 The Point of Emergence for Verbal Inflection

In the previous section, the distribution of rule application was examined in relation to how much evidence was available for each of the verbal affixes in Shaun's

interlanguage over the period of 26 data collection sessions. The next step is to formally determine the point of emergence for each of these verbal affixes based on the emergence criteria (Pienemann, 1998b, p. 148). In order to claim that the affixes that were supplied are not mere unanalysed entries but lexically and structurally productive, each affix must appear with more than one lexical and form variation at the time of emergence. This means, to apply the emergence criteria, at least three linguistic contexts will need to be present for the affix in question³². In order to show a continuity of this phenomenon, i.e., the lexical and form variety, the quantitative data can also be explained on the basis of qualitative evidence (Pienemann, 1998b, p. 148).

Hence the suppliance of each affix in each session was examined, first, at the lexical level, and then at the structural level. This was done by following the method developed by Itani-Adams (2003a, b). Table 6.5 shows occurrences of the 24 verbal affixes in Shaun's interlanguage based on a type count. A figure in each cell in the table indicates the number of lexical variations with the same affix. It should be noted that all occurrences of each affix, that is the affixes supplied in both TL and NTL contexts, were used for these analyses. This is because PT deals with the syntactic and morphological operation which learners can process, and the overuse of an affix in NTL contexts can act as proof of the learner's ability to process this operation.

For example, out of 24 plain nonpast affirmative verb forms with the affix *-u* supplied in Session 1, five lexically different items, namely *mir-u* (watch-NONPAST-AFFIRM), *ar-u* (non-living thing(s) exist-NONPAST-AFFIRM), *mier-u* (be visible-NONPAST-AFFIRM), *yar-u* (do-NONPAST-AFFIRM) and *wakar-u* (understand-NONPAST-AFFIRM), were identified. Therefore, the value '5' was entered in the cell for *-u* in Session 1. A blank cell means that there was no

³² For example, *taber-u* (eat-NONPAST-AFFIRM), *nom-u* (drink-NONPAST-AFFIRM) and *tabe-ta* (eat-PAST-AFFIRM), constitute two lexical variations on the same form as well as two form variations on the same lexicon in the three linguistic contexts. This can be interpreted as four contexts if lexical and form variations are counted separately as suggested by Pienemann (1998b, also personal communication, 2004).

occurrence of that particular affix (i.e., no linguistic context was available), and the value ‘1’ in the cell means that there was only one lexical variation among the affix(s) in the cell.

Table 6.5

Lexical variety of verbal affixes in Shaun’s interlanguage (Type count)

Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Verbal affix																										
-u	5	11	17	10	4	12	17	11	29	9	25	13	28	19	32	24	40	25	24	22	27	24	33	20	19	29
-ta	11	8	23	18	12	14	14	20	16	19	20	23	9	16	18	31	25	21	27	26	27	23	37	20	27	36
-nai	4	7	6	5	2	9	6	5	4	3	7	5	4	6	6	6	5	6	6	8	12	6	15	8	12	10
-nakatta		1		3	1			2	1	1	1	2	1	1		2	3	4	1		4	3	2	4	2	3
-oo					1				2		2	2		1	3		2			1	1	1	3	2	1	
-teru	6	8	7	5	5	3	8	7	18	13	18	12	25	9	18	10	11	8	16	14	25	14	21	15	15	16
-teta	4	1	1	1		1		2	1		4		5	4	1	1				1	1	1	3	1	4	9
-tenai	2	7	3	1	1	4	7	2	6	3	5	7	3	6	3	3	4	2	8	1	3	4	5	14	7	3
-tenakatta								2								1										
-chatta				5	1	2		2		1			1	1		1		3	3	2	2	1	1			1
-masu		1				4		2		4	4	7	1	3	1	5		1	1		2	2	4	1	2	1
-mashita		1				4		6		3		15		9	1	10		2		3	7	3	1	4	17	14
-masen			1	1		1				1	1	1		2	1	2					2	1	3	1	2	
-masendeshita														2		3									2	1
-mashoo						1								1				1				1				
-temasu								2			3	2		3		2									2	
-temashita								6																		3
-temasen																							1			
-temasendeshita																										
-te (request)		2	4	2	1	3	2	6		2	1	3	5	2	1	3		2	2	2	4	1	1	2	1	1
-te clause	2	1	12	6	1	14	17	9	12	19	19	9	29	18	19	27	24	26	19	29	26	23	22	20	19	22
-naide (negative request)												1						2			1				1	
-naide /-nakute clause	1										3		3			2	1	1	1		3	3	1	2	2	1
-tete clause					1					2	2	1	20	13		2	2	1	1	1		1				6

Earlier (Table 6.2, p. 192) it was seen that in Session 1, there was a total of 24 occurrences of the affix *-u* and 19 of the affix *-ta* were observed. As explained previously, of the 24 instances of *-u*, five lexically different items were identified (shown in column one, row one in Table 6.5 above). Hence it appears that the results for Session 1 have already satisfied one of the criteria for the acquisition of verb inflection as a whole, namely that Shaun had more than one lexical variety within one form. Similarly of the total of 19 instances of *-ta* he produced, 11 lexically different items were identified. These verbs appear to have included four

of the verbs which were seen in the plain nonpast affirmative counterparts, i.e., *mi-ta* (watch-PAST-AFFIRM), *at-ta* (non-living thing(s) exist-PAST-AFFIRM), *mie-ta* (be visible-PAST-AFFIRM), and *yat-ta* (do-PAST-AFFIRM). Since these are structurally varied from *-u*, the second criterion that there must be more than one occurrence of each form variety was also met. Therefore, it can be concluded that the emergence of verb inflection, or lexical morphology, had already begun before the first data collection session. Unfortunately, this is a limitation of the current data.

Although the emergence point for verb inflection as a whole was found to exist by Session 1, an examination of form variety for other affixes continued to be undertaken in order to compare the emergence points for other affixes within the same stage. For the purpose of obtaining form variety more systematically, the method developed by Itani-Adams (2003a, b) was used with some modification. In this study, each cell in Table 6.5 which had a figure of two or above was examined. Cells were shaded when there was sufficient evidence for emergence: i.e., when at least one of the lexically different verbs in each cell was found to have the same lexical verb(s) with at least one different affix in the same session. Again, a blank cell means no occurrence of the affix, and the value '1' in the cell means that there was only one lexical variation for the affix(s) represented by that cell.

These results of the distributional analysis are shown in Table 6.6.

Table 6.6

Lexical and form variety of verbal affixes in Shaun's interlanguage

Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Verbal affix																										
-u	5	11	17	10	4	12	17	11	29	9	25	13	28	19	32	24	40	25	24	22	27	24	33	20	19	29
-ta	11	8	23	18	12	14	14	20	16	19	20	23	9	16	18	31	25	21	27	26	27	23	37	20	27	36
-nai	4	7	6	5	2	9	6	5	4	3	7	5	4	6	6	6	5	6	6	8	12	6	15	8	12	10
-nakatta		1		3	1			2	1	1	1	2	1	1		2	3	4	1		4	3	2	4	2	3
-oo					1					2		2	2		1	3		2			1	1	1	3	2	1
-teru	6	8	7	5	5	3	8	7	18	13	18	12	25	9	18	10	11	8	16	14	25	14	21	15	15	16
-teta	4	1	1	1		1		2	1		4			5	4	1	1			1	1	1	3	1	4	9
-tenai	2	7	3	1	1	4	7	2	6	3	5	7	3	6	3	3	4	2	8	1	3	4	5	14	7	3
-tenakatta								2								1										
-chatta				5	1	2		2		1			1	1		1		3	3	2	2	1	1			1
-masu		1				4		2		4	4	7	1	3	1	5		1	1		2	2	4	1	2	1
-mashita		1				4		6		3		15		9	1	10		2		3	7	3	1	4	17	14
-masen			1	1		1				1	1	1		2	1	2				2	1	3	1		2	
-masendeshita														2		3									2	1
-mashoo					1									1				1				1				
-temasu								2			3	2		3		2									2	
-temashita								6																		3
-temasen																							1			
-temasendeshita																										
-te (request)		2	4	2	1	3	2	6		2	1	3	5	2	1	3		2	2	2	4	1	1	2	1	1
-te clause	2	1	12	6	1	14	17	9	12	19	19	9	29	18	19	27	24	26	19	29	26	23	22	20	19	22
-naide (negative request)												1						2			1				1	
-naide /-nakute clause	1										3		3			2	1	1	1		3	3	1	2	2	1
-tete clause					1					2	2	1	20	13		2	2	1	1	1		1				6

This table illustrates the extent of the evidence for emergence for each of the affixes available from the data. When there were instances of an affix but no form variety, the cell was not shaded but the number of lexical variations was retained to indicate the extent of the evidence available, even though it was insufficient. This is because, even though the presence of sufficient evidence was primarily used as a basis for the decision for the point of emergence, the appearance of insufficient evidence was also useful.

The results of this distributional analysis show three patterns of emergence. These are shown in the following table, each followed by a description.

i) Pattern 1 - Emergence Established

Table 6.7

Pattern 1- Established emergence

Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Affix																										
-u																										
-ta																										
-nai																										
-teru																										
-te clause		1			1																					
-tenai				1	1			2												1						

Table 6.7 shows that the emergence criteria were more than satisfactorily met for the affixes, *-u*, *-ta*, *-nai*, and *-teru*. Further, this was clear from Session 1 through to Session 26, indicating that these four affixes had emerged by the beginning of the data collection period. Similarly, *-tenai* and *-te* clauses also displayed an established continuity of lexical and form variety. Although there were some sessions when the occurrence of these affixes were limited to only one or two lexical variation(s) with no form variation, these were exceptional cases. It is therefore decided that *-tenai* and *-te* clause also had emerged by Session 1.

ii) Pattern 2 - A Continuity in the Presence of the Affix

Table 6.8

Pattern 2 – A continuity of the presence

Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Affix																										
-nakatta		1			1				1	1	1		1	1					1							
-oo					1										1						1	1	1			1
-masu		1											1		1			1	1					1		1
-mashita		1													1			2					1			
-tete clause					1							1						1	1	1		1				
-masen			1	1		1				1	1	1			1							1	3	1		
-teta			1	1	1		1		1						1	1				1	1	1		1		
-chatta					1					1			1	1		1						1	1			1
-naide /-nakute	1															1		1	1				1			1
-te (request)					1	3				2	1				1					2		1	1	2	1	1

Table 6.8 shows those affixes where there was not always sufficient evidence. However, there was on the whole a continuity in the presence of these affixes. For example, *-nakatta*, *-oo*, *-masu*, *-mashita*, *-masen*, the *-tete* clause and the *-naide/nakute* clause had only one lexical variation each in the session when they first appeared. Therefore, it was decided that these were not the point at which the affixes were applied productively. Overall, there is insufficient evidence in all of these cases to nominate the commencement of the data collection as the point of emergence. For these seven affixes, it was decided that the point of emergence for *-nakatta* was Session 4, *-masu* and *-mashita* Session 6, *-oo* and the *-tete* clause Session 10, the *-naide/nakute* clause Session 11, and *-masen* Session 14.

In contrast, the other three affixes, *-teta*, *-chatta*, and *-te* (request) were productively used from their first appearance. For example, *-teta* had four lexical variations, *-chatta* five, and *-te* (request) two, and all of them had at least one form variation each. This satisfied the emergence criteria more than satisfactorily. Like the other affixes described above, these three affixes had a continuity in their use, despite a lack of linguistic contexts and variety. It was decided that *-teta* had emerged by Session 1, *-chatta* in Session 4, *-naide/nakute* clause in Session 11 and *-te* (request) in Session 2.

iii) Pattern 3 - No Continuity

Table 6.9

Pattern 3 – No continuity

Affix	Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
<i>-temasu</i>													2				2									2	
<i>-masendeshita</i>																										1	
<i>-naide</i>													1									1				1	
<i>-tenakatta</i>																											
<i>-temashita</i>																											
<i>-mashoo</i>							1								1				1				1				
<i>-temasen</i>																									1		
<i>-temasendeshita</i>																											

Table 6.9 shows those affixes where there was sparse, or no evidence. For

the affixes *-tenakatta*, *-masendeshita*, *-mashoo*, all the polite contracted V-*te* V forms (i.e., *-temasu*, *-temashita*, *-temasen*, *-temasendeshita*) and *-naide* (negative request) there was insufficient evidence of emergence due to the lack of continuity in both context and variety.

In addition to the results of the quantitative analysis above, there is one qualitative observation to be made in relation to evidence for no emergence³³. Throughout the observation period there were only two instances for this type of evidence and both were for *-masendeshita*.

These two cases of evidence suggest that the affix *-masendeshita* had not emerged yet by Session 2 or 3. In fact it was clear that Shaun had difficulty in producing this affix. In the example below, Shaun used both an intermediate form, namely “*ikima...*” and an incomplete form, namely “*ikimashita n....*” after saying “*chigau* (No)”. This indicates his intention of using the negative form of the verb “*ik-u* (go-NONPAST-AFFIRM)” in the past tense context (See Footnote 22, Chapter 5.6.2, p. 179).

Example 6.7 Evidence for no emergence of *-masendeshita*

Shaun	Researcher
	<i>Honto? Jaa, natsuyasumi ni ojiichan no ucih ni ikimashita ka. Ojiichan toka obaachan no....</i>
	really grandpa GEN house DIREC go-POL-PAST-AFFIRM Q Grandpa or Grandma GEN...
	Really? Well then, did you go to your grandpa's house during the summer holiday? Grandpa's or

³³ In this thesis, evidence of no emergence is clearly distinguished from evidence for the absence of an affix in TL contexts, which was discussed in Chapter 6.2. Evidence for the absence of an affix means that another affix was used in place of the affix. In contrast, evidence for no emergence means evidence showing that, regardless of the type of context, the learner was unable to process the morpho-syntactic operation for a particular affix, i.e., he was unable to produce the affix despite his attempt. To determine this, careful qualitative analysis was undertaken.

Grandma's....

Chigau, ikima...ikimashita n.....

no go-INTERM....go-INCOMP

No, I ...It is that I went...(SIM: I didn't go.)

(S2.5 Student/teacher play)

In Session 3 that followed, Shaun again struggled to supply the affix, *-masendeshita*, and instead used the incomplete form.

Example 6.8 Evidence for no emergence for *-masendeshita*

Shaun

Researcher

Sensee wa kuuraa o tsukemashita ka?

teacher TOP air conditioner OBJ turn
on-POL-PAST-AFFIRM Q

Did the teacher turn on the air conditioner?

*Chigau, kuuraa o tsukemashi....chigau,
kuuraa.....*

no air conditioner OBJ turn on-INCOMP no air
conditioner

No, he turne(d) on the air conditioner.....No, he
..... (SIM: No, he didn't turn it on.)

Kuuraa o tsukemasendeshita.

air conditioner OBJ turn on-POL-PAST-NEG

Did he not turn on the air conditioner?

Un.

Right.

(S3.1 Student/teacher play)

In this example, the researcher naturally recast the affix *-masendeshita* as part of the conversation, particularly as Shaun kept silent after being unable to say

what he seemed to want to say. Shaun's response "*Un* (Right)." confirmed his intended meaning in his previous turn.

After these two cases, no occurrence was observed again until Session 14, in which there were three cases of this affix with two lexically different items. These are "*i-masendeshita* (exist-POL-PAST-NEG) and "*shi-masendeshita* (do-POL-PAST-NEG), which also had at least one more form variation each, thus meeting the emergence criteria. Sufficient evidence was also found in two more sessions, i.e., Session 16 and 25.

In summary, the point of emergence for verb inflection was determined to be Session 1, by which time six verbal affixes, namely *-u*, *-ta*, *-nai*, *-teru*, *-te* clause and *-tenai* had emerged.

In the next section, the points of emergence for the other affixes within the same stage will be compared.

6.5 Internal order of Emergence Points for Verbal Affixes

After several levels of distributional analyses were conducted, the points of emergence for 16 verbal affixes were determined. The order of the emergence points of these affixes, namely the internal order of verb inflection, is shown in Table 6.10 and Figure 6.8. The months that Shaun spent in the Japanese school are also indicated in the bracket in the first row of this table.

Table 6.10

Order of emergence points for verbal affixes in Shaun's interlanguage

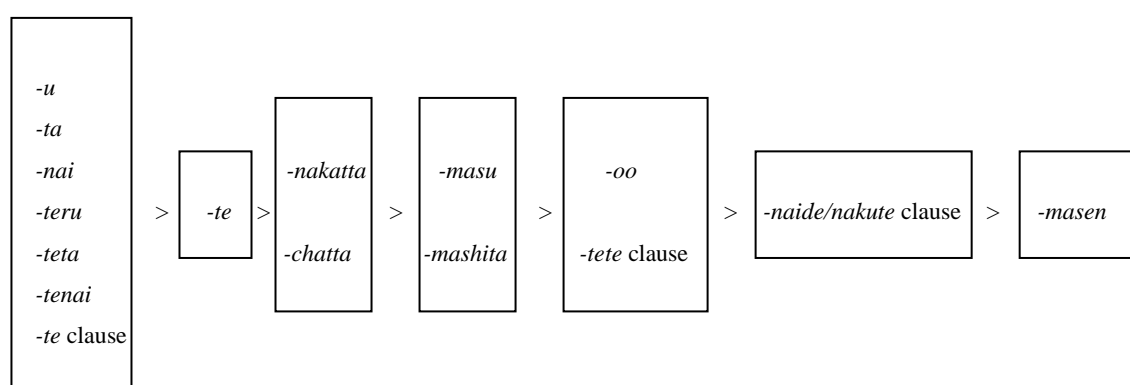
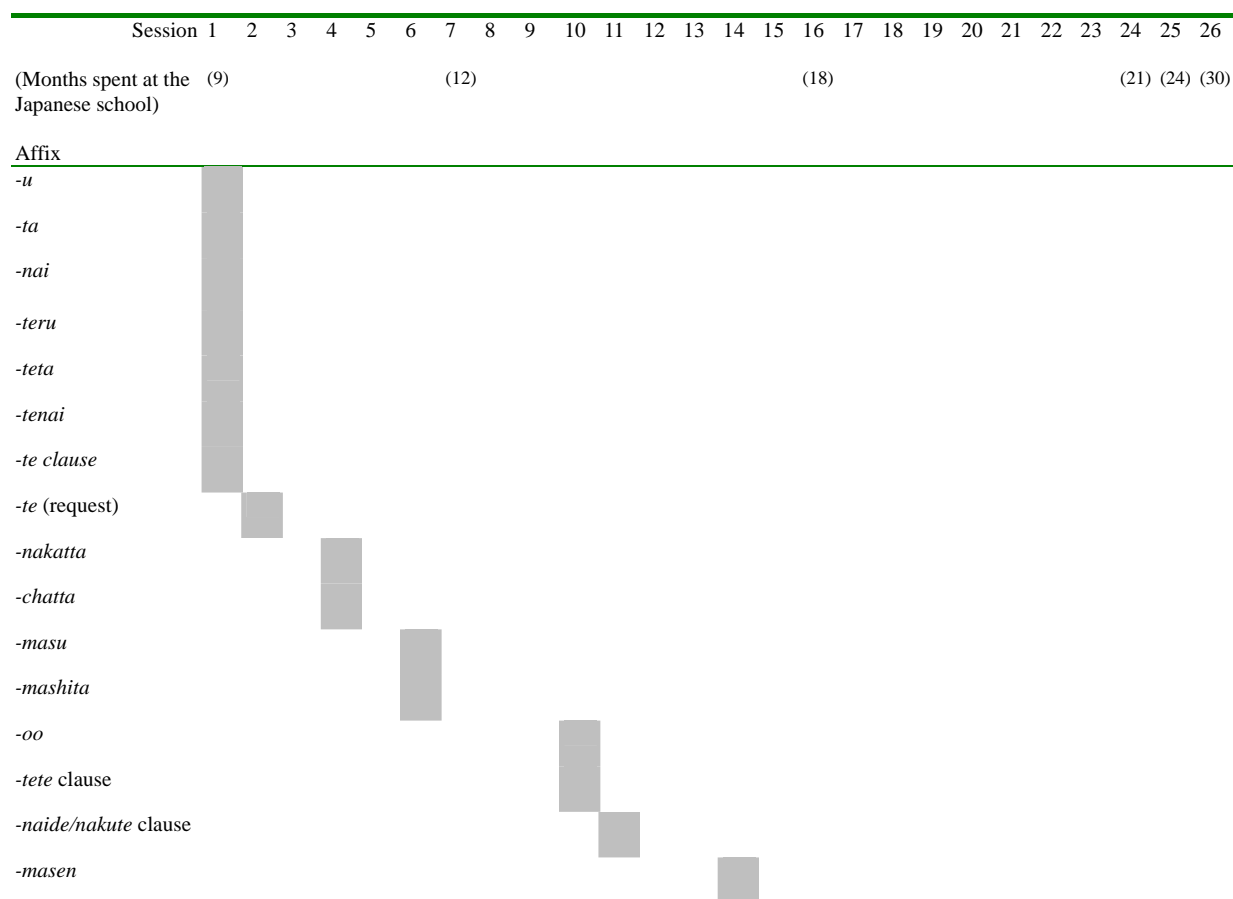


Figure 6.8 Order of emergence points for verbal affixes

There are a few remarks that can be made in relation to this order of the emergence points.

1) Plain Form > Polite Form

Firstly, it appears that the plain form of the verbs generally emerged earlier than the polite form of the verbs. For example, the affixes *-u* and *-ta* emerged earlier than their polite form counterparts *-masu* and *-mashita*. Also *-nai* emerged much earlier than its polite form counterpart *-masen*. It is difficult to compare *-nakatta* and *-masendeshita* as conclusions based on the observations of the latter are inconclusive. However, it can be assumed that, just like *-masen*, the affix *-masendesihita* might have emerged later than the plain form affix *-nakatta*. At the time when *-nakatta* emerged in Session 4, *-masendeshita* had not, although further evidence is required regarding the emergence point for this form.

It should also be noted that the polite forms did not occur in as many linguistic contexts as the plain verb forms. With regard to the ambiguity stemming from this absence of linguistic contexts, Pienemann (1998b) states:

Quite often these situations arise when the interlanguage sample is very small or when the communication situation is such that the situation does not give rise to the use of the linguistic contexts in focus. (p. 146)

The verbal affixes investigated in this study include those that mark a combination of tense, aspect, polarity, and/or politeness. Among these, politeness is optional for children of Shaun's age because the use of the plain forms serves the purpose of their communication. In other words, there is no obligatory context or

TL context for Shaun to mark for politeness itself³⁴. Therefore, it might be that a lack of contexts for the polite forms is quite natural. Nevertheless, a gradual increase in linguistic contexts for the polite forms of verbs appears to have occurred naturalistically in Shaun's interlanguage development during the observation period. Clancy (1985) explains why this occurs in the following way:

.....pragmatic and sociolinguistic factors pervade the grammar of the language. Therefore, the child who masters the syntax and morphology of Japanese has also mastered a subtle pragmatic system for regulating the flow of information to listeners in accordance with their needs in the speech context through word order, ellipsis, and sentence-final particles, as well as an elaborate system of socially defined statuses and roles which are expressed in verb morphology, pronouns, and sentence-final particles. (p. 377)

In Session 6, Shaun began using polite forms not only during the student/teacher play³⁵ but also spontaneously during "formal" situations such as games which he played with his brother and friends. He also began using the polite verb forms during story telling in Session 8. The following example gives an insight into the "communicative situation" in which Shaun was naturalistically acquiring a "linguistic context" for the polite form affix, *-masen* during the interaction with his brother, Matt. This was the only instance of *-masen* produced in Session 4.

³⁴ In this study, most of the cases of overuse and absence of the affixes for polite forms, which occurred in a small quantity, were in fact attributed to factors other than politeness, i.e., polarity or aspect. There were two overuses of politeness marking but they occurred in the subordinate clauses. This might be related to the acquisition of interclausal procedure rather than lexical procedure. Although it calls for further investigation in the future, this will not be discussed further as it is outside the scope of this thesis. However, it was briefly discussed in Chapter 6.2, p. 200 (Footnote 28).

³⁵ This role play task, which was performed in Sessions 2, 3, 6, 8, 10, 12, 14 and 16, was initially prepared for the purpose of eliciting the use of negative form of verbs, adjectives and nouns in the polite form. This was a semi-structured interview during which the researcher, who pretended to be a teacher, asked questions of Shaun, who pretended to be her student. However, this task generally failed to produce sufficient linguistic contexts for negative forms as well as polite forms. Shaun (and the researcher, too) did not "naturally" use polite forms during the conversation although he said that it was fun. Also, it was anticipated that most of the polite affirmative form of verbs occurring during this task would be coded as echoes due to the nature of the interview.

Example 6.9 Incidental use of the affix *–masen*

Shaun	Matt
	<i>E. Chairo no mimi. Osaru ka...Hana wa arimasu ka.</i>
	brown GEN ear monkey Q nose TOP exist-POL-NONPAST-AFFIRM Q
	What? Brown ears? (Is this) a monkey? Has it got a nose?
<i>Uu, nai. Arimasen.</i>	
yeah exist-NONPAST-NEG exist-POL-NONPAST-NEG	
No, there isn't. There isn't (polite).	
(S4.2 Descriptive game with Matt)	

Shaun's brother, who was a speaker of Japanese but who also normally used English when speaking to his brother Shaun at home, occasionally used polite forms, together with plain forms, while playing games in Japanese. In the example above, although Shaun first used the plain form of the verb "*nai* (exist-NONPAST-NEG)", he quickly rephrased it with its polite form counterpart, "*ari-masen* (exist-POL-NONPAST-NEG)", trying to be "polite" or "formal" in line with "*ari-masu* (exist-POL-NONPAST-AFFIRM)" in Matt's previous utterance.

2) Affirmative Form > Negative Form

Secondly, it seems that the negative form of verbs generally emerged later than did the affirmative forms, with two exceptions being *–nai* and *–tenai*. The emergence points for both *–nai* and *–tenai* appear to be the same as those for their affirmative counterparts although this may be an artifact of the limited data. However, it was found that the order "affirmative > negative" appeared to exist among three other polarity pairs. That is, the affix *–nakatta* appears to have emerged later than its affirmative counterpart, *–ta*, the affix *–masen* later than its affirmative counterpart, *–masu*, and the affixes *–naide/nakute* clause later than the *–te* clause.

3) Non-aspect Marker > Aspect Marker

Lastly, with regard to aspect marking, a comparison was made between the *-te* clause and the *-tete* clause. It appears that the *-te* clause, which does not mark aspect, emerged much earlier than the *-tete* clause which marks aspect. On the other hand, it seems impossible to compare the emergence points between non-aspect markers and their aspect marking counterparts in the plain forms such as *-u* and *-teru*, *-ta* and *-teta*, and, *-nai* and *-tenai* because of the limitation of the data. It is also impossible to compare non-aspect markers and their aspect marking counterparts in the polite forms because the sample for each of these was insufficient.

6.6 Summary of Chapter Six

In this chapter, the acquisition of verbal inflection in JSL by a child learner was investigated based on the procedures advocated by Pienemann (1998b). It was found that seven verbal affixes, namely *-u*, *-ta*, *-nai*, *-teru*, *-teta*, *-tenai*, and *-te* clauses had satisfied the requirement for the emergence criteria (Pienemann, 1998b). Thus it appears that verb inflection had already emerged by Session 1 in the child's interlanguage. This suggests that Shaun was able to process the category procedure of PT at the commencement of the study, which was 9 months after he began being exposed to the Japanese language.

The results of several levels of the distributional analyses also show Shaun's robust development of verbal affixes after the emergence points. Although the very early stage of the acquisition of *-u*, *-ta*, *-nai*, *-teru* was missed, it is reasonable to conclude that, after these affixes emerged, rules were applied in a near TL standard, which subsequently rose to a TL standard with a decreasing fluctuation before they were mastered. The four affixes, *-nakatta*, *-masu*, *-mashita*, and *-masen*, showed a stable development by overall maintenance of a mastery standard from the emergence points all the way through to the end of the data collection period. The *-tenai* and *-te* clauses followed this pattern but the level of rule application at the time of the emergence for these affixes was unknown due to limitations in the data.

The affix *-te* (request) showed interesting results when the emergence point and variation in rule application were combined. Although this affix emerged productively in terms of lexical and form variety in Session 2, the rule continued to be applied in a NTL way³⁶ until Session 6. After that session, it suddenly began to be applied in a TL way and this phenomenon was unchanged until the end of the observation period. Other affixes emerged productively at various points in time, but, due to the lack of linguistic contexts, the observation for rule application was inconclusive.

In this chapter, the emergence point and subsequent development of verbal morphology by the naturalistic child learner of JSL was presented. The acquisition of verbal morphology in Japanese was regarded as the acquisition of category procedure for Stage 2 in PT. In the next section, the acquisition of the *V-te V* structure in Japanese by the child in the current study will be investigated. It was hypothesised by Di Biase and Kawaguchi (2002) that this structure involves the acquisition of phrasal procedure as described in the PT.

³⁶ There is evidence that the rule for *-teta* was also not applied in Session 9. However, unlike the case of *-te* (request), it was later confirmed that all of the four cases contained only one lexicon..

CHAPTER SEVEN

THE ACQUISITION OF THE V-*te* V STRUCTURE IN JSL BY A CHILD LEARNER

This chapter presents the findings on the V-*te* V structure which, Di Biase and Kawaguchi (2002) hypothesise, requires phrasal procedure. They suggest that, in order to produce the V-*te* V structure, learners need to exchange grammatical information between the two verbs within a phrase. The V-*te* V structure involves operations both for morphology (i.e., the inflection of the two verbs) and syntax (in that these two verbs need to be juxtaposed as infinite and finite verbs). According to Pienemann (1998b), for the acquisition of syntax, one occurrence of a structure in learner's production satisfies the requirement of the emergence criterion. Even so, in order to examine Shaun's production of each of the V-*te* V structures, the raw data was analysed both quantitatively and qualitatively, including with the use of distributional analyses.

Each of the first four sections of this chapter presents the results of the analysis for the overall occurrences, the suppliance and non-suppliance in different contexts, the variation in rule application, and the lexical and form variety of the V-*te* V structures respectively. The order of the points of emergence for V-*te* V structures will be then compared in the fifth section and a summary of the chapter will be given in the last section.

7.1 The Occurrences of the V-*te* V Structure

As was the case in the analysis of the verb inflection in the previous chapter, in this study, a total of 323 V-*te* V structures³⁷ were identified from the entire corpus. This figure excludes echoic and incomplete forms.

The V-*te* V structure consists of two verbal constituents. The first verb (V1) is the gerund or the infinite verb (i.e., the *-te* form of the verb) and the second (V2) the auxiliary verb, which conjugates in the same way as a full verb³⁸. A combination of these two verbs denotes a variety of semantic features such as the aspect of an action or event indicated in V1, or an idiomatic expression on the basis of the original meaning of V2s. How much of the inherent semantics of the full verb is retained in V2 varies: while some of the auxiliary verbs lose their original meanings (e.g., *iru* in *-te iru* and *aru* in *-te aru*), others retain them (e.g., some cases of *iku* in *-te iku*, *kuru* in *-te kuru*) (Yoshikawa, 1982, 1989).

The V-*te* V structures which appeared in Shaun's interlanguage can be categorised into four types depending on the semantics of the structures. These are:

- (1) V-*te* V structures denoting durative/imperfective aspect³⁹: *-te iru*, *-te aru*
- (2) V-*te* V structures expressing idiomatic meanings: *-te shimau*⁴⁰, *-te miru*
- (3) V-*te* V structures denoting the benefactive: *-te ageru*, *-te kureri*, and

³⁷ The *-te* clause structure, which was analysed for verb inflection in the previous chapter, appears to be similar to the V-*te* V structure, particularly when it proceeds a clause which omits the grammatical constituents such as a subject and/or object. There were 31 cases like this. However, these were not considered as the V-*te* V structures, because, based on the Lexical Functional Grammar (LFG), the *-te* clause structure is considered as a compound sentence which consists of two or more canonical word order structures (Kawaguchi, personal communication, 2004). It was confirmed that V2 in these 31 cases functioned as a full verb.

³⁸ Therefore, it is also possible that the auxiliary verb is used as V1 in another V-*te* V structure such as “*tabe-te mi-te ir-u* (eat-INF try-INF AUX-NONPAST-AFFIRM)”, meaning “I am trying eating”.

³⁹ *-Te iru* is described in different ways by researchers. However, in the current study, following Shirai (2002b, p. 57), the term, “durative/imperfective aspect marker” is used to refer to this structure. Also *-te aru* was classified as belonging to the same category as *-te iru* in the current study, although, unlike *-te iru*, it does not denote the progressive meaning.

⁴⁰ In addition to idiomatic meanings such as unexpected or unfortunate situations which should not have been brought about, *-te shimau* also has the perfective aspectual meaning, i.e., the completion of an action.

–*te morau*,

- (4) V-*te* V structures denoting durative/imperfective aspect, using a motion verb for V2: –*te iku*, –*te kuru* and –*te kaeru*⁴¹.

With regard to (4), when *iku* is used as an auxiliary verb, –*te iku* means that an action or state continues on changing from the point in time at which the speaker describes the action or state. By contrast, when *kuru* is used as an auxiliary verb, –*te kuru* indicates the beginning of a change or the continuation of some action up to that point of time (Makino & Tsutsui, 1989). Aside from the meaning of aspect, there are several meanings of –*te kuru* and –*te iku* which retain the semantics of the full verbs, namely ‘come’ and ‘go’. For example, “*tabe-te iku*” means “eat and then move away from the speaker’s position”, and “*tabe-te kuru*” means “eat somewhere and then move towards the speaker’s position”. Also, when –*te iku* and –*te kuru* are used they indicate a state of coming and going as in “*basu ni notte kuru* (to come here, riding a bus)” and “*basu ni notte iku* (to go, riding a bus)”. Therefore, unless “*kuru*” and “*iku*” are used for aspectual meanings, Japanese grammarians normally classify them as full verbs (e.g., Yoshikawa, 1982, 1989; Morita & Matsuki, 1989). However, cases like these were also included in the analysis in this study.

These ten types of V-*te* V structures that appeared in Shaun’s interlanguage are summarised with an example for each in Table 7.1.

⁴¹ *kaeru* (return to an original place)” is usually not classified as an auxiliary verb. However, this was included in the analysis in the current study as it is also a motion verb and functions similarly to “*iku*” and “*kuru*” when it is in V-*te* V structures.

Table 7.1

V-te V structures with examples

Type of the marked feature	V-te V structure	Meaning of the structure	Example ⁴²
(1) Durative imperfective aspect	-te iru	Durative imperfect aspect of an action	...neko ni attakku o shi-te imasu. (The eagle) is attacking the cat.
	-te aru	Someone did something and a resultant state has remained.	Kokuban ni ji ga kai-te aru. Some letters are written on the board.
(2) Idiomatic meanings	-te miru ⁴³	To try ~ing	Mawashi-te miru. I will try spinning.
	-te shimau	To do something mistakenly that should not be done	Ware-te shimaimashita. (The eggs) have broken.
(3) The benefactive	-te ageru ⁴⁴	To do something for someone	Mise-te ageru. I will show you (for your sake).
	-te kureru ⁴⁵	Someone else does something for the speaker	Ki-te kudasai. Please come.
	-te morau	I (the speaker) have someone do something	“Push” o shi-te moratte, ... (He) had someone push him.
(4) Durative/imperfective aspect, using a motion verb	-te iku	i) Do ~ and then go	Mot-te itta. (I) took it.
		ii) Do ~ in a direction moving away from the speaker	Hashit-te iku. (I) will run away.
		iii) On-going action or state which keeps changing from the point in time	Samuku nat-te iku. It will grow colder from now on.
	-te kuru	i) Do ~ and then come	...ni it-te kite sorede Asutoraria ni iru..

⁴² Aside from in the sentence iii) of (4), all examples used in this table were from the current data.

⁴³ This includes one case of *-te goran*, which is an honorific imperative form of *-te miru*.

⁴⁴ This includes one case of *-te yaru*, which is a blunt form of *-te ageru*. This form is used to describe a benefactive action for a person in a lower status than the speaker, such as his/her brother/sister, child or pet etc.

⁴⁵ This includes some cases of *-te kudasai*, which is a polite imperative form of *-te kureru*, and one case of *-te kure*, which is an imperative form of *-te kureru*.

		Went and came, and is in Australia.
	ii) Do ~ in a direction moving	<i>Mot-te kita</i>
	towards the speaker	(She) grabbed and came (i.e.,
	iii) On-going action or state	brought)
	which keeps changing up to a	<i>Ame ga fut-te kita.</i>
	current point in time	It began to rain.
<i>-te kaeru</i>	Do ~ and then return to an	<i>Kani o tot-te kaerimashita.</i>
	original point	She took the crab and went home.

The occurrences of the *V-te V* structures in Shaun's interlanguage were observed over the period of 26 data collection sessions and these are shown in Table 7.2. It should be noted that each figure represents the number of all the *V-te V* structures with V2s which end in different forms. In other words, cases with V2s which appeared in the nonpast affirmative, past affirmative, nonpast negative or past negative form, either in the plain or polite form, and in the infinite verb form were all grouped together. For example, in Session 25, 21 occurrences of *-te iru* structure include two instances of *-te iru* (AUX-NONPAST-AFFIRM), two of *-te ita* (AUX-PAST-AFFIRM), one of *-te ite* (AUX-INF) and eight instances of *-te imasu* (AUX-POL-NONPAST-AFFIRM), four instances of *-te imashita* (AUX-POL-PAST-AFFIRM), and four of *-te imasen* (AUX-POL-NONPAST-NEG).

Table 7.2**Occurrences of ten V-*te* V structures in Shaun's interlanguage based on a token count**

Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	Total
V-te V																											
-te iru	0	0	0	0	0	4	0	3	1	13	2	25	2	12	3	14	0	4	14	3	18	10	10	12	21	15	186
-te aru	0	0	0	0	1	0	2	0	7	1	2	0	3	2	0	1	0	1	0	1	1	0	2	2	0	17	43
-te miru	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	1	2	0	2	2	0	0	0	0	0	1	14
-te shimau	0	0	0	0	0	0	0	0	0	0	0	5	0	0	1	0	1	0	0	0	0	0	2	10	0	0	19
-te ageru	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	1	1	0	3	0	0	0	2	10
-te kureru	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0	0	2	7
-te morau	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
-te iku	0	0	1	0	0	0	0	0	0	1	0	0	0	1	2	0	1	1	1	0	0	0	3	0	0	1	12
-te kuru	0	2	0	0	0	0	0	0	0	1	0	0	1	3	0	0	3	1	0	0	0	1	4	3	2	0	21
-te kaeru	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	1	0	1	1	1	0	0	1	1	10
Total	0	2	1	0	1	4	2	3	10	18	4	32	9	18	9	20	8	10	18	8	20	15	21	27	24	39	323

As can be seen in the table, more than half of the occurrences of the V-*te* V structure were the durative/imperfective marker, *-te iru*, accounting for 57.6% of the all token counts for the V-*te* V structures, followed by *-te aru* which accounts for 13.3%. Other V-*te* V structures occurred in small quantities. The form, *-te morau* appeared on only one occasion.

7.2 Suppliance and Non-suppliance of the V-*te* V Structure in Different Linguistic Contexts

As was the case for analysis of verbal inflections, a distributional analysis was undertaken in order to see the overall development for the V-*te* V structure in Shaun's interlanguage. Firstly, each of the contexts involving the V-*te* V structures was classified as belonging to one of the three situations, namely (1) TL use, (2) overuse and (3) absence of the V-*te* V structures.

- (1) a V-*te* V structure which was supplied in a TL context (i.e., the number of instances is indicated as +n);
- (2) a V-*te* V structure which was supplied in a NTL context (i.e., the number of instances is indicated as >n);
- (3) a V-*te* V structure which failed to be supplied in a TL context (i.e., the number of instances is indicated as -n).

These are shown in Table 7.3 (See over with notes on the following page).

The number of cases that the structure was ill formed is indicated in brackets next to +n or >n. There were only six instances of ill formed structures, which were “*atte iru*” in Session 8, “*toranai shimaimashita*”⁴⁶ and “*mitete imasu*” in Session 12, “*atte ite*” in Session 14, “*ochite aru*” in Session 23, and “*dekite aru*” in Session 26.

These account for only 1.9% of the total occurrences of the V-*te* V structures.

⁴⁶ It is believed that “*tora-nai* (remove-NONPAST-NEG)” in “*toranai shimaimashita*” was a result of Shaun’s attempt to say “*tora-naide* (remove-NEG-INF) *shimai-mashita* (AUX-POL-PAST-AFFIRM: (The cat) unfortunately hasn’t been able to remove (his head from the bottle))”. Although it sounds a little awkward as a negative *te* form of the verb for V1 is not very often used in this structure. However, following Morita and Matsuki (1989), who provide some examples for the structure “*zuni/naide shimau*” expressing a situation where the completion of an action is not realised (p. 306), this case was counted as a V-*te* V structure which was supplied in a TL context although it was ill formed.

<Please insert Table 7.3 here. >

Note: +n = TL use of the structure (i.e., supplied in TL contexts)
 >n = NTL use of the structure (i.e., overuse in NTL contexts)
 -n = absence of the structure in TL contexts
 (n) = ill formed

Out of the eight overuses in the table, only two cases had the correct form for the overused structures within this stage. Similarly, out of the five cases of the absence of the *V-te V* structure, only two cases involved the overuse of the other *V-te V* structures, and instead involved those of structures beyond this stage. Therefore, >n and -n in the total column do not necessarily match.

The results show that, overall, Shaun supplied the *V-te V* structures in TL contexts. There were only eight instances of NTL use and five instances of the absence of the *V-te V* structures during the observation period. Also, all cases for both overuse and absence occurred only for the durative/imperfective markers, *-te iru* and *-te aru*.

On closer examination, all of the six instances of the NTL use of *-te iru* are related to the inherent aspectual meaning of V1. V1s used in *-te iru* in these cases were state verbs and achievement verbs⁴⁷.

As with state verbs in English (e.g., love, know), state verbs in Japanese alone denote durative/imperfective aspect. Therefore, they cannot be used with *-te iru*. Also, *-te iru*, which is morphologically equivalent to the progressive (i.e., be ~ing) in English, cannot be used with an achievement verb with the intention of the progressive meaning in Japanese, because *-te iru* with an achievement verb cannot focus on the process leading up to the end point (Shirai, 1996, 1998, 2000). The following examples show these two types of NTL use of *-te iru*.

⁴⁷ In relation to aspectual characteristics of verbs, Vendler (1957) classifies verbs into the following four semantic categories, and Andersen (1990), cited in Shirai (2002b), described their schematic representation in the following figure.

State verbs (e.g., exist, love, contain)	_____
Activity verbs (e.g., eat, run, study)	~~~~~
Accomplishment verbs (e.g., cook a dinner, walk to school)	~~~~~X
Achievement verbs (e.g., die, fall, win the race)	X

Example 7.1 Overuse of *-te iru* for the state verb

Shaun

*Hai, ja, jaketto ga koko ni iru, to etto, *kono hito ga doroboo ga atte iru.*

jacket SUBJ here LOC exist-NONPAST-AFFIRM this man SUBJ thief SUBJ exist-INF
AUX-NONPAST-AFFIRM

OK. Well, here is a jacket, and let me see, there is being (SIM: there is) this man....a thief.

(S8.5 Picture description task)

In this example, Shaun's use of *-te iru* is redundant as "*aru*" in the V1 position has already contained the meaning of durative/imperfective aspect⁴⁸. The same overuse of the structure *-te iru* for "*aru* (exist-NONPAST-AFFIRM)" also occurred in Session 14. Similar overuses appeared in the acquisition of the verbal affixes, *-teru*, *-tenai*, and *-tete*, which are the contracted forms of *-te iru*, *-te inai*, and *-te ite*, in Session 5, 6, 7, 8, 12, 13, 14 and 19. (These are shown as ill formed verbs in Table Three and Four of Appendix E, pp. 355-356.) This means that, whether or not *-te iru* was contracted, it was regularly overused for state verbs between Session 5 to Session 14. However, after that period, it occurred only once more in Session 19, but the use of it ceased subsequently.

The following example shows the overuse of *-te iru* which was related to the NTL combination of an achievement verb (V1) and *-te iru*.

⁴⁸ This overuse appears to be contrary to one of the predictions made by the Aspect Hypothesis (Shirai, 1991, pp. 9-11; Bardovi-Harlig & Bergstrom, 1995, p. 312; Andersen & Shirai, 1996, p. 533), that is "learners do not incorrectly attach progressive marking to state verb". However, as it is not the purpose of the current study, this will not be discussed further in this thesis.

Example 7.2 Overuse of *-te iru* in a NTL context

Shaun

Kaeru ga koko kara dete imashita.

frog SUBJ here from come out–INF AUX–POL–PAST–AFFIRM

The frog had come out from this place. (SIM: The frog was coming out from this place.)

(S14.5 A narrative of the Frog story)

In the picture, a frog is depicted as trying to escape from the jar and half his body is already out. In the next page, he has already gone from the scene. Since “*deru* (come out–NONPAST–AFFIRM)” is classified as an achievement verb (Shibata, 1999; Shirai, 1994, 2002b), it denotes a resultant state but not a progressive situation when it is used with the durative imperfective aspect marker *-te iru*. The use of “*dete imashita* (come out–INF AUX–POL–PAST–AFFIRM)” leads to the interpretation that the frog is completely outside of the jar, in a target-like way, but still near the jar in the picture. In order to describe the process of coming out, different syntactic structures should have been used. (e.g., “*dete iku tokoro deshita* [He was in the midst of coming out]” or “*dete ikoo to shite imashita* [He was trying to come out]”)

The NTL use of *-te iru* for three other achievement verbs, namely “*ochiru* (fall–NONPAST–AFFIRM)”, “*iku* (go–NONPAST–AFFIRM)” and “*kuru* (come–NONPAST–AFFIRM)”, were also observed in session 10, 23, and 26⁴⁹. Amongst them is the verb “*ochiru*”, which occurred in a narrative of a different version of the frog story (i.e., the tortoise story). It is interesting to note that the same NTL use of *-te iru* with “*deru*” and “*ochiru*” was also reported by Shibata (1999), who used the same story (i.e., Frog story) for her study on the use of

⁴⁹ However, cases of TL use of *-te iru* for a resultant state, using the same lexicon such as “*ochiru*”, were also observed. There were also ambiguous cases where seemingly NTL combinations of *-te iru* and an achievement verb might have been attributed to Shaun’s frequent confusion of particles, transitive and intransitive. These cases were carefully judged in each of the contexts.

Japanese tense-aspect morphology in L2 discourse narratives. Her subjects were four adult speakers of English learning JSL at university in the USA. The results of several studies on the acquisition of tense/aspect in Japanese (e.g., Kurono, 1994, 1995; Nishikawa, 1998; Koyama, 1998) show that it is more difficult for learners of JSL to acquire the resultative meaning of *-te iru* than the progressive meaning.

For *-te aru* it appears that all the instances of both the overuse and the absence of this structure can be attributed to the confusion between transitive and intransitive verbs in the position of V1. When a transitive verb is attached to *-te aru*, it indicates the resultant state of an action has been done by an agent. Even though this structure implies that someone performed an action, the agent is normally omitted from the structure. The problem is that this structure appears to be similar to *-te iru* when it also denotes a resultant state. The difference is that, unlike *-te aru*, *-te iru* for a resultant state indicates that something naturally occurred and the resultant state remains, that is, it does not imply the involvement of anyone. For this meaning, the intransitive verb must be used with *-te iru*. In contrast, if a transitive verb is used with *-te iru*, it denotes the progressive aspect but not the resultative aspect.

In the current data, both of the instances of the overuse of *-te aru* (in Sessions 23 and 26) occurred in the contexts where *-te iru* should have been used. The following example shows one of these cases where Shaun used *-te aru* in place of *-te iru*. This occurred when he was talking about his school friend who had imitated Mr. Bean (a movie character) falling from the sky.

Example 7.3 Overuse of *-te aru* in the context for *-te iru*

Shaun	Researcher
	<i>Doo yatte ochita no.</i>
	how fall-PAST-AFFIRM EP
	How did he fall?

E, *ochite aru.

what fall-INF AUX-NONPAST-AFFIRM

What? (He) has already fallen (and been down there).

(S23.1 Free conversation)

In the example above, the intransitive verb “ochiru” should not have been used with *–te aru*, which always takes a transitive verb, to denote a resultative meaning.

As for the absence of *–te aru*, there were three cases of this in Sessions 13, 16, and 21⁵⁰ and these appeared as the overuse of a contracted form of *–te iru*. All of VIs in these three cases are lexically invariant, that is “*kai-teru* (write-ASP-NONPAST-AFFIRM)” (Sessions 13 and 21) and “*kai-temasu* (write-ASP-POL-NONPAST-AFFIRM)” (Session 16). As a result of the overuse of these forms in place of *–te aru*, the sentence means that someone is currently writing or drawing. However, the fact that no agent was in the picture that Shaun was describing means that the progressive marker is actually not his intended meaning. He appears to have intended to mean a resultative state, i.e., “something has been written”.

Example 7.4 Absence of *–te aru* when required

Shaun	Matt
	<i>Hai, maru ga tsuitemasu.</i>
	yes circle SUBJ stick-ASP-POL-NONPAST-AFFIRM
	Yes, the circle has stuck to it.

⁵⁰ These also have been coded as the overuse of *–teru* or *–temasu*, the plain or polite contracted form of *–te iru*, for the analysis of the acquisition of verbal affixes (See Table 6.3, Chapter 6.2, pp. 195-196).

Sono tsugi ni nijuu-ni tte kaitemasu ka.

that next LOC NUM QUOT write-ASP-POL-NONPAST-AFFIRM
Q

In the next picture, is (a person) drawing '22'? (SIM: Has '22' been written?)

(S16.3 "Spot the difference" game with Matt)

In the example above, the verbal affix *-temasu* as a progressive marker was overused in place of *-te aru* marking the result of an action.

In summary, most of the *V-te V* structures which were supplied in Shaun's interlanguage appear to have been used in TL ways. Those cases where there was NTL use or absence of the structure, although infrequent and small in number, seemed to be related to the subtle aspectual differences between state/achievement verbs and activity verbs as well as transitive and intransitive verbs. As they continued to occur until the end of the observation period, this suggests that they may be difficult areas of acquisition. However, these cases of overuse and absence occurred in small quantities and alongside the majority of TL use of *-te iru* and *-te aru*.

7.3 A Distributional Analysis for Rule Application for the *V-te V* Structures

As the next step, following Pienemann (1998b), a distributional analysis was undertaken in order to examine the variation in the level of rule application for each *V-te V* structure during the observation period. As with verbal inflection in the previous chapter, the relative frequency of a particular *V-te V* structure appearing in TL contexts was calculated by dividing the number of supplants of the structure in TL contexts by the total number that occurred in the three linguistic contexts. The results of these calculations are shown in Table 7.4 below.

Table 7.4

Relative frequency of the rule application in three linguistic contexts

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
<i>-te iru</i>						1.		(0.67)	(1)	0.92	(1)	1.	(1)	0.83	(1)	1.		1.	1.	(1)	1.	1.	0.82	1.	1.	0.88
						0.		(0.33)	(0)	0.08	(0)	0.	(0)	0.17	(0)	0.		0.	0.	(0)	0.	0.	0.09	0.	0.	0.06
						0.		(0.)	(0)	0	(0)	0.	(0)	0	(0)	0.		0.	0.	(0)	0.	0.	0.09	0.	0.	0.06
<i>-te aru</i>					(1)		(1)		1.	(1)	(1)		0.75	(1)		(0.5)		(1)		(1)	(0.5)		(0.5)	(1)		0.93
					(0)		(0)		0.	(0)	(0)		0	(0)		(0.5)		(0)		(0)	(0)		(0.5)	(0)		0.07
					(0)		(0)		0.	(0)	(0)		0.25	(0)		(0.)		(0)		(0)	(0.5)		(0.)	(0)		0
<i>-te miru</i>										(1)			(1)		(1)	(1)		(1)		(1)	(1)					(1)
										(0)			(0)		(0)	(0)		(0)		(0)	(0)					(0)
										(0)			(0)		(0)	(0)		(0)		(0)	(0)					(0)
<i>-te shima<u>u</u></i>												1.			(1)		(1)						(1)	1.		
												0.			(0)		(0)						(0)	0.		
												0.			(0)		(0)						(0)	0.		
<i>-te ageru</i>									(1)						(1)	(1)			(1)	(1)		(1)				(1)
									(0)						(0)	(0)			(0)	(0)		(0)				(0)
									(0)						(0)	(0)			(0)	(0)		(0)				(0)
<i>-te kureru</i>									(1)			(1)	(1)				(1)	(1)								(1)
									(0)			(0)	(0)				(0)	(0)								(0)
									(0)			(0)	(0)				(0)	(0)								(0)
<i>-te morau</i>																		(1)								
																		(0)								
																		(0)								
<i>-te iku</i>			(1)							(1)				(1)	(1)		(1)	(1)	(1)				(1)			(1)
			(0)							(0)				(0)	(0)		(0)	(0)	(0)				(0)			(0)
			(0)							(0)				(0)	(0)		(0)	(0)	(0)				(0)			(0)
<i>-te kuru</i>	(1)									(1)			(1)	(1)			(1)	(1)				(1)	1.	1.	(1)	
	(0)									(0)			(0)	(0)			(0)	(0)				(0)	0.	0.	(0)	
	(0)									(0)			(0)	(0)			(0)	(0)				(0)	0.	0.	(0)	
<i>-te kaeru</i>											(1)				(1)		(1)		(1)	(1)	(1)				(1)	(1)
											(0)				(0)		(0)		(0)	(0)	(0)				(0)	(0)
											(0)				(0)		(0)		(0)	(0)	(0)				(0)	(0)

Note: For each cell: first row = relative frequency for rule application
 Second row = relative frequency for overuse
 Third row = relative frequency of absence

When figures are given in the brackets, the number of opportunities for the contexts in that session was less than four.

In this table, the rate of rule application is indicated in the first row in each cell. Indicated in the second row in each cell is the relative frequency for the overuse of the same structure in NTL contexts. This was obtained by dividing the number of supliances of the structure in NTL contexts by the total number of cases for the affix in the three linguistic contexts. Finally, in the third row in each cell is the relative frequency for the missing cases of the same structure (in TL

environments) which was calculated by dividing the number of absent structures in TL contexts by the total number of cases in the three linguistic contexts. As with the case in the analysis of verbal inflections, when the total number of contexts was less than four, the figures were provided in the brackets. This means that the results provide insufficient evidence and are therefore inconclusive.

As can be seen in Table 7.4, aside from several cases such as *-te iru* in Sessions 8 and *-te aru* in Sessions 16, 21, and 23, overall the rule for each of the V-*te* V structures appears to be applied at a TL standard. In fact, the frequency rate for rule application was as high as 100% in most of the cases. However, the observation is generally inconclusive because the number of instances was less than four in most of these cases. Therefore, a further analysis needs to be undertaken based on sufficient evidence.

As with the case for verb inflection, again two things are illustrated by this table. These are: (i) the patterns of variation in frequency rates for correct rule application for the different V-*te* V structures; and, (ii) the amount of evidence for rule application available from the data in relation to the opportunities for linguistic contexts throughout the observation period (Pienemann, 1998b, pp. 145-146). As noted previously, with respect to this second point and in accordance with Pienemann, there are four categories of evidence for rule application, namely:

- (1) Evidence for rule application: the rules were applied in a sufficient number of contexts (i.e., four or more contexts);
- (2) Insufficient evidence: the rules were either applied or not applied but a small number of opportunities for contexts (i.e., less than four) existed;
- (3) No evidence: there was no opportunity for the V-*te* V structure to occur as the appropriate contexts did not arise;
- (4) Evidence for non-application: despite the presence of linguistic opportunities, rule application did not occur.

Once more, as noted in Chapter 6.3 (see p. 207), Pienemann (1998b, p. 146) claims that data analyses need to include an examination of as many instances as possible of evidence for application and non-application of a certain rule in order to obtain a clear picture of the interlanguage grammar development.

On this basis, analyses were conducted on cases of evidence for rule application and non-application, namely (1) and (4) above.

In order to see as clear a portrayal of variation as possible in Shaun's interlanguage, i) suppliance; ii) over-suppliance; and, iii) absence of the *V-te V* structures over the 26 sessions, the results for these are set out separately in the three figures below. As mentioned above, figures were based only on the frequency rates obtained from the sessions in which there were four or more opportunities for them to occur. In other words, these figures show only cases where there is sufficient evidence for rule application or non-application. For this reason, the six *V-te V* structures, *-te miru*, *-te ageru*, *-te kureru*, *-te morau*, *-te iku*, *-te kaeru*, were excluded from these figures due to their lack of a linguistic context (i.e., only insufficient evidence was available).

Firstly, Figure 7.1 shows the variation in rule application, i.e., suppliance of the *V-te V* structures in TL contexts.

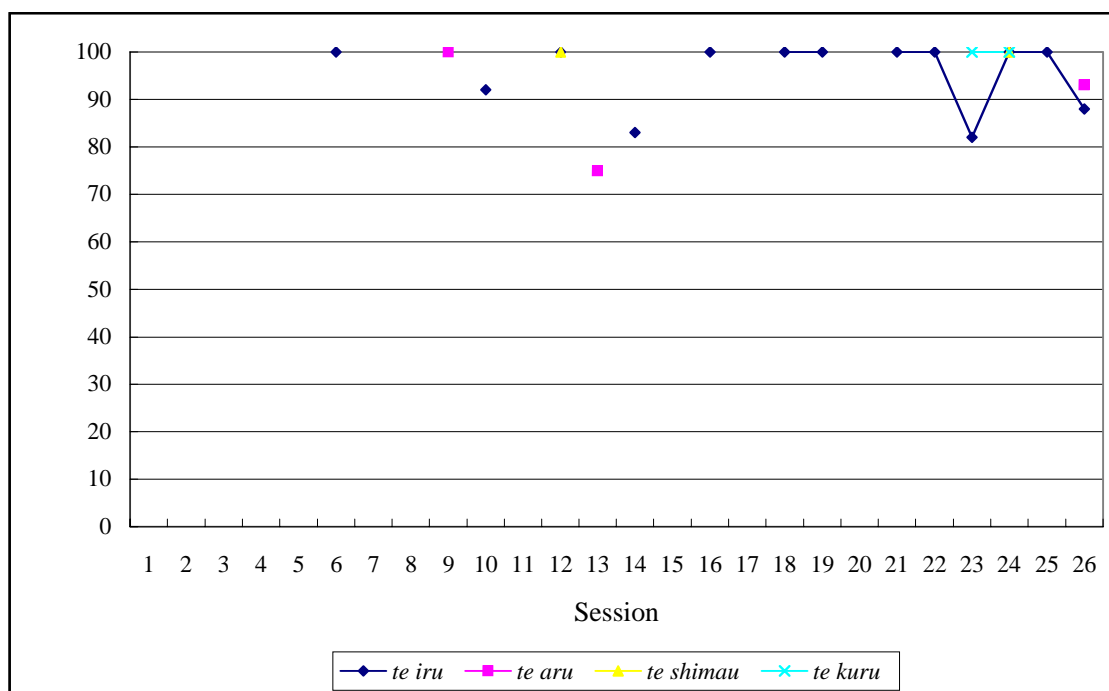


Figure 7.1 Variation in rule application for the V-*te* V structure

An examination of Figure 7.1 shows that overall rules were applied in a near TL, TL or mastery level in all the cases. Also the rule for *-te iru* appears to have been applied correctly most of the time during the observation period, but the three other V-*te* V structures do not seem to provide clear evidence as the rule application for these varied.

In the next two figures (7.2 and 7.3), variation in the overuse of the V-*te* V structures in NTL contexts, and in the absence of the same structures, are presented.

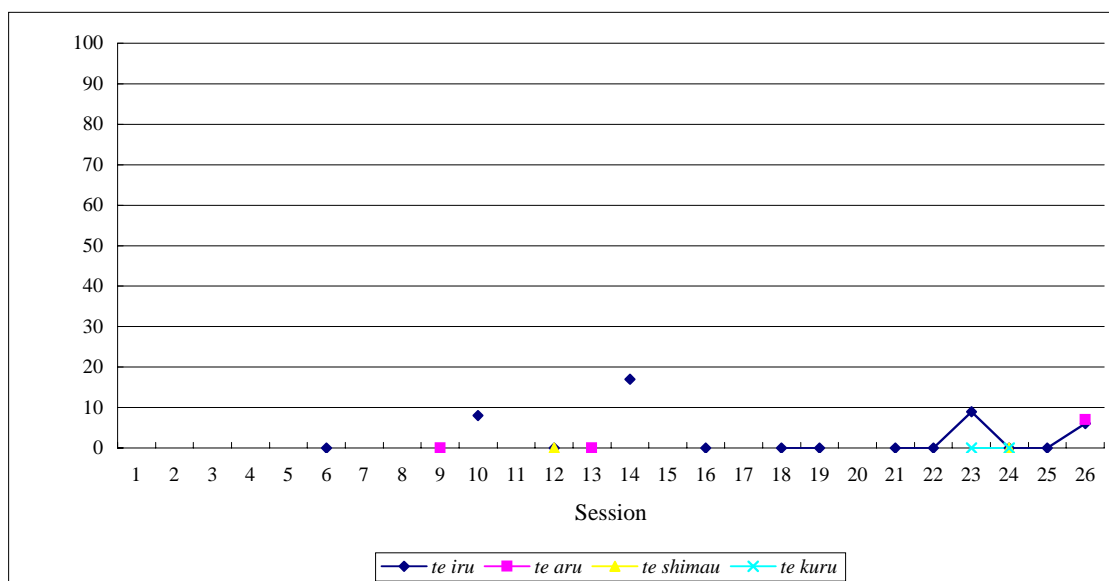


Figure 7.2 Variation in overuse of the V-te V structure

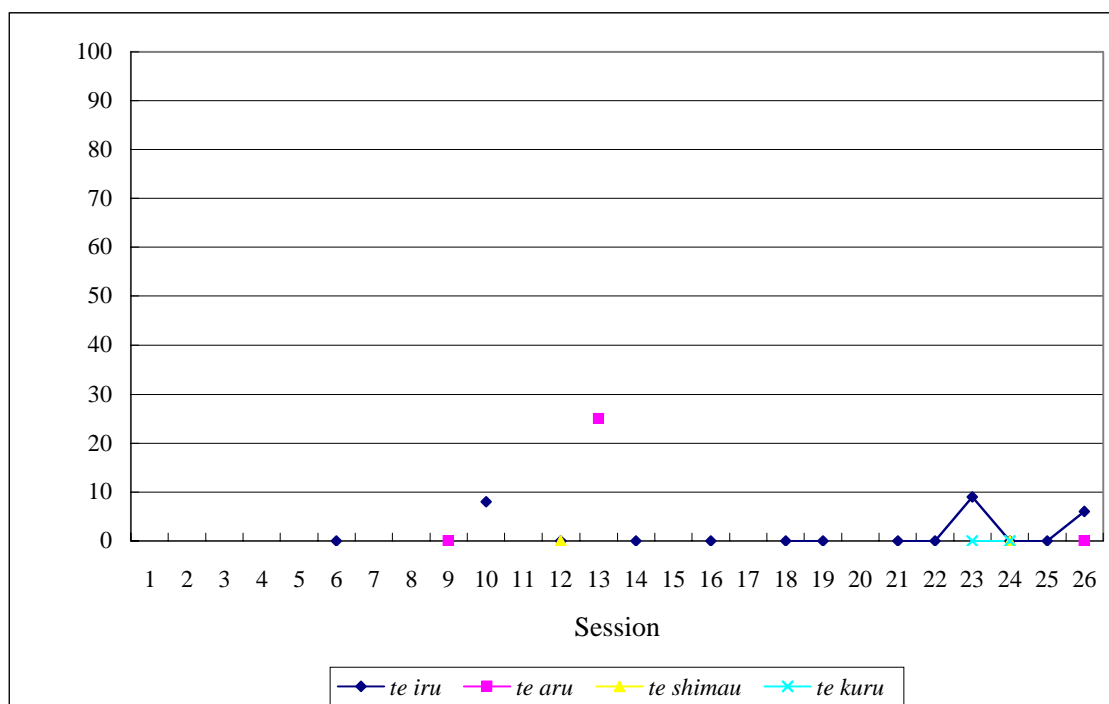


Figure 7.3 Variation in absence of the V-te V structure

As can be seen in Figure 7.2 and 7.3, which are similar, both show the reverse pattern of Figure 7.1. *-Te iru* showed almost no longitudinal change in the level of overuse and absence. There were occasional instances of overuse and/or absence of this form, but this occurred only minimally.

A closer examination of the results presented in these figures show that there are two patterns of rule application for the V-*te* V structures over the data collection period.

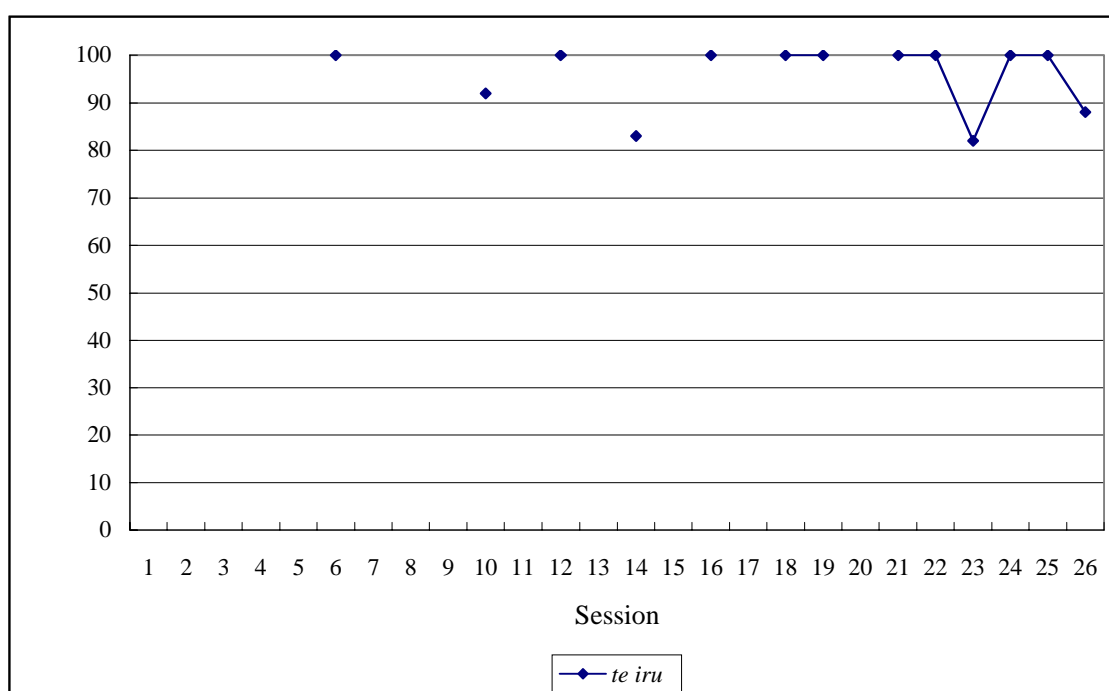


Figure 7.4 Pattern One

Pattern One

The use of *-te iru* followed Pattern One. Although there was slight fluctuation in the frequency of the rule application, it appeared in a sufficient number of linguistic contexts in most of the sessions and maintained a TL level of rule application throughout the observation period, indicating Shaun's stable acquisition

of this structure. The rules for this structure were applied at a 100% level in many cases.

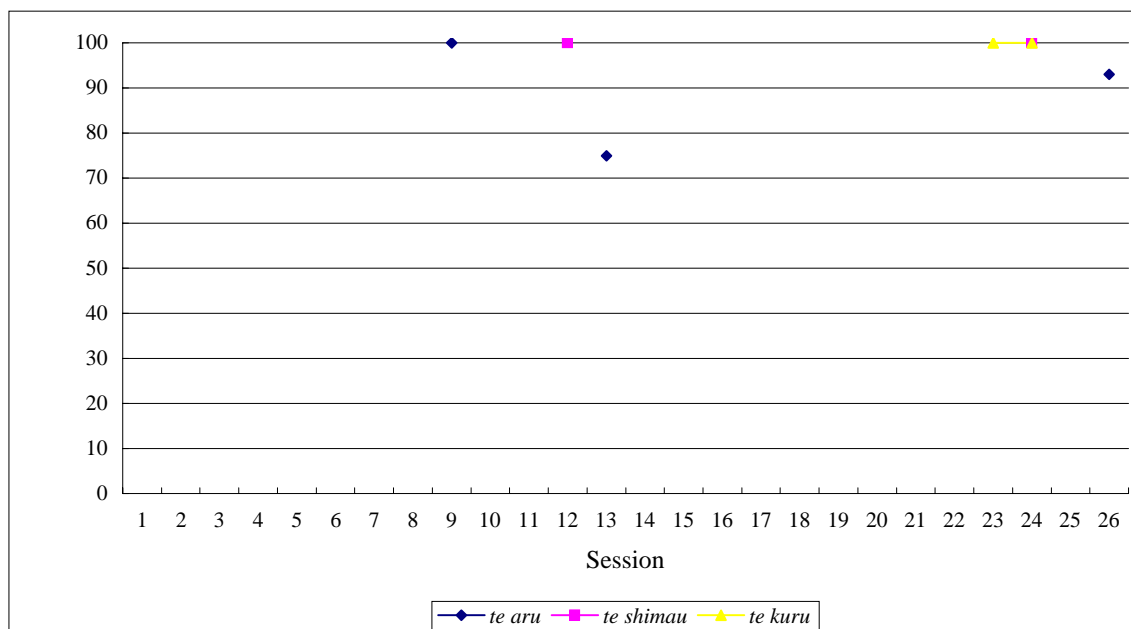


Figure 7.5 Pattern Two

Pattern Two

For other V-*te* V structures, *-te aru*, *-te shimau*, and *-te kuru*, there were too few cases with evidence to show variation in rule application. Together with *-te miru*, *-te ageru*, *-te kureru*, *-te morau*, *-te iku*, *-te kaeru*, which did not appear in the figures due to the absence of sufficient evidence, the observation regarding rule application for these structures was not conclusive. (See Figure 7.5)

7.4 The Point of Emergence for the V-*te* V Structure

In the previous two sections, the overall development for each of the V-*te* V structures was examined using a distributional analysis both for the suppliance/non-suppliance and level of the rule application. Next, the lexical variety for each of the V-*te* V structures, based on the emergence criterion as suggested by Pienemann (1998b, p.148) will be examined. Both quantitative and qualitative analyses were used to determine the point of emergence for the V-*te* V structure as a whole, and to compare the points of emergence for different V-*te* V structures. According to Pienemann, in order to claim that the emergent V-*te* V structure was not produced as an unanalysed segment, it needs to be displayed in at least two ways (i.e., two lexical variations of the same structure).

Firstly, and as with verbal inflection in the previous chapter, a distributional analysis of the structure was undertaken by examining the number of lexical variations in V1 for each of the V-*te* V structures for each session. For example, it was found that among the four occurrences of *-te iru* in Session 6 there were three instances of “*omot-te i-mashita* (think-INF AUX-POL-PAST-AFFIRM)” meaning “(I) was thinking” and one instance of “*yut-te i-mashita* (say-INF AUX-PAST-AFFIRM) meaning “I was saying”. Therefore, there were two lexical variations of V1, i.e., “*omot-te*” and “*yut-te*” for *-te iru* in Session 6. Hence, the value ‘2’ was entered in the grid showing the distributional analysis. When the value was two or above two, the cell was shaded to indicate that there was a case of sufficient evidence for emergence. It also should be noted that, as with verbal inflection, both the suppliance in TL contexts and the overuse of the V-*te* V structure in NTL contexts were considered for lexical variety in terms of productivity (see Chapter 6.4, p. 215). The results of the distributional analysis are shown in Table 7.5.

Table 7.5.

Lexical variety of V1 (V-*te*) in the V-*te* V structures in Shaun's interlanguage

Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
V- <i>te</i> V																										
- <i>te iru</i>						2		3	1	8	2	11	1	9	2	11		4	9	3	8	8	8	7	13	11
- <i>te aru</i>					1		1		1	1	2		1	1	1		1		1	1		2	2			3
- <i>te miru</i>										2			2		1	1	2		1	1						1
- <i>te shimau</i>												5			1	1						2	6			
- <i>te ageru</i>									1						1	1			1	1		2				2
- <i>te kureru</i>									1			1	1				1	1								1
- <i>te morau</i>																		1								
- <i>te iku</i>			1							1				1	1		1	1	1			2				1
- <i>te kuru</i>		2								1			1	1		1	1				1	3	2		1	
- <i>te kaeru</i>												1				1	1		1	1	1				1	1

From this grid it can be seen that the first of all the V-*te* V structures to appear was *-te kuru* which emerged in Session 2. However, the analysis of this is somewhat problematic because of a lack of continuity in its occurrence. In contrast, the durative/imperfective maker *-te iru* appears consistently from Session 6 to 26. With respect to the two benefactive structures (i.e., *-te kureru*, and *-te morau*) and *-te kaeru*, these did not satisfy the requirement of the emergence criterion in any session, as there was no lexical variety at all throughout the observation period.

In order to formally determine the points of the emergence for the V-*te* V structures, a further qualitative analysis was conducted. The results of the analysis are presented below for each of the V-*te* V structures.

1) The Durative/Imperfective Aspect Markers: *-te iru* and *-te aru*

Firstly in relation to *-te iru*, as mentioned earlier, the results show that it first appeared with the use of the phrase “*omot-te i-mashita* (think-INF AUX-PAST-AFFIRM)” and “*yut-te i-mashita* (say-INF AUX-PAST-AFFIRM)” in

Session 6. Similarly three lexically different *-te iru* structures appeared in Session 8, and the presence of lexical variety continued until the end of the data collection period. Therefore, it is likely that Session 6 or 8 was the point of emergence for *-te iru*. Further, it is in Session 10 and Session 12 that the productivity of this structure drastically increased with eight and eleven variations of V1s, respectively.

Another durative/imperfective marker *-te aru* which denotes a resultative state (See p. 241 for the detail of the meaning of this), first appeared in its negative form, “*kai-te nai* (write-INF AUX-NONPAST-NEG: (It) has not been written or drawn.”⁵¹ on one occasion in Session 5. Subsequently, two instances of the same structure appeared again in Session 7. However, these three instances did not satisfy the requirement for lexical variety to be established at this time. Subsequently, in Session 9, “*kaite nai*” appeared together with its affirmative form “*kai-te ar-u* (write-INF AUX-NONPAST-AFFIRM)” but they are not lexically variant because of the use of the same V1 (i.e., *kai-te*). Aside from “*tsuke-te ar-u* (attach-INF AUX-NONPAST-AFFIRM)” in Session 11 and “*tsukut-te aru* (make-INF AUX-NONPAST-AFFIRM) in Session 18, between Sessions 5 and 22, all the cases of *-te aru* appeared only with *kai-te* (write-INF) and they only occurred during the task, “Spot the difference”. Therefore it is unclear whether *kai-te* in *-te aru* has been acquired or whether it is an unanalysed and memorised chunk.

A close examination (see the Appendix F for a distribution of “*kaite aru*”, pp. 357-358) reveals that, out of 42 token counts of *-te aru*, 33 instances of the same lexicon, (i.e., *kai-te* [write/draw-INF] with *-te aru*), appeared during the observation period. This accounted for 78.6% of the total number of occurrences of *-te aru*. On the other hand, only nine instances of V1s other than “*kai-te*” appeared with six

⁵¹ *V-te nai* can be either the negative form of *V-te aru* or the verbal affix *-tenai*, i.e., the contracted form of *V-te inai*. In the former case, since *V-te aru* denotes a resultant state which has been brought about by someone, the meaning of its negative, i.e., *-te nai* is “something has not been done (by someone) yet”. In the latter case the affix *-tenai* denotes either the progressive (i.e., “Someone is not currently doing something) or the resultative (i.e., something is not naturally in a state.). When it was decided which of these cases had been intended, each of the contexts for all cases with *-tenai* was carefully examined with the help of the pictures used, the interaction that occurred, and the notes taken during the data collection.

lexical variations. These were “*tsuke-te aru* (attach-INF AUX-NONPAST-AFFIRM)” in Session 11, “*tsukut-te aru* (make-INF AUX-NONPAST-AFFIRM)” in Session 18, “*oi-te nai* (put-INF AUX-NONPAST-NEG)” in Session 21, “**ochi-te aru* (fall-INF AUX-NONPAST-AFFIRM)” in Sessions 23, “*kit-te aru* (cut-INF AUX-NONPAST-AFFIRM)” in Session 24, and “**dekite aru* (be completed-INF AUX-NONPAST-AFFIRM)”, “*oi-te atta* (put-INF AUX-PAST-AFFIRM)” and two cases of “*oite-aru* (put-INF AUX-NONPAST-AFFIRM) in Session 26. This accounted for only 21.4% of the total counts of *-te aru*. As noted previously, most occurrences of this structure (67%) appeared in the “Spot the difference” games in the form of “*kai-te aru*”. These figures confirm that the “*kai-te aru*” structure was used as an unanalysed chunk. Therefore, it was decided that the point of emergence for *-te aru* was Session 23, because this is the point that *-te aru* began to continuously appear with other V1 items, such as “*ochi-te* (fall-INF)”.

In sum, *-te aru* appeared in small quantities at quite an early stage of the observation period but it also appears that opportunities for the contexts for this structure was limited to a particular type of task, during which Shaun apparently used it as a chunk.

2) V-te V for Idiomatic Meanings: *-te miru* and *-te shmau*

Although both *-te miru* and *-te shmau* did not occur as frequently as *-te iru* and *-te aru* and there was a lack of continuity due to some “gaps” in terms of opportunities for contexts in the course of acquisition, the emergence criterion was found to be met when they both appeared for the first time.

-Te miru first appeared with two lexically different V1s in Session 10, namely “*mawashi-te mir-u* (spin-INF AUX-NONPAST-AFFIRM: I will try spinning)” and “*yat-te mi-masu* (do-INF AUX-POL-NONPAST-AFFIRM: I will try doing [it]).” Out of a total of 14 occurrences of *-te miru*, there were eight lexical variations throughout the observation period. Among them, *yat-te* (do-INF) as V1 appeared six times and this accounted for 42.9% of a total number of occurrences of *-te miru*.

However, the pattern for this structure is apparently different from the one for *-te aru* structure, for which one lexicon, namely *kai-te* predominantly appeared in an earlier period of the development for this form, such as between Sessions 5 and 22. One instance of *yat-te* appeared with the other lexical form, *mawashi-te* (spin-INF) in Session 10, two instances in Session 15, one instance with the other, *kit-te* (cut-INF) in Session 17, and again two instances in Session 19. Seven other lexically varied V1s were used regularly together with *yat-te* during or between these sessions. Therefore, it was decided that the emergence point for *-te miru* was in Session 10.

-Te shimau had a total of 14 lexical variations for V1 among a total number of 19 occurrences of this form throughout the observation period. There were several sessions when no opportunities were available for this structure to occur after the first appearance. Nevertheless, because of the high productivity shown when opportunities were available, there is no reason not to be sure that Session 12 was the point of emergence. In this session, the V1s used in five instances of this structure were all lexically different. These include: *koware-te* (break-INF), *nige-te* (run away-INF), *ochi-te* (fall-INF), *ware-te* (be smashed-INF) and *toranai*⁵² (take-NEG-INF). After this session until Session 22, only two instances of this structure were observed. These two cases had lexically different V1s, namely *ket-te* (kick-INF) in Session 15 and *buttsuke-te* (strike-INF) in Session 17. After this session, there were no opportunities for this structure to occur until Session 23, when two instances of it with two lexical variations, i.e., *yame-te* (stop-INF) and *attat-te* (bump-INF) were observed. Subsequently, there was a drastic increase in the productivity of this structure in Session 24, when ten occurrences with six lexical variations were observed.

In summary, although sufficient evidence for the emergence for *-te miru* and *-te shimau* is not as frequently present as *-te iru*, the results were reasonably

⁵² Although this is part of the ill formed V-*te* V structure “*toranai shimaimashita*” (for a detailed explanation, see the footnote in Chapter 7.2, p. 236), it is clear that an attempt was made by Shaun to construct a V-*te* V structure by using the two verbs. Hence “*toranai*” was counted as one lexical variation for V1.

conclusive. Hence it was decided that *-te miru* emerged in Session 10 and *-te shimau* in Session 12.

3) The Benefactive Markers: *-te ageru*, *-te kureru*, *-te morau*

As noted earlier, *-te kureru* and *-te morau* did not satisfy the emergence criterion in any session throughout the data collection period. While only insufficient evidence was available for the emergence of *-te kureru*, there was no evidence available for or against the emergence for *-te morau* as it occurred only once⁵³. As for *-te ageru*, five instances of this structure appeared in separate sessions each before Session 22, but none of these cases satisfied the emergence criterion of more than one lexical variation (Pienemann, 1998b). Also the same lexicon, namely *mise-te* (show-INF) was used in three of those five instances, indicating a lack of variety across the sessions. However, in Session 22, three instances of this structure had two new lexical variations for V1, namely *yurushi-te* (forgive-INF) and *kashi-te* (lend-INF), and, in Session 26, two instances with another two new lexicons, namely *kai-te* (write-INF) and *yat-te* (do-INF). Hence it was concluded that Session 22 was the point at which *-te ageru* emerged.

4) The Durative/Imperfective Markers (*V-te* Combined with a Motion Verb)

As was the case for *-te kureru*, there was insufficient evidence in all sessions for *-te kaeru* as all ten instances of this structure occurred in separate sessions and out of the ten occurrences, only three lexical variations were found in V1. Additionally, aside from one occasion, these three V1 versions, namely *tot-te* (take-INF), *mot-te* (have-INF) and *kat-te* (buy-INF) of *-te kaeru*, were all produced when Shaun was describing exactly the same scene in the Frog, Crab, Snail or Tortoise stories, where a leading character was given one of the baby frogs, crabs and

⁵³ Whilst the infrequent use of these structures could be due to Shaun's age (7 years old) and his cognitive immaturity, this seems unlikely because Clancy (1985) and K. Ito (1991) have reported these structures seem to emerge in Japanese as L1 at 3;0-3;6 and at 2;5-2;6 respectively (see p. 20 and p. 27 of this thesis). It is more likely that the limited occurrences of these structures could be attributed to task effect. No task that specifically targeted the benefactive structures was prepared for the current study.

so on by their parent creatures, and then went home. The only exception to this was produced as “*mot-te kaet-te* (have-INF AUX-INF: [The father] carried [the teddy bear], returned home and ...) when Shaun was telling a story called “Teddy bear” in Session 21. However, this is a similar situation to ones described in those animal stories. Therefore, these *-te kaeru* structures are most likely being used as unanalysed chunks.

With regard to *-te iku*, up until Session 23, no cases with this structure satisfied the emergence criterion. This session is the only session where two lexical variations for V1 appeared. These are *mot-te* (have-INF) and *nobot-te* (climb-INF). However, it was decided that this was not the point of emergence for *-te iku* because it is suspected that *mot-te it-ta* (have-INF AUX-PAST: took something [= had something and went with it]) sounded like a chunk, and, throughout the observation period, none of the instances contained “*iku*” as an auxiliary verb that means a changing state. In other words, in terms of all the *-te iru* structures that appeared it was unclear as to whether Shaun was cognisant of the V-*te* V structure or *-te* clause structures.

Lastly, the point of emergence for *-te kuru* is examined. In Session 2, *-te kuru* had already appeared with two lexically different V1s, namely “*mot-te ki-ta* (have-INF AUX-PAST-AFFIRM: [She] brought [had and came here]) and “*it-te kit-e* (go-INF AUX-INF: [I] go and come back here and...). However, after that, only lexically limited V1s repeatedly appeared until Session 23. In fact only four variations in V1 with *-te kuru* were found between Sessions 2 and 22. Aside from one instance of “*it-te kur-u* (go-INF AUX-NONPAST-AFFIRM: [I] go and come)” and “*hait-te kur-u* (enter-INF AUX-NONPAST-AFFIRM: [Something] comes in here)” each, “*motte kur-u* (have-INF AUX-NONPAST-AFFIRM: [I] will bring)” and “*de-te kur-u* (come out-INF AUX-NONPAST-AFFIRM: [Something] emerges here)” were repeated. Also, it is likely that, as with the case of “*motte iku* (take)”, Shaun learned “*motte kuru* (bring)” as a chunk. Only in Session 23, one new variation “*fut-te ki-ta* (rain-INF AUX-PAST-AFFIRM: It began raining)” was added to the previous lexical items. Also, in the structure with this new lexicon, *kuru* was used clearly as an auxiliary verb, indicating a changing state as in “*Ame ga futte kita* (Rain

started falling or it began raining)". Therefore, it was decided that Session 23 was the point of emergence for *-te kuru*.

There are two further observations to be made in relation to the acquisition of the *V-te V* structure, and *-te iru* and *-te kuru* in particular. In Session 2, there was one instance where Shaun combined *V-te* and a non-verbal constituent, namely a copula, which cannot follow *V-te*. A copula can be connected only to an adjective or noun. *V-te* must be followed by another verb. This example suggests that Shaun was not able to appropriately differentiate these grammatical constituents, i.e., a verb and a copula, at this stage of his development (in Session 2). This is shown in the following example where he was talking about kanji (Chinese characters) homework given by his teacher at the Japanese school.

Example 7.5 Evidence for no emergence for the *V-te V* structure

Shaun	Researcher
	<i>Sensee tte chekku shite kureru.</i>
	teacher check do-INF AUX-NONPAST-AFFIRM
	Does your teacher check it for you?
<i>Chiggau.</i>	
No-o.	
	<i>Doo suru no.</i>
	how do-NONPAST-AFFIRM EP
	What does (he) do?
<i>Aa...xxx</i>	
Umm....[inaudible]	
	<i>Hun.</i>
	Uhuh....
<i>Ee...xxx xxx suru. Koko ni xxx. *Kaite janai.</i>	

[inaudible] do here LOC[inaudible] write-INF
COP-NONPAST-NEG

does [inaudible] here [inaudible] He does not write.

Un.

Yeah.

Sutanpu ga aru.

stamp SUBJ exist-NONPAST-AFFIRM

(He) has got a stamp.

(S2.3 Free conversation)

Although part of Shaun's speech was not clear, his meaning seems transparent, namely "the teacher does not write in, but uses his stamp when he checks our kanji homework". The phrase, "does not write in", which involves the teacher's habitual action in this context can be expressed with one of the two durative/imperfective markers, *-te iru*. Hence, "*kai-te i-nai* (write-INF AUX-NONPAST-AFFIRM)" or its contracted form (i.e., with the verbal affix, *-tenai*), "*kai-tenai* (write-ASP-NONPAST-AFFIRM)" is a possible phrase in this situation. It is not clear as to which form Shaun intended to use as only "*kaite*" was provided. However, a possible explanation is that, although Shaun attempted to combine "*kai-te*" as V1 and an auxiliary verb, "*inai*" as V2, he had not yet developed an ability to exchange the phrasal information in the required manner to produce this structure. This resulted in his using a copula in place of V2. In other words, this example might provide evidence that signifies that he was not at the stage of phrasal procedure at the time of Session 2.

Another interesting instance of the NTL combination of two grammatical constituents in an attempt to construct the V-*te* V structure was observed in Session 6 and this involved *-te kuru*. In contrast to the example above, this time a constituent other than verb was used in the V1 position. In the example below, Shaun combined the polite *-te* form of the copula, i.e., *-deshite* and the auxiliary verb, "*kuru*". This occurred when Shaun was talking during student/teacher role play.

Example 7.6 Evidence for no emergence for V-te V structure

Shaun	Researcher
	<p><i>Aa soo. Supiichi o shite ita toki, minna shizuka deshita ka.</i></p> <p>speech OBJ do-INF AUX-PAST-AFFIRM time everyone quiet-NAADJ COP-PAST-AFFIRM Q</p> <p>Oh really? Was everyone quiet when someone was making a speech?</p>
<p><i>Hai. *Shizuka deshite kimasu.</i></p> <p>yes quiet-NAADJ COP-INF AUX-NONPAST-AFFIRM</p>	
Yes. They are getting quiet.	
(S6.5 Student/teacher play)	

Although Shaun ended his utterance with the polite nonpast form of the auxiliary verb, “*kimasu*”, it appears that Shaun intended to indicate the past event, that is “students were noisy but began being quiet while someone was making a speech”. *Kimasu*, which is the polite form of the auxiliary verb *kuru*, indicates a changing state by connecting it to a V-*te*, but not to a copula such as *desu* that follows an adjective or noun. Interestingly, Shaun used at least the -*te* form of *desu*, namely *deshi-te* (COP-POL-INF), before the auxiliary verb, resulting in the structure COP-*te* V. However, this is clearly a NTL combination. A phrase containing a verb such as “*shizuka ni nat-te* (quiet-NAADJ COP become-INF: become quiet)” must be used before the auxiliary verb. This may be another example indicating that, in Session 6, Shaun had not yet reached a stage of development where he could fully distinguish grammatical categories and combine two appropriate constituents by exchanging information.

In conclusion, in light of the cases with sufficient evidence for emergence provided for each of the six V-*te* V structures, namely -*te iru*, -*te aru*, -*te miru*, -*te shimau*, -*te ageru*, and -*te kuru*, together with the two cases of evidence for no

emergence for the *V-te V* structures shown above, it was decided that the point of emergence for the *V-te V* structure was, in general, Session 8. In this session, Shaun was able to construct this structure by appropriately juxtaposing two verbal constituents and showing sufficient productivity.

7.5 Internal Order of Emergence for the Various *V-te V* Structures

Raw data for the *V-te V* structures were processed through several levels of distributional analyses. While no evidence or only insufficient evidence was available for the acquisition of some *V-te V* structures, evidence was present for other structures. Particularly strong evidence was available from the results for *-te iru*, indicating that this structure emerged in Session 6 or 8, earlier than the other *V-te V* structures. However, Session 6 also indicated a NTL combination of the *-te* form of a constituent other than verb (i.e., copula) and the auxiliary verb “*kimasu*”. Therefore, in this light, the *V-te V* structure as a whole, and *-te iru* in particular, was also determined to have emerged in Session 8.

Five other *V-te V* structures, namely *-te aru*, *-te miru*, *-te shimau*, *-te kuru*, and *-te ageru*, also provided positive evidence for the points of emergence. The points of emergence for these structures are compared with that of *-te iru* in Table 7.6. The months that Shaun spent in the Japanese school are indicated in the brackets in the first row of this table.

Table 7.6

Internal order of the emergence points for V-*te* V structures

Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
(Months spent at the Japanese school)	(9)							(12)								(18)								(21)	(24)	(30)
V- <i>te</i> V																										
- <i>te iru</i>																										
- <i>te miru</i>																										
- <i>te shimau</i>																										
- <i>te ageru</i>																										
- <i>te aru</i>																										
- <i>te kuru</i>																										

As can be seen in Table 7.6, it was found that the order of the emergence point for the six V-*te* V structures in Shaun's interlanguage were *-te iru* > *-te miru* > *-te shimau* > *-te ageru* > *-te aru* / *-te kuru*. This is shown in Figure 7.6 below.

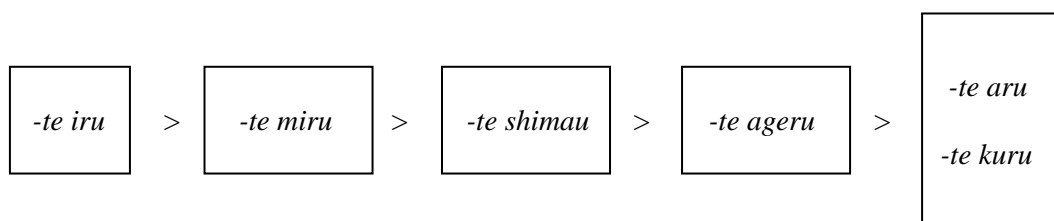


Figure 7.6 Internal order of emergence for the V-*te* V structures

7.6 Summary of Chapter Seven

In this chapter, the results of the analysis for the acquisition of the V-*te* V structure by a child learner of JSL were presented. The points of emergence for ten different V-*te* V structures that appeared in the child's interlanguage during the one and half year data collection period were the focus of the investigation. The

emergence criterion (Pienemann, 1998b) was applied to the distributional analysis for these structures. It was found that this structure on the whole emerged in Session 8 when the child Shaun had been enrolled in the Japanese school for approximately one year.

In the light of the results for overall development for the *V-te V* structures, it can be concluded that, earlier than other *V-te V* structures, *-te iru* emerged with a TL standard of rule application somewhere between Session 6 and 8, and that the rule continued to be applied in a TL standard until the end of the observation period. The only occasional fluctuation in rule application for this structure can be attributed to Shaun's inability to distinguish the different inherent aspect of some verbs.

As for the other structures, *-te miru* emerged in Session 10, *-te shimaui* in Session 12, *-te ageru* in Session 22, and both *-te aru* and *-te kuru* in Session 23. With regard to the variation in rule application for these structures, cases of evidence for *-te aru*, *-te shimaui* and *-te kuru* were too few in number, therefore the observation is inconclusive. Also no evidence for variation in rule application is available for *-te miru* and *-te ageru*. However, the results of the qualitative analysis show that the misplacement of *-te aru* involved factors related to the aspectual characteristic of verbs as well as to the annotation of transitive/intransitive verbs, and these may have affected the acquisition of the rule for this structure. The four structures, *-te iru*, *-te aru*, *-te iku*, and *-te kuru* denote durative/imperfective aspect but, compared to *-te iru*, productive emergence for the other three structures was delayed.

According to Di Biase and Kawaguchi (2002), the acquisition of the *V-te V* structure requires phrasal processing procedure, thus it is predicted to be at Stage 3 in the hierarchy of Japanese in PT. In the next chapter, the acquisition of the passive and causative structures in JSL by the child learner, which is considered to be the acquisition of S-procedure and Stage 4 in PT, will be presented.

CHAPTER EIGHT

THE ACQUISITION OF THE PASSIVE AND CAUSATIVE STRUCTURES IN JAPANESE BY A YOUNG CHILD

This chapter presents the findings on the acquisition of the passive and causative structures in JSL by the child learner in the current study. These two structures have a common feature, that is “a lexical relation change” (Bresnan, 2001) which requires information exchange beyond the boundary of each phrase in a sentence. In other words, the learner needs to “unify information from different sources: the V and the N phrases, which calls for interphrasal process” (Di Biase and Kawaguchi, 2002). When the learner acquires S-procedure in order for the interphrasal process to occur, it is claimed that they are at a stage that they are able to produce the passive/causative/benefactive (Di Biase and Kawaguchi, 2002).

The first section presents the occurrences of the passive and causative observed in Shaun’s interlanguage and the overall development of these structures will be discussed. In the following two sections, each of the occurrences of these two structures will be described in detail and the determination of the emergent points for these will be discussed in the last section.

8.1 Occurrences of the Passive and Causative Structures in Shaun’s Interlanguage

From the data obtained during the period of 26 sessions, only 11 instances of a sentence involving the passive or causative were identified. This figure excludes echoic forms as well as forms contained in a written sentence incidentally read aloud by Shaun. Although the nature of the Japanese language allows the ellipsis of NPs as well as case particles, oblique agent (OBLag) needs to be marked by a case

particle “*ni*” when it appears. And the presence of OBLag marked with the particle “*ni*” clearly indicates that the learner has acquired the grammatical relationship between the NPs and the V in the passive and causative structures. Therefore, Di Biase and Kawaguchi (2002) coded an utterance involving the passive into one of the three categories: positive evidence, insufficient evidence and negative evidence (see Chapter 3.5, pp. 114-115). More recently, Kawaguchi (personal communication, 2004) uses revised categories: 1) sufficient evidence; 2) positive but insufficient evidence; and, 3) negative evidence. Following this new categorisation, occurrences for each of these categories are entered between slashes in the table.

The following table shows the results of the current study on the acquisition of the passive and causative structures.

Table 8.1

Occurrences of the passive/causative in Shaun’s interlanguage

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Passive	0	0	0	0	0	0	0	0	0	1/2/1	0	0	0	0	0/2/0	0/1/0	0	0	0	0/1/0	0	0	0	0	0/1/0	0/0/0
Causative	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1/0/0	0	0	1/0/0

Note:

1. The figure before the first slash = the number of occurrences of the structure accompanied with OBLag (sufficient evidence);
2. The figure before the second slash = the number of occurrences of the structure unaccompanied with OBLag (positive but insufficient evidence);
3. The figure after the second slash = the number of occurrences of the ill-formed structure (negative evidence);
4. The entry of zero alone means that none of these three types of evidence was available (no linguistic contexts).

As can be seen in the table, throughout the 21 month data collection period including both the 24 fortnightly regular sessions in the first year and the two follow up sessions in the second year, only nine occasions of the passive and two of the causative were observed. No passive structure production, either as “sufficient”, “positive but insufficient”, or “negative evidence”, was observed before Session 10. However, it must be acknowledged that during this period, no task designed to specifically elicit the use of the passive structures was performed. Thus, there is a lack of continuity in terms of the availability of evidence for this structure.

As for the causative, this structure was not produced until nearly the end of the observation period, i.e., Session 23. However, it should be noted once again that no task was performed for the purpose of specifically eliciting the use of the causative throughout the observation period.

In the subsequent section, examples for the occurrences of the passive will be presented and a detailed discussion in relation to the point of emergence will be given.

8.2 The Acquisition of the Passive

Instances of the passive first appeared in Session 10. Between this point and Session 26, sufficient evidence, i.e., the presence of the passive with OBLag marked by the particle “*ni*”, was observed only once. While positive but insufficient evidence (i.e., the passive without OBLag) appeared five times, negative evidence (i.e., an ill-formed passive sentence) only occurred once. Four of the nine passive sentences which Shaun produced occurred during the card game which was designed to elicit the use of the passive. Three utterances containing the passive were produced in Shaun’s narrative of the “Frog story” and the “Tortoise story”. The remaining two passive utterances occurred during free conversation and in the “Play student and teacher” task.

Because of the sufficient evidence that was observed, it would seem that Session 10 was the point at which the passive appears to have emerged. However, its co-existence with negative evidence suggests that Shaun might not have actually acquired the passive structure by this point. There were also two occurrences which involved positive but insufficient evidence in Session 10, after which no occurrence of any evidence were observed again until Session 15. After the three occurrences of the passive in Session 15 and 16, no passive structures were observed again until Session 26. Therefore, the results show no continuity in the occurrence during the data collection period and so it seems to be premature to conclude that Session 10 is the point at which the passive structure emerged.

To illustrate this further, each of the occurrences of the passive in each session will be described and discussed in detail below.

Session 10:

Session 10 is an interesting point because there were three attempts leading to sufficient, positive but insufficient, and negative evidence in the same speech sample. There were also times when Shaun did not use the passive despite the fact that opportunities for the production of it appeared to be provided. These instances suggest the difficulty of providing definite linguistic contexts for the production of the passive.

During this session, after completing two tasks, i.e., free conversation and a two-way descriptive task, Shaun played a card game with his school friend, Taroo. This was the first time Shaun had played this particular game. Contrary to the purpose of the task, which was to elicit the use of the passive, most of the time Shaun used an active voice to describe a boy on the cards who was supposed to represent him. The following example (8.1) shows one of these instances. Shaun was describing a boy wearing a T-shirt with the word “Shaun” printed on it in each of the cards, and Taroo was looking for the same picture on his sheet.

Example 8.1 No occurrence of the passive

Shaun

Taroo

Un.

Yeah.

A, chigau, chigau. Dareka, boku no kutsu, ashi ni hunderu.

no no Someone I GEN shoe foot on step-ASP-NONPAST-AFFIRM

Oh, no, no. Somebody is stepping on my shoe, foot.

Ashi hunderu?

foot step-ASP-
NONPAST-AFFIRM

Stepping on your
foot?

Un.

Yeah.

Kuruma ga?

car SUBJ

A car?

Dareka, onnanoko ga...

somebody girl SUBJ

Somebody....A girl...

Onnanoko...niban.

A girl....No. 2.

Atari. Etto, ippai kasa ga haitteru.

right many umbrella SUBJ enter-ASP-NONPAST-AFFIRM

You are right. Let me see, lots of umbrellas are in.

(S10.3 Card game with Taroo)

In the example above, instead of using the passive voice such as “*Boku ga dareka ni ashi o humareta* (I SUBJ someone OBLag foot DO step-PASS-PAST-

AFFIRM: My foot was stepped on), Shaun produced the active, i.e., “*Dareka, boku no kutsu, ashi ni hunderu*. (somebody [null SUBJ] I GEN shoe foot onto step-ASP-NONPAST-AFFIRM: Somebody is stepping on my shoe, foot)”. This was, however, sufficient enough to make Taroo understand him and additional information provided later about the subject who had stepped on the foot helped him find the right picture.

Unlike the S-V agreement in English, there is no obligatory context for the use of the passive structure in Japanese. Unless an explicit instruction is given to the subject to use the passive voice, it is unlikely to occur as there are always other ways in which to describe the situation. Although tasks were used to elicit the use of some structures, it can be said that all interactions that took place during the data collection period in the current study were natural. Shaun and his conversation partners easily immersed themselves in, and did not seem to notice the real purpose of the tasks. For them, the purpose of the game seemed to beat their opponent or to complete the task. Therefore the tasks successfully created opportunities for Shaun to talk. In addition, the researcher did not intervene to make Shaun use the passive. However, in terms of eliciting the passive structure, this card game was not able to sufficiently achieve this objective.

As noted previously, Shaun produced the passive twice in the card game, but without the OBLag marked by the particle “*ni*” (i.e., positive but insufficient evidence). This is shown below:

Example 8.2 Occurrence of the passive unaccompanied with OBLag

Shaun	Taroo
<i>*Etto, okoratteru.</i>	
tell off-PASS-ASP-NONPAST-AFFIRM	
Let me see, (I) am being told off.	
	<i>Kyuu ban.</i>

No. 9.

Bubbuu.

Wrong.

Uso!

Liar!

**Boku, okoratteru. Haato ga kowashiteru.*

I tell off-PASS-ASP-NONPAST-AFFIRM
heart SUBJ break- ASP-NONPAST-AFFIRM

I am being told off. The heart was breaking.

Go ban. Ichiichi, okotteru. De, tsugi wa?

No.5 each time get angry-ASP-NONPAST-
AFFIRM next TOP

No. 5. You are angry each time. And
next?

(S10.3 Card game with Taroo)

The TL active voice form of the verb “to tell off, or get angry” is “*okoru*” and the TL passive form of the verb “to be told off” is “*okorareru*”. Both of these structures can be attached to the contracted aspect affix “-*teru*” to make such verbs as “*okot-teru* (tell off-ASP-NONPAST-AFFIRM: Somebody is telling off or is angry)” and “*okorare-teru* (tell off-PASS-ASP-NONPAST-AFFIRM:I am being told off by somebody)”. In the two separate utterances, Shaun produced “**okorat-teru*”, which is assumed to be the NTL form of the passive sentence “*okorare-teru*”. Although Taroo initially chose the wrong picture, he soon found the right picture on his sheet as the picture had other hints such as an angry woman and “a broken heart”. Although in his second passive sentence Shaun provided the subject with a null particle, neither the first nor the second case of the passive, i.e., “*okorat-teru*” nor “**boku*”⁵⁴ *okorat-teru*” contained OBLag accompanied with the particle “*ni*”. Therefore, there is clearly insufficient evidence.

⁵⁴ In the light of the picture that Shaun was describing, it seems that this “*boku*” is not OBLag with a null particle but SUBJ with a null particle.

Following this card game, there was a short spontaneous conversation before the next task was performed. In this conversation, Shaun, Taroo and the researcher talked about the homework of that day. Taroo said that one of the homework tasks was to read aloud a story from their textbook. Shaun went and grabbed his textbook and began reading the story about a fish called “*Suimii* (Swimiee)”. Coincidentally there was a sentence in the story containing a complete passive sentence (i.e., a sentence containing OBLag with the particle “*ni*” and the passive verb form) “*Ookina sakana ni taberarete shimau yo* (big fish OBLag eat-PASS-INF AUX-NONPAST-AFFIRM EMPH: You will end up with being eaten by big fish!)”. The interaction between Shaun and the researcher during his reading is shown below.

Example 8.3 Occurrence of the passive with OBLag marked by the particle “*ni*” during the story reading

Shaun	Researcher
<p><i>Dame da yo. *Ookina sakana tachi ni taberacchau.....tabera.....ra.....</i></p> <p>bad COP EMPH big fish OBLag eat-PASS-ASP-NONPAST-AFFIRM....eat-INTERM.....[no verb root]-INTERPT</p> <p>No! You will end up with being eaten by big fish....being eaten...being...</p>	<p><i>rete...</i></p> <p>[no verb root]-PASS-INF</p> <p>being eate....</p>
<p><i>....rete shimau yo.</i></p> <p>[no verb root]-PASS-INF AUX-NONPAST-AFFIRM EMPH</p> <p>you will end up being....</p>	

(S10.4 Story reading)

As seen above, Shaun appears to have had difficulty when reading the passive combined with the V-*te* V structure, i.e., “*taberarete shimau*”. He tried to use its

contracted form, “*taberare-chau*” but could not produce the passive affix *–are–* correctly. In fact, he seemed to repeat the same NTL verb inflection for the passive he had spoken in Example 8.2 (i.e., he used a double consonant instead of “*re*” after “*ra*” in “*okorareteru*”). It was only when the researcher helped him by modeling the passive affix that he could form the inflection correctly. Since this was an echoic production and part of his story reading, it was of course not counted as the emergence of the passive. However, this incident signifies an important point of change in his interlanguage during this session.

After Shaun had read the story, the researcher asked him a question about why all of the fish grew bigger. Shaun then produced the passive with OBLag to say “Because they are (SIM: were) not eaten by this big fish”. Although the passive verbal affix was ill-formed (i.e., he used *–awa* instead of *–are–*) and the nonpast tense (*–nai*) was overused in the context of past tense (*–nakatta*), the passive form was accompanied with OBLag marked by the particle “*ni*”. This example is shown below.

Example 8.4 Occurrence of the passive accompanied with OBLag

Shaun	Researcher
	<i>Oshimai? Nee, dooshite ookii sakana ni natten no? Minna de?</i>
	end why big fish COP become-ASP-NONPAST-AFFIRM EP all together
	Finished? Hey, why did they become big fish, all together?
<i>E? *Kono sakana ni taberawanai kara.</i>	
<i>this fish OBLag eat-PASS-NONPAST-NEG because</i>	
Hmm? Because they are (SIM: were) not eaten by this fish.	
(S10.4 Free conversation)	

Although this meets the criterion for sufficient evidence for the passive, it is somewhat problematic to conclude that Shaun produced the OBLag marked by “*ni*”, i.e., “*kono sakana ni* (by this fish)” with full recognition of the notion of a relation change. This is due to the timing of the production, that is, it occurred straight after the story reading, and it contained the same lexical verb “*taberu* (eat)” as that in the reading, although it was structurally different (i.e., the affirmative and the negative form). It might also be important to note that Shaun was still struggling to produce a TL form of the passive structure, saying “**taber-awa-nai*” (is not eaten) instead of “*taber-are-nai* (is not eaten)” although this is not the problem of the S-procedure but simply ill-formation at the phonological or morphological level.

The task performed straight after this short conversation was a narrative of the story, “Tortoise, where are you?”. Interestingly, an occurrence of the passive was again observed during this narrative. This is shown below:

Example 8.5 Occurrence of the Ill-formed passive structure

Shaun	Researcher
* <i>Sorede, hachi ga....</i>	
then bees SUBJ	
And then, the bees...	
	<i>Un.</i>
	<i>Hmm.</i>
<i>etto, inu ni sasarete to omotte ite.....</i>	
dog OBLag sting-PASS-INF QUOT think-INF AUX-INF	
uh, are thinking that they were stung by the dog....	
	<i>Un.</i>
	<i>Hmm.</i>
<i>to, tori o da...kitete no toki,</i>	
and bird OBJ come-ASP-INF GEN when	

and then, when the bird came and was there,

Un.

Hmm.

okaasan ga ochite ite,

mother SUBJ fall-INF AUX-INF

the mother fell down and was there, and

Un.

Hmm.

to sorede, okaasan no sugu ni hachi ga kite ite,

and then mother GEN immediate DIREC bee SUBJ come-INF
AUX-INF

and then, the bees come immediately close to the mother

(S10.5 Narrative –Tortoise story)

Despite the fact that a dog was just about to be stung by bees in the story which Shaun was narrating, as a result of reversed particles, the subject marker “*ga*” and the dative marker “*ni*”, the meaning of Shaun’s utterance turned out to be “**Sorede, hachi ga.... etto, inu ni sasarete to omotte ite....* (and then, the bees...uh, are thinking that they were stung by the dog....)”. This is clearly a case of negative evidence. While Shaun used the correct subject marker “*ga*” in the active sentence such as “*okaasan no sugu ni hachi ga kite ite* (the bees came immediately close to the mother) later in the example above, he seems to have been confused about the “relation change” (Di Biase & Kawaguchi, 2002) which should have been considered for the passive sentence.

In summary, it seems premature to conclude that Session 10 is the emergent point of the acquisition of the passive for the following reasons:

- (1) Although sufficient evidence did exist, it might be the result of his working memory and his having read a similar sentence immediately prior to production rather than because of productive use, per se. This was apparent

because no variation occurred in his lexical production between the sentence he read and what he said.

- (2) Although the utterance “*Boku, *okoratteru*. (I am being told off)” in Example 8.2 appeared to serve as a good example for positive but insufficient evidence, coupled with another “**okoratteru*”, it is offset by the negative evidence in Example 8.5, which seems to indicate Shaun’s lack of processing of the “relation change”.
- (3) There was no occurrence of the passive in the subsequent four sessions.

As mentioned earlier, from Session 11 to 14, there was not even one occurrence of the passive although a similar narrative such as the “Frog Story” and “Snail story” were read in both Session 12 and 14. In particular, the “Frog Story” in Session 14 has the same page as appeared in Session 10, in which a dog is nearly stung by bees when he is chased by them. In Session 14, Shaun simply described this picture “*Ippai no hachi ga inu o hashitte imashita* (Many bees was running (SIM: chasing) the dog). However, it must also be acknowledged that the card game was not played during these sessions.

Session 15:

There was one turn during this session in which Shaun produced the passive form of the verb “be stung”. It was produced without OBLag. While it was TL in terms of verb inflection (i.e., “*sas-are-ta* [got stung-PASS-PAST-AFFIRM]”), Shaun attempted to say it again and this resulted in a completely different lexical item (i.e., the verb “*sasayai-ta*” [whisper-PAST-AFFIRM]), which sounded like “*sasareta*”. Here is the example:

Example 8.6 Occurrence of the passive unaccompanied with OBLag

Shaun	Researcher
<i>Hachi o....</i>	
bee OBJ	
The bee...	
	<i>Kumanbachī...are... ”wasp” tte nante iu n daroo? Kumanbachī janai?</i>
	(Name) oh wasp QUOT what QUOT say EP PRESUM (Name) COP-NEG
	“ <i>kumanbachī</i> ”? Oh, I wonder how we say wasp. Isn’t it “ <i>kumanbachī</i> ”?
<i>Kumanbachī</i>	
(name)	
“ <i>kumanbachī</i> ”....	
	<i>Un, kumanbachī ga doo shita no? Shaun wa doo shita no?</i>
	yeah (Name) SUBJ what do-PAST- AFFIRM EP (Name) TOP what do-PAST- AFFIRM EP
	Yeah. What happened to “ <i>kumanbachī</i> ”? As for Shaun, what happened to him?
<i>Unto, sasareta....sasayaita.</i>	
sting-PASS-PAST-AFFIRM whisper-PAST-AFFIRM	
Hum, (I) was stung...I whispered (SIM: [I] was stung)	
	<i>A, soo ka. OK. Juu-ni ban deshoo.</i>
	Oh, I’ve got it. It is No. 12, isn’t it?

(S15.5 Card game with the researcher)

It can be seen that in the two NPs in the passive sentence, the subject “*boku* (I)” marked by a particle “*ga*” and OBLag “*hachi* (the bee)” marked by a particle

“*ni*” were both missing. Shaun appears to have initially begun his speech with “*hachi o* (bee OBJ)”. However, the subject of the final Vs “*sasareta* (got stung).....*sasayaita* (whispered)” was obviously “*boku* (I)” as the researcher incidentally topicalised “you” by saying “*Shaun wa doo shita no?* (As for Shaun, what happened to him?) just before this utterance. It seems that what he wanted to say was “I got stung”, however he was not sure of the word and rephrased the correct verb incorrectly. Even so, these two verbs, which appeared in the second “card game”, were coded as positive but insufficient evidence.

Session 16:

In this session, only one passive form was observed and it appeared during the task called the “Play student and teacher”. This involved a semi-structured interview the purpose of which was to prompt the use of the negation in the polite form of the predicates for verbs, *i*-type adjectives, *na*-type adjectives and nouns. Shaun was asked by the researcher, who pretended to be a teacher, whether or not his school teacher became angry (on that day) because Shaun said in his previous turn that class had been noisy as usual. He answered, using a polite past progressive negative form for the passive, i.e., “*Ichinensei wa okorarete imasendeshita* (Year One students were not being told off) even though the researcher used the active voice, i.e., “*Sensei wa kyoo wa, jaa, okorimashita ka?* (Then, did your teacher get angry?) in her question. This example is shown below:

Example 8.7 Occurrence of the passive without OBLag

Shaun	Researcher
	<i>Sensee wa, kyoo wa, jaa, okorimashita ka?</i>
	teacher TOP today TOP get angry-POL-PAST-AFFIRM Q
	Then, did your teacher get angry today?

Un, Okotte nai desu.

get angry-ASP-NONPAST-NEG COP

Hum, he did not get angry.

Ichinensee wa Tsuka xxx okorarete imasendeshita.

year one TOP (name)[inaudible] get angry-PASS-INF
AUX-POL-PAST-NEG

Year One students, [inaudible] Tsuka..., were not being told off.

Ninensee wa gokai gurai dake desu.

year two TOP five times about only COP

As for to Year Two, it happened only five times.

(S16.6 Play student and teacher)

The passive in this example again provides positive but insufficient evidence of the emergence of this form. Although part of the sentence was, unfortunately, inaudible, it did not seem that Shaun provided OBLag such as “*sensee ni* (by the teacher)” in this utterance.

From Session 17 to 19, no occurrences of the passive were observed. In Session 18, Shaun was asked to read the same story as that used in Session 10 (i.e., “Tortoise story”), however this time he did not use the passive, but simply said that “*Hachi ga inu e attack ni yatte itte...* (The bees were attacking the dog....)”.

Session 20:

In Session 20, there was one occurrence of the passive, however this was not accompanied by OBLag. While telling the “Snail story”, Shaun described the situation where an old man lost his pet snail during the night, saying “*nigerarete* (the

pet ran away from the old man, who was badly affected (literal translation: the old man was run away by the snail). This form of passive cannot occur in English because ‘run away’ is an intransitive verb, but it is possible in Japanese for the passive to be formed with an intransitive verb (i.e., a verb requiring no direct object). This “adversative passive” expresses someone’s displeasure or disappointment at what has happened, such as in this case “the snail ran away”. Here is the context in which this passive was produced.

Example 8.8 Occurrence of the passive without OBLag

Shaun	Researcher
<hr/>	
<i>Sorede, neteru toki ni mado ga mada aite,</i>	
then sleep-ASP-NONPAST-AFFIRM when window SUBJ still open-INF	
And then, when they were asleep, the window was still open,	
	<i>Un, un.</i>
	Yeah, yeah.
<i>katatsumuri kun ga....</i>	
snail SUBJ	
the snail...	
	<i>Un.</i>
	Hmm.
<i>koko kara dete,</i>	
here from get out-INF	
got out of this place,	
	<i>Un.</i>
	Hmm.
<i>Soide, mado no soto ni itte,</i>	
then window GEN outside DIREC go-INF	
and then, went outside the window,	

Un.

Hmm.

nigerarete,

escape-PASS-INF (or escape-POT-INF)

The snail ran away (or the snail could run away)

Ara maa.

Oh dear.

Ara maa, huhuhu, janai...huhu.

“oh dear” [laugh] COP-NEG [laugh]

It’s not “Oh dear” he he he (laugh).

Ha ha ha.

Ha ha ha.
[laugh].

Sorede, okita toki ni.

then wake up-PAST-AFFIRM when

and then, when (an old man) woke up,

Un.

Hmm.

Mada, hukuroo ga atte, etto katatsumurini...ga, naku, ga nai no toki ni...

*clothe SUBJ exist-INF snail DIREC SUBJ exist-INTERM SUBJ
exist-NONPAST-NEG when*

There are still bags (SIM: clothes) and um when to the snail ...the snail is...
not around,

Un.

Hmm.

Chigau....katta no toki ni,

no [no verb root]-PAST-NEG GEN when

wrong.... When (the snail) was not around,

Un.

Hmm.

A, bikkuri shimashita.

be surprised-PAST-AFFIRM

um they were surprised.

(S20.4 Narrative – Snail story)

In the above example, Shaun’s utterance is seemingly broken into several segments. However, it is possible that it is in fact just one long utterance, that has been broken up by the researcher’s back channeling and nodding. During this exchange, Shaun often switched subjects from the old man to the snail and vice versa, and at other times they were omitted altogether. Because of the null subject of the “*nigerarete*”, it is not clear whether “*nigerarete*” was the adversative passive, meaning “the snail ran away and the old man was devastated” or whether the potential form of the verb, meaning “the snail was able to run away” was the intention. In Japanese, the potential form of a certain type of verb, to which the verb “*nigeru* (to run away)” belongs, is exactly the same as the passive form of the verb. In such a case, it is the context that plays a major role in determining the meaning. However, in this data, due to the frequent change of subject in Shaun’s utterances, it is difficult to determine which of the various possibilities was actually the case. Hence, it was determined to be positive but insufficient evidence.

From Session 21 to 24, there were no other occasions when the passive was produced. This was despite the fact that the “Frog story” was used in Session 22, and it had exactly the same depiction that had previously elicited the use of the passive (i.e., the dog is chased and nearly stung by the bees) as the “Tortoise story”. Nevertheless, no passive structure was produced.

Session 25:

While telling the “Tortoise story” in Session 25, Shaun described the scene where the dog was chased by the bees, using a sentence which appeared to be an

attempt at the use of a passive. However, it was unaccompanied with OBLag.

Example 8.9 Occurrence of the passive without OBLag

Shaun	Researcher
<i>Etto, hanbun gurai ochitara, hachi ga kite,</i>	
half about fall-AFFIRM-COND bee SUBJ come-INF	
Um, when (she) fell about halfway, the bees came, and	
	<i>Un.</i>
	Hmm.
<i>sorede, mada, inu wa sasatte imasen.</i>	
then not yet dog TOP stick in-INF AUX-NONPAST-NEG	
and then, the dog has not stuck in (SIM: has not been stung) yet.	
(S25.5 Narrative – Tortoise story)	

Shaun’s utterance includes “*sasatte imasen*” and “*sasaru*” is an intransitive verb meaning “stick in”. Therefore the sentence literally means “the dog has not stuck in something yet”. However, given that Shaun had previously described the same picture by using the passive form of the transitive verb, i.e., “*sasareru*” meaning “be stung”, it is reasonable to conclude that he intended to say “the dog has not been stung yet”. However, OBLag i.e., “*hachi ni* (by the bees)” was not provided, hence it was coded as insufficient evidence.

In Session 26, i.e., the last follow up session, there was no incidence of the passive.

In summary, on the basis of the infrequent occurrences of the passive in general, and a lack of sufficient evidence for it after only one incidental production of it in Session 10, it seems reasonable to conclude that there is positive but insufficient evidence that Shaun acquired passives during the observation period.

This might be because of the design of the current study which attempted to balance naturalistic interaction with the use of artificial tasks. In order to elicit the more frequent use of the passive, which does not require obligatory context for it to be produced, a more demanding type of task or some form of intervention by the interviewer might be necessary.

Therefore it is necessary to examine other structures which are hypothesised to be at the same developmental stage as the passive. The following section will present the findings on one of these structures, the causative.

8.3 The Acquisition of the Causative

There were only two occasions when Shaun produced the causative. These are in Sessions 23 and 26, in other words only towards the end of the data collection period. It is important to note that no specific task was used in the current study to elicit the use of the causative. Therefore, the production of the causative sentence in the current study came out solely from the spontaneous speech. The first occurrence was observed in free conversation between Shaun and the researcher and the second in cartoon story telling.

The first occurrence was in Session 23 when Shaun was talking about a Japanese female visitor to his school who showed students how to blow soap bubbles. At the beginning, the researcher could not understand Shaun's explanation because in it he talked about his teacher, some parents, the woman visitor and other students and it was not clear who did what. After being a little irritated by the researcher's lack of understanding, Shaun suddenly provided a clear explanation by using a complete causative sentence consisting of three NPs (the nominative, accusative and dative) and a V (the causative form of the verb), "*Sorede, sensei ga, kono onna ga sore itta kara, sore... o minna ni yaraseta no* (And then, because this woman said that, the teacher made everyone do it). This utterance and the context in which it was spoken are shown below.

Example 8.10 Occurrence of the causative with OBLag marked by “*ni*”

Shaun	Researcher
	<i>Iki hukikomu to baburu ga deru, awa ga deru tte iu hanashi o kono hito ga shita no?</i> blow in-AFFIRM-COND bubble SUBJ come out-NONPAST-AFFIRM QUOT talk OBJ this person SUBJ do-PAST-AFFIRM EP If you blow in (the straw), bubbles will come out. Did this person have a talk like that?
<i>Un.</i>	
Yeah.	
	<i>Huun.</i>
	I see.
<i>Chigau, chigau.</i>	
No, no.	
	<i>Sensee?</i>
	(Was it) the teacher?
<i>Kono hito ga,</i>	
this person SUBJ	
This person...	
	<i>Un.</i>
	Yeah.
<i>Etto, okaasan ga, kore yatte xxxx</i>	
mother SUBJ this do-INF [inaudible]	
Um, my mum did this [inaudible]	
	<i>Aa, aa</i>
	Oh, oh,

Sorede, sensee ga

then teacher SUBJ

And then, the teacher,

Un.

Hmm.

Kono onna ga sore itta kara,

this woman SUBJ that say-PAST-AFFIRM because

because this woman said that,

Un.

Hmm.

Sore o minna ni yaraseta no.

that OBJ everyone OBLag do-CAUS-PAST-AFFIRM
EP

made everyone do it.

(S23.1 Free conversation)

This example clearly shows the presence of sufficient evidence for the causative structure.

The second occurrence of the causative was in Session 26, which was the second follow up session and the last data collection session. Shaun was telling a story about a six frame cartoon to Ken, one of his school friends, who was listening without looking at the cartoon. The story was about a group of “bad” boys who jumped the queue at a bus stop. After asking permission from Ken if he could call one of the bullied boys “me”, Shaun said that “*Etto, warui ko ga ite, boku o “trip” sasete, boku no mae ni itta.* (Um, there was a bad guy, who tripped me and pushed in in front of me)”. This is shown below.

Example 8.11 Occurrence of the causative with OBLag marked with “o”

Shaun

Ken

Warui ko ga kite, kore, boku tte itte mo ii?

bad child SUBJ come-INF this I QUOT say-INF OK

A bad guy came and.... Can I call this (bullied boy) “me”?

Ii yo.

fine EMPH

Sure.

Etto, warui ko ga ite, boku o “trip” sasete, boku no mae ni itta.

bad child SUBJ exist-INF I OBLag “trip” do-CAUS-INF I GEN front DREC
go-PAST-AFFIRM

Um, there was a bad guy, who tripped me and pushed in in front of me.

Dakara, bokutachi ga hairenakatta. Tsugi 33 ban no basu ga kite,

so we SUBJ enter-POT-PAST-NEG next No 33 GEN bus SUBJ come-INF

So, we could not get in (the bus). Next, No 33 bus came, and

(S26.4 Cartoon story – Bus story)

The causative structure used here is, at first glance, ambiguous for the following reasons. Because Shaun mixed English with Japanese, the sentence can be interpreted in two ways: “the bad guy made me trip” or “the guy made someone trip me”. The English word “trip” in “‘trip’ *suru* (do ‘trip’)” that Shaun used can be used both as an intransitive and transitive verb. According to the rules for the causative construction in Japanese, depending on whether the verb is a transitive or intransitive verb, OBLag (i.e., causee) takes different particles, i.e., “*ni*” or “*o*”. If it is a transitive verb, OBLag takes only “*ni*”. Therefore, the sentence in question can be a causative sentence unaccompanied with OBLag because a NP marked by “*ni*” is missing. And it can mean “the bad boy made someone trip me”. In this case, “*boku o* (I OBJ: me)” is an object of the verb “‘trip’ *suru*”. However, this is clearly not the case because, in the picture Shaun was describing, one of the bad boys is

directly tripping “me”, namely no one but this boy is involved in tripping. Thus, it is clear that Shaun used “trip” as an intransitive verb. In the case of an intransitive verb, there are two options for the particle attached to OBLag, “*ni*” or “*o*”. When the meaning of the causative sentence is “to make someone do”, OBLag is marked by “*o*”, and when “to let someone do”, OBLag is marked by “*ni*”. In addition, if the nature of the intransitive verb is non-intentional, OBLag always takes “*o*” instead of “*ni*”. Since the context in the picture is in line with the meaning “make me trip” not “let me trip”, and the meaning of “trip” as an intransitive verb in English is unintentional, the use of OBLag marked by “*o*” is TL. This is a good example showing that Shaun was capable of processing the “relation change”. Therefore, the utterance “*boku o ‘trip’ sasete*” was coded as sufficient evidence.

8.4 Summary of Chapter Eight

In summary, there was one case of sufficient evidence, seven cases of positive but insufficient evidence, and one case of negative evidence for the passive sentence, and two cases of sufficient evidence for the causative sentence. However, the case of sufficient evidence for the passive structure in Session 10 was problematic in terms of the timing of the production. In addition, there is a lack of continuity of evidence after that session. In contrast, Session 23 is the point which provides strong evidence and there appears to be a continuity of evidence from Session 23 to Session 26. In Session 23, a causative structure which requires information exchange between the V and the NPs first appeared. Since both the passive and causative sentences were syntactic structures, for the point of emergence they are required to occur only once (Pienemann, 1998b). Therefore, it was decided that Session 23, which contained the causative sentence consisting of the causative form of the verb and the OBLag marked by a case particle “*ni*”, was the point of emergence for this structure.

In this chapter, the acquisition of the passive and causative structures by a child learner of JSL was presented. It was found that, although evidence for the acquisition of the passive sentence was seen between Sessions 10 and 20, it appears

to be positive but insufficient due to the absence of OBLag in the sentence. Following the emergence criterion for a syntactic structure proposed by Pienemann (1998b), Session 23 was determined to be the point of emergence for the passive/causative structure, namely the beginning of the acquisition of S-procedure in Shaun's interlanguage.

In the next chapter, the results of the analyses for the three verbal morpho-syntactic structures which were reported in the last three chapters will be collated.

CHAPTER NINE

THE ACQUISITION OF VERBAL MORPHO-SYNTAX IN JSL

BY A CHILD LEARNER

In recent times Pienemann's Processability Theory (PT) has been extensively tested in a range of languages acquired as an L2, including German, English and Swedish (Pienemann, 1998b) and Italian and Japanese (Di Biase & Kawaguchi, 2002). The findings from these studies support this theory. Considering the typological distance of the Japanese language from these European languages, the results of Di Biase and Kawaguchi's (2002) study of Japanese provide valuable support for PT. In their study, Di Biase and Kawaguchi hypothesised the acquisition order of verbal morpho-syntax for verb inflection, the *V-te* V structure, and the passive/causative/benefactive.

This is shown in the following table.

Table 9.1

Hypothesised hierarchy for Japanese L2

Stage	Processing procedure	L2 process	Japanese verbal morpho-syntax
4	S-procedure	Inter-phrasal information	Passive Causative Benefactive
3	Phrasal procedure	Phrasal information	<i>V-te</i> V
2	Category procedure	Lexical morphemes	Verb inflection
1	Word/lemma	Words	-

(Di Biase and Kawaguchi, 2002, p. 291)

In the current study, the acquisition of verbal morpho-syntax in JSL by a naturalistic child learner was investigated in the light of this model. In this chapter the collated results are presented with reference to the three research questions.

9.1 Developmental Stages of Verbal Morpho-syntax in JSL by a Child Learner

In this section, the first research question is answered:

RQ1: Do the developmental sequences of acquisition exist in the interlanguage of a child learner of JSL as have been found for adult learners of JSL?

To do this, the results of the acquisition of verb inflection, the *V-te V* structure and the passive/causative, which had been presented separately in the previous three chapters, were combined to determine if there was any implicational relationships between these three types of morpho-syntactic structures as claimed by Di Biase and Kawaguchi (2002). Tables 6.2, 7.2 and 8.1 from the previous chapters were collated into one table, which is shown in Table 9.2 on the next page.

<Please insert Table 9.2 here. >

In order to see more clearly whether or not an implicational relation could be found among the acquisition of these three types of verbal morpho-syntax in Japanese, the interpretation of the table is summarised into a simple table based on the application of the emergence criteria for acquisition proposed by Pienemann (1998b).

Table 9.3

The acquisition of Japanese verbal morpho-syntax by Shaun in an implicational scale

Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
Stage																											
S-procedure (Interphrasal)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	+	+
Phrasal procedure (Phrasal)	-	-	-	-	-	-	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Category procedure (Lexical)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

(Scalability = .898)

The results show that the emergence points for the three types of verbal morpho-syntactic structures, i.e., verb inflection, the *V-te* V structure and the passive/causative constitute a clear implicational relationship, indicating the existence of developmental stages of these structures in Shaun's interlanguage. A calculation for the coefficient of scalability shows that it was .898. This is well above .60 suggested by Hatch and Lazaraton (1991, pp. 210-213) as the benchmark for an implicational relationship to be statistically significant. This means that Shaun acquired the three structures, following the acquisition order of the L2 processes hypothesised in PT, i.e., lexical > phrasal > interphrasal.

9.2 Developmental Stages of Verbal Morpho-syntax in JSL by a Child Learner and Adult Learners

In this section, the second research question is answered:

RQ2: Do the developmental sequences of acquisition by a child learner of JSL match those of adult learners of JSL?

To do this, a comparison was undertaken between the results of the current study and those based on the study by Di Biase and Kawaguchi (2002), in which the acquisition of verbal morpho-syntax by instructed adult JSL learners was investigated.

Since Di Biase and Kawaguchi's (2002) study uses the PT as a framework, a comparison with the results of the current study tests whether or not three of the hierarchical stages of the PT exist in Japanese.

In order to make the comparison easier, the results for all *V-te V* structures other than *-te iru* (the *V-te V* structure marked with durative/imperfective aspect) in the current study were grouped together. In the case of verbal inflection, only verbal affixes for the eight most common verb forms were used for the comparison. These are affixes for the four plain verb forms, namely *-u* (NONPAST-AFFIRM), *-ta* (PAST-AFFIRM), *-nai* (NONPAST-NEG), *-nakatta* (PAST-NEG), and for the four polite verb forms, namely *-masu* (POL-NONPAST-AFFIRM), *-mashita* (POL-PAST-AFFIRM), *-masen* (POL-NONPAST-NEG), *-masendeshita* (POL-PAST-NEG).

The results of the current longitudinal study are shown in Table 9.4, together with the results of the longitudinal study by Di Biase and Kawaguchi (2002) in Table 9.5. Note that all figures in both tables are based on a token count.

Table 9.4

The acquisition of verbal morpho-syntax in JSL by a naturalistic child learner

Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Stage																										
Interphrasal																										
Passive	0	0	0	0	0	0	0	0	0	1/2/1	0	0	0	0	0/2/0	0/1/0	0	0	0	0/1/0	0	0	0	0	0/1/0	0
Causative	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1/0/0	0	0	1/0/0
Phrasal																										
-te iru	0	0	0	0	0	4	0	3	1	13	2	25	2	12	3	14	0	4	14	3	18	10	10	12	21	15
Other V-te	0	2	1	0	1	0	2	0	9	5	2	7	7	6	6	6	8	6	4	5	2	5	11	15	3	24
Vaux																										
Lexical																										
-u	24	58	49	22	18	33	37	20	83	22	50	28	65	35	62	57	81	70	59	42	75	50	93	65	48	97
-ta	19	23	72	45	25	35	27	40	33	39	47	36	20	38	36	60	38	40	47	42	44	47	75	49	47	63
-nai	9	43	32	17	17	16	14	10	22	6	20	12	15	17	11	17	22	12	15	20	37	9	36	15	25	25
-nakatta	0	1	0	3	1	0	0	2	1	1	1	2	1	1	0	4	3	4	1	0	4	5	2	5	2	3
-masu	0	1	0	0	0	7	0	7	0	4	11	33	1	3	1	12	0	1	1	0	5	6	7	1	23	1
-mashita	0	1	0	0	0	14	0	8	0	3	0	26	0	15	1	17	0	2	0	3	7	3	1	4	26	24
-masen	0	0	1	1	0	1	0	0	0	1	1	1	0	4	1	3	0	0	0	0	5	2	4	1	10	0
-masendeshita	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	2	1

(Scalability = .89)

Table 9.5

The acquisition of verbal morpho-syntax in JSL by an instructed adult learner

	Interview number	1	2	3	4	5	6	7	8	9	10	11	12	13
Stage														
Interphrasal														
Passive	0	0	0	0	0	0	0	0	0	0	1/0/0	0/0/1	0/2/0	0
Causative	0	0	0	0	0	0	0	0	0	0	0	3/1/0	0	0
Benefactive	0	0	0	0	0	0	0/2/0	0	0	1/0/0	1/0/0	0/1/0	0	3/2/0
Phrasal														
-te iru	0	0	0		6	2	0	2	1	1	4	2	4	5
Other V-te-Vaux	0	0	0		0	0	4	0	0	1	5	1	3	6
Lexical														
Vstem-POL-PRES (-masu)	9	18	0	11	17		2	4	5	23	13	13	16	15
Vstem-POL-PAST (-mashita)	0	1	12	12	2		20	12	2	10	20	8	20	16
Vstem-POL-NEG (-masen)	0	0	0	2	3		0	1	1	1	2	5	3	4
Vstem-POL-NEG-PAST (-masendeshita)	0	0	0	0	0		0	0	0	0	0	0	0	0

(Scalability = 1.0)

(Based on Kawaguchi, 2002, p. 298)

A comparison of the results of the current study with those of Di Biase and Kawaguchi's (2002) show that there are similar developmental stages of verbal morpho-syntax in Japanese for the naturalistic child learner and the instructed adult learners. It appears that both types of learners went through the three hierarchical stages of acquisition hypothesised by Pienemann (1998b), lending further support to the typological plausibility of PT. This may also mean that, within a framework of PT, there are no maturational constraints (Long, 1990; Hyltenstam & Abrahamsson, 2003; Butler & Hakuta, 2004) on the acquisition order of these three morpho-syntactic structures.

However, a close examination of the results indicates some differences in the acquisitional pattern of verb inflection and the passive/causative. For verbal inflection, while the plain form of the verbs emerged earlier than the polite form of the verbs in the current study, the instructed adult subjects in both longitudinal and cross-sectional studies by Di Biase and Kawaguchi appear to have acquired the polite forms earlier than the plain forms. It is important to note that the internal order of emergence points for verbal affixes in JSL cannot be explained using Lexical Functional Grammar (LFG) within a framework of the current PT. The discrepancy in the results for the points of emergence for the polite and plain form of the verbs between the two studies may be explained by reference to pragmatic factors, and in particular the availability of the linguistic contexts for appropriate levels of speech style according to age. Despite the complexity of inflection for certain types of verbs in the plain form, Shaun acquired the plain forms of verbs earlier than the polite forms. This is clearly due to ample linguistic contexts for the plain forms that Shaun, as a seven year old child, had in his Japanese environment. In contrast, it may be that the lack of linguistic contexts for him to use the polite form of verbs means that the point of emergence for them was delayed. On the other hand, it could be that adult learners were first taught the polite forms and lacked linguistic contexts for the plain forms.

As for the structures for Stage 4, i.e., S-procedure, there was more positive but insufficient evidence (i.e., a lack of OBLag) observed before the emergence point in the current study than in the results of Di Biase and Kawaguchi's (2002). This may be due to the possible difference in the level of formality or rigidity (the omission of some non-obligatory grammatical elements) of utterances between Di Biase and Kawaguchi's subjects, i.e., instructed adult learners of JFL, and Shaun, a child learning JSL naturalistically. Such differences are evident when the speech styles of Shaun and JFL university students, who participated in Huter's (1996) study, are compared. Whilst Huter's subjects rarely dropped words and particles even if they were not obligatory, Shaun omitted many non-obligatory grammatical elements. While the utterances of the subjects in Huter's study sounded bookish, Shaun's utterances sounded natural, particularly for a seven-year-old.

In this section, the results of the current study on the acquisition of verbal morpho-syntax in JSL by a child learner were compared to those by adult learners. In the next section, a comparison of the acquisition of verbal morpho-syntax between two child subjects, namely Shaun, as a child learner of Japanese L2, and Hannah, a bilingual child acquiring Japanese L1 will be undertaken.

9.3 Developmental Stages of Japanese Verbal Morpho-syntax by a Child JSL Learner and a Japanese L1 Bilingual Child

In this section, the third research question is answered:

RQ3: Do the developmental sequences of acquisition by a child learner of JSL parallel those of children acquiring Japanese as L1?

To do this, a comparison was drawn between the results of the current study and those of a Japanese L1 study by Itani-Adams (2003a, b). In her study, Itani-Adams also used PT as a framework for the analysis of her data on the acquisition of verbal morpho-syntax by a two-year-old bilingual (Japanese/English) girl acquiring Japanese L1. Specifically, Itani-Adams investigated six verbal

morphemes, namely *-te*, *-ta*, *-chatta*, *-u*, *-teru* and *-nai*. For the V-*te* V structures, she coded V-*te kudasai* (Please do ~) and other V-*te* V structures separately. Also for Stage 4 - the acquisition of S-procedure, she investigated the benefactive structure with indirect object (IO) and other verbal structures with IO. No instance of the passive or causative structure was observed in her data.

In order to make the comparison simpler, verbal affixes other than the ones that Itani-Adams studied were deleted from the data in the current study. Also, aside from V-*te kudasai* and V-*te kure* (the imperative form of V-*te kudasai*), all V-*te* V structures in the current study were grouped together. The results of the current study and those in Itani-Adams' study are shown in Table 9.6 and Table 9.7. Note that all figures in both tables are based on a token count (i.e., number of occurrences). It also should be noted that, while Itani-Adams (2003a, b) used the dative marker "*ni*" in the benefactive structure as a scale for the acquisition of S-procedure, the current study used the passive/causative structures for the acquisition of the same L2 process. Therefore, as far as S-procedure is concerned, further research is necessary in order for a more precise comparison to be made.

Table 9.6

The acquisition of verbal morpho-syntax by a naturalistic child learner of Japanese

Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Stage																										
Interphrasal																										
Passive	0	0	0	0	0	0	0	0	0	1/2/1	0	0	0	0	0/2/0	0/1/0	0	0	0	0/1/0	0	0	0	0	0/1/0	0
Causative	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1/0/0	0	0	1/0/0
Phrasal																										
V-te V	0	2	1	0	1	4	2	3	9	18	4	31	8	18	9	20	8	9	18	8	20	15	21	27	24	39
-te kudasai	0	0	0	0	0	0	0	0	1*	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0
Lexical																										
-u	24	58	49	22	18	33	37	20	83	22	50	28	65	35	62	57	81	70	59	42	75	50	93	65	48	97
-ta	19	23	72	45	25	35	27	40	33	39	47	36	20	38	36	60	38	40	47	42	44	47	75	49	47	63
-nai	9	43	32	17	17	16	14	10	22	6	20	12	15	17	11	17	22	12	15	20	37	9	36	15	25	25
-teru	6	28	13	8	9	6	11	14	42	23	36	25	37	16	34	19	19	29	22	14	36	24	34	44	30	27
-te (request)	0	2	4	2	1	4	2	6	0	2	1	3	5	2	1	4	0	2	6	1	4	0	1	3	1	2
-chatta	0	0	0	11	2	3	0	2	0	1	0	0	1	2	0	1	0	3	3	2	3	1	1	0	0	2

(Scalability = .89)

Note: * = V-te kure

Table 9.7

The acquisition of verbal morpho-syntax by a bilingual child acquiring Japanese L1

Session	1	2	3	4	5	6	7	8	9	10	11	12	13	16	19	22	25	28	31	34	38
Stage																					
Interphrasal																					
Correct marking of IO							0		0							2	1		3	1	2
Phrasal																					
V-te V							1					2	12		1	2	4		5	12	12
-te kudasai					1*	3*	3*	5*		1*		1								1	
Lexical																					
-te	(1)	2	6	11	14	15	15	12	29	25	32	60	20	27	23	24	1	16	30	37	
-nai		5	3	2		2		6	4	1	15	11	9	12	5	5	1	8	5	16	
-u	2	1	3	1		7	14	7	18	20	31	42	16	31	19	20	3	35	35	37	
-ta		1	2	5	4	11	6	6	6	8	11	11	13	21	21	6	3	17	21	14	
-teru	1						6	6	10	19	17	26	3	14	11	2		7	7	12	
-chatta										1	1	5	2	1	4	2		2	6	8	
Word																					

Note: * indicates cases where *kudasai* was not fully realised

(Based on Itani-Adams, 2003a, b)

A comparison of the results of the current study with those of Itani-Adams (2003a, b) show that, Shaun, a child learner of Japanese L2, and Hannah, a young child acquiring Japanese L1, took a similar route in the developmental stages of verbal morpho-syntax in Japanese. Both children acquired three levels of verbal morpho-syntactic structures in Japanese, following the order hypothesised by Di Biase and Kawaguchi (2002). The order was verb inflection > the *V-te* V structure > the passive/causative/benefactive. This means that the results of the both studies provide further support for the validity of the hierarchy of acquisition as hypothesised in PT by Pienemann (1998b), that is lexical procedure > phrasal procedure > interphrasal procedure.

Both children acquired language in a bilingual context, namely English and Japanese, at the time of the study. Hannah, in Itani-Adams' study, was being raised bilingually both in Japanese and English since her birth. She was aged from 1;11 to 4;10 when the data were collected. On the other hand, Shaun also lived with the two languages, namely speaking Japanese at school and English at home at the time of the study. He had begun to be exposed to Japanese nine months before the commencement of the study. The data were collected for one year and nine months after his exposure to Japanese began. Although both children acquired Japanese naturalistically, with no instruction being given to them, Japanese is L1 for Hannah and L2 for Shaun. Nevertheless, they acquired verbal morpho-syntax in Japanese in a similar manner.

With regard to the internal order of the points of emergence for verbal affixes, a comparison was a little difficult due to the limited nature of the data in the current study. While Itani-Adams found the order of the six affixes were *-te* > *-nai* > *-u* > *-ta/-teru* > *-chatta*, it was impossible to determine the order of the emergence points for the four affixes, namely *-nai*, *-u*, *-ta* and *-teru* in the current study. All of these affixes had already begun to be used by Shaun at the commencement of the study. However, the affix *-chatta* emerged last in both studies. One difference between the studies is that, while the affix *-te* for a request emerged earliest in Hannah's interlanguage, it emerged later than *-nai*, *-u*, *-ta* and *-teru* in the current study. Further, this affix emerged with NTL use or non-application of the rule before the

rules began to be applied correctly in Session 8. For the acquisition of S-procedure, the current study did not examine the points of emergence for the benefactive structures and Itani-Adams found no case of the passive and the causative. Therefore, as far as this stage is concerned, a comparison for internal order cannot be made. In addition, unlike Itani-Adams' study, no data in relation to Stage 1 (word/lemma) are available in the current study since the acquisition of word/lemma, just like some verbal affixes, had begun before the commencement of the study.

9.4 Summary of Chapter Nine

In summary, the developmental stages of verbal morpho-syntax in the interlanguage of Shaun, an Australian boy who was naturalistically acquiring JSL followed a hierarchy of acquisition as hypothesised in PT, i.e., category procedure > phrasal procedure > interphrasal procedure. This order of acquisition paralleled those of adult learners of JSL (Di Biase & Kawaguchi, 2002) and also a bilingual child acquiring Japanese L1 (Itani-Adams, 2003a, b). Therefore, the results of the current study support the validity of PT, reinforce the typological plausibility of PT which had been already claimed by Di Biase and Kawaguchi (2002), and add the applicability of PT to the acquisition of JSL by a naturalistic child learner.

CHAPTER TEN

CONCLUSION

The purpose of this longitudinal case study was to investigate how a seven-year-old Australian boy acquired Japanese morphology and syntax as a naturalistic second language learner. Specifically the points of emergence for three verbal morpho-syntactic structures, namely verbal inflection, the *V-te* V structure and the passive/causative structure, were investigated within a framework of Processability Theory (PT) (Pienemann, 1998b). The subsequent development of these structures was also examined. To determine the points of emergence for these structures, the emergence criteria developed by Pienemann (1998b) were applied.

The following three research questions were addressed in the current study:

- RQ1: Do the developmental sequences of acquisition exist in the interlanguage of a child learner of JSL as have been found for adult learners of JSL?
- RQ2: Do the developmental sequences of acquisition of by a child learner of JSL match those of adult learners of JSL?
- RQ3: Do the developmental sequences of acquisition by a child learner of JSL parallel those of children acquiring Japanese as L1?

The child, Shaun, had been enrolled in a primary school for Japanese children in Perth for nine months at the commencement of the data collection. Data were collected through audio taping approximately 90 minute conversations between the child and other Japanese speakers at his house fortnightly over a period of one year and nine months. Hence the data constitutes a total of 26 oral samples.

The task-based elicitation method was used to create as spontaneous interaction as possible between Shaun and other speakers of Japanese, including his

school friends, his brother, the researcher, and so on. In order to minimise task effect, eight different types of tasks, some of which were designed to elicit the use of a particular linguistic feature, were developed. Further, in order to minimise practice effect and also avoid boredom, most of these tasks had four or five different versions, that is, a total of nineteen different regular tasks and twelve additional tasks were prepared and distributed over the 26 sessions. These versions were recycled to ensure the comparability of the outcomes.

10.1 Implications

It is claimed that PT can be used to explain the acquisition of a wide range of morpho-syntactic structures and that it is typologically plausible and applicable to any language (Pienemann, 1998b). The validity of the PT has been tested for the following second languages (L2): German, English (Pienemann, 1998b), Swedish (e.g., Pienemann & Håkansson, 1999), and Italian and Japanese (e.g., Di Biase & Kawaguchi, 2002), and more recently in the following bilingual L1 contexts: Arabic-Swedish (Mansouri & Håkansson, 2004), and, Japanese-English (Itani-Adams, 2003a, b)

The results of the current study clearly indicate that a developmental sequence of acquisition of verbal morho-syntax does exist in the interlanguage of the naturalistic child learner of JSL, just as have been found with adult learners of JSL. Shaun acquired the three structures in the order of verbal inflection > the *V-te* V structure > the passive/causative structure as hypothesised by Di Biase and Kawaguchi (2002), thus following the acquisition order of the L2 processes predicted in PT, i.e., lexical > phrasal > interphrasal. Therefore, the results of this study lend further support to the cross-linguistic validity of PT.

In addition, it was found that the developmental sequence of acquisition of verbal morho-syntax by the child learner of JSL was similar to that of adult learners of JSL. Therefore, the findings of this study provide further support for the applicability of PT to the acquisition of JSL, not only by adult learners, but also by a child learner. It is

therefore possible that within a framework of PT, maturational constraints (Long, 1990; Hyltenstam & Abrahamsson, 2003; Butler & Hakuta, 2004) do not impact on the acquisition order of these linguistic features.

Another interesting finding of this study is that both the child learner of JSL in the current study and a bilingual child of Japanese L1 from other research (Itani-Adams, 2003a, b) took a similar developmental route in the acquisition of their verbal morpho-syntax. This also favors the universality of PT in relation to L1 and L2 acquisition.

The results of the current study have relevance not only to SLA theory, as mentioned above, but also with respect to pedagogical development. Firstly, the results of the current study indicate that both the instructed adult learners and the uninstructed child learner of JSL acquired the three verbal morpho-syntactic structures in the same order, confirming that the availability of instruction does not affect the developmental sequence of these structures. This gives an endorsement to the claim by Pienemann (1998b) that “teachability is constrained by processability” (p. 250). Curriculum developers and teachers for JSL may need to be aware of the acquisition order of these structures, namely verbal inflection > the *V-te* V structure > the passive/causative structures, when they design and implement a syllabus for teaching JSL.

Secondly, some discrepancy in the internal order of the acquisition of verbal affixes found between the results of the current study and those of studies by Di Biase and Kawaguchi (2002) and Itani-Adams (2003a, b) could be “the degree of freedom implied in Hypothesis Space” (Pienemann, 1998b, p. 233, also see Chapter 3.4, pp. 94-95 in this thesis). Therefore, this may be in fact an area where JSL teachers may be able to differentiate the points of emergence for verbal affixes through instruction according to the age or needs of learners. Pienemann (1998b) claims that variation observed among learners whose procedural skills are at the same stage, i.e., within the same Hypothesis Space, could be due to (1) interlanguage variation, (2) the effect of instruction on interlanguage systems, (3) task variation,

and (4) types of acquisition (p. 234). There is an established perception in teaching JSL that polite forms are first acquired and then plain forms (e.g., Miyachi, 1990). However, this seems to be largely based on the assumption about contexts for adult JSL learners, taking no consideration of the different linguistic contexts available for children learning JSL. It is reported that there are currently more than 18,000 children at primary and lower secondary levels who require JSL instruction in Japan (Kodomo LAMP, 2003), thus an order of instruction more pertinent to these young JSL learners may be necessary. This may also apply to Japanese immersion settings and even JSL classes at a primary school level outside Japan.

10.2 Limitations of the Current Study

This study took a case study approach to investigate longitudinally the acquisition of verbal morpho-syntax in Japanese by a child learner of JSL. As with any case study, readers should be wary of generalising these findings which were obtained from the data of one subject. The subject of the current study was a young naturalistic learner of JSL who lived outside Japan. This is a unique context given that most of the child learners of Japanese in Australia are taught learners of JFL in a classroom setting. To test the generalisability of the results of the current study, more research is needed, using more varied subjects, e.g., subjects of various ages, and in various contexts, e.g., instructed child JFL learners in Australia and child JSL learners in Japan.

Secondly, the data collection period of the current study was one year and nine months, which was rather short compared with the studies by Di Biase and Kawaguchi (2002) and Itani-Adams (2003a, b). Unfortunately the beginning of the acquisition of verbal inflection was missed, and therefore it was impossible to find out the internal order of some verbal affixes. Also, a longer period of data collection could have ensured a clearer continuity of the occurrences of the passive/causative structures. As discussed in Chapter 1, this is a limitation of case study research due to the difficulty of maintaining strong commitments over a long period of time for both the researcher and the subject(s).

Lastly, this study used a task-based elicitation method. Although overall this method successfully elicited naturalistic oral production by Shaun and other speakers of Japanese, it failed to elicit the frequent use of some linguistic structures, such as the passive and the polite negative form of verbs. Infrequent occurrences of these structures may be due to the design of the current study, which attempted to balance naturalistic interaction with the use of artificial tasks. Although the tasks were artificial, interaction certainly appears to have occurred naturalistically and spontaneously during these tasks. No matter with whom Shaun played games, it appeared that he did not notice the ‘linguistic’ purpose of each of the tasks. He consistently interacted in a way that demonstrated that he was immersed in achieving the goal of the task. As a consequence, when Shaun did not use the desired linguistic structures, the researcher did not intervene in the conversation, so as not to upset the natural flow. This was particularly the case during ‘Student and teacher play’, which was designed to elicit the use of negative polite forms and took the form of ‘semi-structured’ interviews. In contrast, in previous studies of the acquisition of negation in JSL by adult learners (N. Iwasaki, 2000; Kanagy, 1991), the researchers intervened when the subjects failed to produce the targeted linguistic features and therefore it is not guaranteed that the subjects did not notice the researchers’s intention of eliciting the linguistic features. Although this has not been the case for data collection in most PT child studies, it is apparent from the findings of the current study that in order to elicit more frequent use of certain structures, some form of intervention by researchers is required. However, this needs to be devised in such a way that it should occur without being noticed by subjects.

10.3 Suggestions for Future Work

The current study investigated the acquisition of JSL by a seven year old Australian boy who was learning Japanese naturalistically. Although it was a single person case study, unlike most of the descriptive case studies of JSL undertaken previously, the strength of the results of the current study rests in them being based on an explanatory theory, namely PT. A comparison of the results of the current

study with those of the studies by Di Biase and Kawaguchi (2002) and Itani-Adams (2003a, b), which were also undertaken within the framework of PT, clearly show that Shaun went through a similar developmental path of the acquisition of verbal morpho-syntax to that of adult learners of JSL, and of a bilingual Japanese L1 child. In this light, the results of the study can be deemed to be both robust and powerful. For further generalisation of the results from the current study, more research, particularly more longitudinal case study research is encouraged to be conducted based on the same framework both in terms of theory and analysis.

Although data collection from ‘Shaun’ has ceased, work is still in progress testing PT in other interlanguage situations, such as adult Mandarin Chinese L2 (Zhang, 2003), Arabic-Swedish child bilingualism (Mansouri & Håkansson, 2004) and Spanish L2 (Higer, 2003; Taylor, 2004) and so on. As this work continues, more fine-grained methods of analysis continue to be developed (e.g., the emergence criteria, including a consistent definition of formulae for languages with rich inflection, such as Italian, are also being proposed [Palloti, 2004]). An attempt like this to develop and use a standardised method of analysis is also required in JSL. For example, S. Ito’s (1997, see pp. 62-65 of this thesis) study of the acquisition of JSL by an eight year old Russian boy indicates that the subject seemingly had acquired verbal inflection including benefactive verbs, potential verbs and verbal affixes as part of subordinate clause earlier than the benefactive structures (*V-te ageru* accompanied with OBLang). However, at this point, a comparison of the emergence points for three verbal morpho-syntactic structures in question in the current study to those contained in S. Ito’s is difficult as her study did not appear to use the same criterion for emergence of morphology, nor the same scales for stages of acquisition as those of PT based JSL studies. More collaborative efforts are needed for JSL researchers to obtain more meaningful and productive outcomes in JSL.

For more than three decades, there has been a good deal of discussion in the literature as to whether natural order for language acquisition exists. Unlike the empirical and descriptive studies in FLA and SLA in the 1960s and 1970s, PT has successfully provided a theoretical explanation of some of the acquisitional

phenomena in SLA. Even so, the range of morphological and syntactical structures that have been found to be in line with a hierarchy of L2 processes in PT are still limited in SLA, and, this is especially the case in Japanese, where currently only a handful of Japanese morpho-syntactic structures have been investigated. Further studies are required of a greater variety of morpho-syntactic structures and at a variety of processing levels. At present, all of the Japanese structures that have been studied are in the lower levels of the hierarchy. Therefore, further research is required to explore the application of PT to higher levels of Japanese structures. For example, it appears in the current study that some verbal affixes behaved differently when they were supplied in a simple sentence from when they occurred in a subordinate clause (see Footnote 28 in Chapter 6.2, p. 200, and Footnote 34, in Chapter 6.5, p. 226). This suggests that Shaun might have needed to develop certain L2 processes to correctly supply a particular verbal affix in a subordinate clause. Future research is needed where a closer examination of cases such as these is undertaken.

Lastly, the most intricate but essential task for JSL researchers in the future is to connect more Japanese morpho-syntactic structures through the use of both Lexical Functional Grammar (LFG) and PT. To do so it will be important to test the potential of this connection empirically.

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Table 6.3 (To be inserted as pp. 195 & 196)

Suppliance and non-suppliance of verbal affixes in different linguistic contexts

Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Affix																										
<i>-u</i>	+24	+58	+48(1) >1	+22(1)	+15 >3	+32 >1	+37	+20	+82 >1	+22	+50	+28	+65 (1)	+35	+62	+56 >1	+81	+70	+59	+42	+75	+50	+93	+65	+48	+97
	-6	-4	-19	-10	-2	-4	-1	-1	-1			-2	-1		-1			-1	-1							
<i>-ta</i>	+17 >2	+23	+60(2) >12	+38(1) >7	+24 >1	+35	+26 >1	+40	+32 >1	+39	+47	+36	+20	+38	+36	+60	+38	+40	+47	+42	+44	+47	+75	+49	+47	+63
<i>-nai</i>	-1 >1(1)	+43(1)	-2 >1	-2 >1	-1 >1	+16 >1	+15 >1	+14 (1)	+10(1)	+22 >1(1)	+20	+12	+15	+17	+11	+17	+22	+12	+15	+20	-1 >1	+9	+36	+15	+25(2)	+25
<i>-nakatta</i>		+1		+3	+1		-1	+2	+1	+1	+1	+2	+1	+1		+4	+3	+4	+1		+4	+5	+2	+5	+2	+3
<i>-oo</i>	-1				-1 +1	-1				-1 +2		+2	+2		+1	+3(1)		+2			+1	+1	+1	+3(1)	+4	+1
<i>-teru</i>	+2 >4	+25 >3	+9 >4	+6 >2	+8 >1(1)	+5 >1	+11	+14	+42	+23(2)	+36	+23 >2(1)	+35 >2	+16	+33 >1	+19	+19	+29	+21 >1(1)	+14	+34 >2	+24	+34	+43 >1	+30	+27
<i>-teta</i>	-1 >2	+4 >1	+1	+1		+1		+2		-1 >4	+4		+4 >1	+5	+1	+1				+1	+1		+3	+1	+4	+13
<i>-tenai</i>	+3	+9(1)	+4(1)	+2	+1	+5(1) >1(1)	+9 >1(1)	+1 >1(1)	+7	+4	+12	+7 >1(1)	+5	+7	+3	+3	+3 >1	+2	+12	+1	+3	+7	+7	+17	+13	+4
<i>-tenakatta</i>									+2							+2										
<i>-chatta</i>				+9 >2	+2	+3		+2		+1			+1	+2		+1		+3	+3	+2	+3	+1	+1			+2
<i>-masu</i>		+1				+6 >1		+7		+4	+11	+33	+1	+3	+1	+12		+1	+1		+5	+6	+7	+1	+23	+1
<i>-mashita</i>		+1				+14		+8		+3		+26		+15	+1	+17		+2		+3	+7	+3	+1	+4	+26	+24
<i>-masen</i>			+1	+1		-1 >1		-3		+1	+1	+1		+3 >1	+1	+3					+5	+2	+4	+1	+10	
<i>-masendeshita</i>														+3		+3									+2	+1
<i>-mashoo</i>		-1	-1			+1								+1				+1			+1					

Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Affix																										
-temasu								+2			+10	+2		+3		+1 >1									+3	
-temashita								+4 >3(2)																		+4
-temasen																							+1			
-temasendeshita																										
-te (request)		>2	>4	+1 >1	+1	>4	+2	+6		+1 >1	+1	+3	+5	+2	+1	+4		+1 >1	+6	+1	+4		+1	+3	+1	+2
-te clause	+1	+2	+19	+11	+1	+39	+32	+13	+19	+37	+38	+16	+69	+27	+26(1)	+54	+40	+67	+58	+68 >2	+44	+55	+35	+45 >1	+36	+34
-naide. (negative request)										-1		+2	-9	-3				+2		+1	+2				+1	
-naide/-nakute clause	+1										+3		+5			+2(1)	+1	+1	+1		+4(2)	+3	+1	+2	+2	+1
-tete clause					+1					+7 >1	+2	+1	+63 >9(2)	+22 >3(2)		+2	+2	+1	+1	+1		+1				+8
Other affixes	+1	+2	+4	+2		+3	+2		+4	+2	+5	+3	+10	+2	+2	+7	+7	+10	+2	-2 +5	+10	+5	+7	-1 +6	+7	+11
Total number of each of the linguistic contexts	+59 >9 (1) -9	+169 (2) >6 -6	+178 (4) >21 -22*	+113 (2) >12 -12	+71 >6(1) -6	+159 (1) >10(1) -10	+133 (1) >2(1) -2	+131 (1) >4(3) -5*	+211 >6 -6	+152 (2) >3(1) -4*	+241	+197 >3(2) -3	+301 (1) >12 (2) -11*	+202 >4(2) -5 (2) -11*	+179 (1) >1 -1	+271 (2) >2 -1*	+216 >1 -1	+248 >1 -1	+227 >1(1) -1	+201 >2 -2	+283 (2) >2 -1*	+220	+309	+260 (1) >2 -1	+284 (2) (2)	+321
Total occurrences	68	175	199	125	77	169	135	135	217	155	241	200	313	206	180	273	217	249	228	203	285	220	309	262	284	321

Note that for each cell:

- first row = suppliance of the affix in TL contexts
- Second row = overuse of the affix in NTL contexts
- Third row = absence of the affix in TL contexts
- The figure in the bracket means that the structure is ill formed.

* indicates several instances where a total number of overuse (>n) and absence (-n) do not match in the table. Most of these are the cases where the correct forms for the overused affixes are the V-*te* Vaux (i.e., beyond this stage). When there are two possibilities for the correct form, one in this stage was chosen. For example, when *-u* is overused for the V-*te* V structure (*-te iru*) in Stage 3 or its contracted form *-teru* (in Stage 2), *-teru* was chosen as the missing form.

Table 6.4 (To be inserted as pp. 205 & 206)

Relative frequency of rule application for verbal affixes in three linguistic contexts

Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Affix																										
<i>-u</i>	0.8	0.94	0.71	0.69	0.75	0.86	0.97	0.95	0.98	1.	1.	0.93	0.98	1.	0.98	0.98	1.	0.99	0.98	1.	1.	1.	1.	1.	1.	1.
	0.	0.	0.01	0.	0.15	0.03	0.	0.	0.01	0.	0.	0.	0.	0.	0.	0.02	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
<i>-ta</i>	0.2	0.06	0.28	0.31	0.1	0.11	0.03	0.05	0.01	0.	0.	0.07	0.02	0.	0.02	0.	0.	0.01	0.02	0.	0.	0.	0.	0.	0.	0.
	0.85	1.	0.81	0.81	0.92	1.	0.96	1.	0.86	0.95	0.98	1.	0.95	1.	1.	0.98	1.	1.	1.	1.	0.98	1.	1.	1.	1.	1.
<i>-nai</i>	0.1	0.	0.16	0.15	0.04	0.	0.04	0.	0.03	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	0.05	0.	0.03	0.04	0.04	0.	0.	0.	0.11	0.05	0.02	0.	0.05	0.	0.	0.02	0.	0.	0.	0.	0.02	0.	0.	0.	0.	0.
<i>-nakatta</i>	0.89	1.	1.	1.	0.94	0.83	0.93	0.91	1.	0.83	1.	0.92	1.	0.94	1.	1.	0.96	1.	1.	1.	1.	1.	1.	1.	1.	1.
	0.11	0.	0.	0.	0.06	0.06	0.	0.	0.17	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	0.	0	0	0	0.	0.1	0.07	0.09	0.	0.	0.	0.08	0.	0.06	0.	0.	0.04	0.	0.	0.	0.	0.	0.	0.	0.	0.
<i>-oo</i>	(0.)	(1.)		(1.)	(0.5)	(0.)		(1.)	(1.)	(0.5)	(1.)	(1.)	(1.)	(1.)		1.	(1.)	1.	(1.)		1.	1.	(1.)	1.	(1.)	(1.)
	(0.)	(0.)		(0.)	(0.)	(0.)		(0.)	(0.)	(0.)	(0.)	(0.)	(0.)	(0.)		0.	(0.)	0.	(0.)		0.	0.	(0.)	0.	(0.)	(0.)
	(1.)	(0.)		(0.)	(0.5)	(1.)		(0.)	(0.)	(0.5)	(0.)	(0.)	(0.)	(0.)		0.	(0.)	0.	(0.)		0.	0.	(0.)	0.	(0.)	(0.)
<i>-teru</i>	0.29	0.86	0.69	0.75	0.73	0.71	1.	1.	0.98	1.	1.	0.92	0.95	1.	0.97	1.	1.	1.	0.95	1.	0.94	1.	1.	1.	0.98	1.
	0.57	0.10	0.31	0.25	0.09	0.14	0.	0.	0.	0.	0.	0.08	0.05	0.	0.03	0.	0.	0.	0.05	0.	0.06	0.	0.	0.	0.02	0.
<i>-teta</i>	0.14	0.03	0.	0.	0.18	0.14	0.	0.	0.02	0.	0.	0.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	(0.5)	0.8	(1.)	(1.)		(0.)		(1.)	0.		1.		0.8	1.	(1.)	(1.)				(1.)	(1.)		(1.)	(1.)	1.	1.
<i>-tenai</i>	(0.5)	0.2	(0.)	(0.)		(0.)		(0.)	1.		0.		0.2	0.	(0.)	(0.)				(0.)	(0.)		(0.)	(0.)	0.	0.
	(0.)	0.	(0.)	(0.)		(1.)		(0.)	0.		0.		0	0	(0.)	(0.)				(0.)	(0.)		(0.)	(0.)	0	0
<i>-tenakatta</i>	(1.)	1.	1.	(1.)	(1.)	1.	0.9	(0.5)	1.	1.	1.	0.88	1.	1.	(1.)	(1.)	0.75	(1.)	1.	(1.)	(1.)	1.	1.	1.	1.	1.
	(0.)	0.	0.	(0.)	(0.)	0.	0.1	(0.5)	0.	0.	0.	0.13	0.	0.	(0.)	(0.)	0.25	(0.)	0.	(0.)	(0.)	0.	0.	0.	0.	0.
	(0.)	0.	0.	(0.)	(0.)	0.	0.	(0.)	0.	0.	0.	0	0	0	(0.)	(0.)	0	(0.)	0	(0.)	(0.)	0	0	0	0	0
<i>-chatta</i>				0.82	(1.)	(1.)		(1.)		(1.)			(1.)	(1.)		(1.)		(1.)	(1.)	(1.)	(1.)	(1.)	(1.)			(1.)
				0.18	(0.)	(0.)		(0.)		(0.)			(0.)	(0.)		(0.)		(0.)	(0.)	(0.)	(0.)	(0.)	(0.)			(0.)
<i>-masu</i>		(1.)		0.	(0.)	0.86		1.		1.	1.	1.	(1.)	(1.)	(1.)	1.		(1.)	(1.)		1.	1.	1.	(1.)	1.	(1.)
		(0.)				0.14		0.		0.	0.	0.	(0.)	(0.)	(0.)	0.		(0.)	(0.)		0.	0.	0.	(0.)	0.	(0.)
<i>-mashita</i>		(0.)				0.		0.		0.	0.	0.	(0.)	(0.)	(0.)	0.		(0.)	(0.)		0.	0.	0.	(0.)	0.	(0.)
	(1.)					0.93		0.73		(1.)		1.		(1.)	(1.)	1.		(1.)		(1.)	1.	(1.)	(1.)	1.	1.	1.
<i>-masen</i>	(0.)					0.		0.		(0.)		0.		(0.)	(0.)	0.		(0.)		(0.)	0.	(0.)	(0.)	0.	0.	0.
	(0.)					0.07		0.27		(0.)		0.		(0.)	(0.)	0.		(0.)		(0.)	0.	(0.)	(0.)	0.	0.	0.
<i>-masendeshita</i>		(1.)	(1.)			(0.)				(1.)	(1.)	(1.)		0.75	(1.)	(1.)					1.	(1.)	1.	(1.)	1.	1.
		(0.)	(0.)			(1.)				(0.)	(0.)	(0.)		0.25	(0.)	(0.)					0.	(0.)	0.	(0.)	0.	0.
	(1.)	(1.)				(0.)				(0.)	(0.)	(0.)		0.	(0.)	(0.)					0.	(0.)	0.	(0.)	0.	0.
<i>-mashoo</i>					(1.)									(1.)				(1.)				(1.)				(1.)
					(0.)									(0.)				(0.)				(0.)				(0.)
					(0.)									(0.)				(0.)				(0.)				(0.)

Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
Affix																											
-temasu								(1.) (0.) (0.)			1. 0. 0.	(1.) (0.) (0.)		(1.) (0.) (0.)		(0.5) (0.5) (0.)										(1.) (0.) (0.)	
-temashita								0.57 0.43 0.																		1. 0. 0	
-temasen																							(1.) (0.) (0.)				
-temasendeshita																											
-te (request)		(0.) (1.) (0.)	0. 1. 0.	(0.5) (0.5) (0.)	(1.) (0.) (0.)	0. 1 0.	(1.) (0.) (0.)	1. 0. 0.		(0.5) (0.5) (0.)	(1.) (0.) (0.)	(1.) (0.) 0	1. 0. 0	(1.) (0.) (0.)	(1.) (0.) 0		(0.5) (0.5) (0.)	1. 0. 0	(1.) (0.) 0	1. 0. 0			(1.) (0.) (0.)	(1.) (0.) (0.)	(1.) (0.) (0.)	(1.) (0.) (0.)	
-te clause	(1.) (0.) (0.)	(1.) (0.) (0.)	1. 0. 0.	1. 0. 0.	(1.) (0.) (0.)	1. 0. 0.	1. 0. 0.	1. 0. 0.	1. 0. 0.	0.97 0. 0.03	1. 0. 0.	1. 0. 0.	0.88 0. 0.12	0.9 0.1 0	1. 0. 0	1. 0. 0	1. 0. 0	1. 0. 0	1. 0. 0	0.97 0.02 0	1. 0. 0	1. 0. 0	1. 0. 0	0.98 0.02 0	1. 0. 0	1. 0. 0	
-naide (negative request)												(1.) (0.) (0.)						(1.) (0.) (0.)		(1.) (0.) (0.)					(1.) (0.) (0.)		
-naide/-nakute clause	(1.) (0.) (0.)										(1.) (0.) (0.)		1. 0. 0			(1.) (0.) (0.)	(1.) (0.) (0.)	(1.) (0.) (0.)	(1.) (0.) (0.)		1. 0. 0	(1.) (0.) (0.)	(1.) (0.) (0.)	(1.) (0.) (0.)	(1.) (0.) (0.)		
-tete clause					(1.) (0.) (0.)					0.88 0.13 0.	(1.) (0.) (0.)	(1.) (0.) (0.)	0.88 0.13 0	0.88 0.12 0		(1.) (0.) (0.)	(1.) (0.) (0.)	(1.) (0.) (0.)	(1.) (0.) (0.)	(0.33) (0.) (0.67)		(1.) (0.) (0.)		(0.) (0.) (1.)	1. 0. 0		

Note that for each cell:

first row = rule is applied correctly in TL contexts

Second row = overuse of the affix in NTL contexts

Third row = absence of the affix in TL contexts

Also where figures are provided in the brackets, the relative frequency obtained comes from linguistic contexts smaller than four.

Table 7.3 (To be inserted as p. 237)

Suppliance and non-suppliance of the V-te V structure in different linguistic contexts

Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
V-te V																										
-te iru						+4		+2 >1(1)	+1	+12 >1	+2	+25(1)	+2	+10 >2(1)	+3	+14		+4	+14	+3	+18	+10	+9 >1	+12	+21	+14 >1
-te aru					+1		+2		+7	+1	+2		+3	+2		+1		+1		+1	+1		+1 >1(1)	+2		+16 >1(1)
-te miru										+2			-1 +2		+2	-1 +1	+2		+2	+2	-1					+1
-te shimaui												+5(1)		+1			+1						+2	+10		
-te ageru									+1					+1	+1				+1	+1		+3				+2
-te kureru									+1			+1	+1				+1	+1								+2
-te morau																		+1								
-te iku			+1							+1			+1	+1	+2		+1	+1	+1				+3			+1
-te kuru		+2								+1			+1	+3			+3	+1				+1	+4	+3	+2	
-te kaeru												+1				+3		+1		+1	+1	+1			+1	+1
Total		+2	+1		+1	+4	+2	+2 >1(1)	+10	+17 >1	+4	+32(1)	+9	+16 >2(1)	+9	+20	+8	+10	+18	+8	+20	+15	+19 >2(1)	+27	+24	+37 >2(1)
Occurrence	0	2	1	0	1	4	2	3	10	18	4	32	-1 9	18	9	-1 20	8	10	18	8	-1 20	15	-1 21	27	24	-1 39

Table 9.2 (To be inserted as p. 291)

The occurrences of verbal affix, the V-*te* V structure and the passive/causative in Shaun's interlanguage

Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Structure																										
Interphrasal																										
Passive	0	0	0	0	0	0	0	0	0	1/2/1	0	0	0	0	0/2/0	0/1/0	0	0	0	0/1/0	0	0	0	0	0/1/0	0
Causative	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1/0/0	0	0	1/0/0
Phrasal (V-<i>te</i> V)																										
- <i>te iru</i>	0	0	0	0	0	4	0	3	1	13	2	25	2	12	3	14	0	4	14	3	18	10	10	12	21	15
- <i>te aru</i>	0	0	0	0	1	0	2	0	7	1	2	0	3	2	0	1	0	1	0	1	1	0	2	2	0	17
- <i>te miru</i>	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	1	2	0	2	2	0	0	0	0	0	1
- <i>te shimau</i>	0	0	0	0	0	0	0	0	0	0	0	5	0	0	1	0	1	0	0	0	0	0	2	10	0	0
- <i>te ageru</i>	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	1	1	0	3	0	0	0	2
- <i>te kureru</i>	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0	0	2
- <i>te morau</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
- <i>te iku</i>	0	0	1	0	0	0	0	0	0	1	0	0	0	1	2	0	1	1	1	0	0	0	3	0	0	1
- <i>te kuru</i>	0	2	0	0	0	0	0	0	0	1	0	0	1	3	0	0	3	1	0	0	0	1	4	3	2	0
- <i>te kaeru</i>	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	1	0	1	1	1	0	0	1	1
Lexical (Verbal affix)																										
- <i>u</i>	24	58	49	22	18	33	37	20	83	22	50	28	65	35	62	57	81	70	59	42	75	50	93	65	48	97
- <i>ta</i>	19	23	72	45	25	35	27	40	33	39	47	36	20	38	36	60	38	40	47	42	44	47	75	49	47	63
- <i>nai</i>	9	43	32	17	17	16	14	10	22	6	20	12	15	17	11	17	22	12	15	20	37	9	36	15	25	25
- <i>nakatta</i>	0	1	0	3	1	0	0	2	1	1	1	2	1	1	0	4	3	4	1	0	4	5	2	5	2	3
- <i>oo</i>	0	0	0	0	1	0	0	0	0	2	0	2	2	0	1	3	0	2	0	0	1	1	1	3	4	1
- <i>teru</i>	6	28	13	8	9	6	11	14	42	23	36	25	37	16	34	19	19	29	22	14	36	24	34	44	30	27
- <i>teta</i>	4	5	1	1	0	1	0	2	4	0	4	0	5	5	1	1	0	0	0	1	1	0	3	1	4	13
- <i>tenai</i>	3	9	4	2	1	6	10	2	7	4	12	8	5	7	3	3	4	2	12	1	3	7	7	17	13	4
- <i>tenakatta</i>	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
- <i>chatta</i>	0	0	0	11	2	3	0	2	0	1	0	0	1	2	0	1	0	3	3	2	3	1	1	0	0	2
- <i>masu</i>	0	1	0	0	0	7	0	7	0	4	11	33	1	3	1	12	0	1	1	0	5	6	7	1	23	1
- <i>mashita</i>	0	1	0	0	0	14	0	8	0	3	0	26	0	15	1	17	0	2	0	3	7	3	1	4	26	24
- <i>masen</i>	0	0	1	1	0	1	0	0	0	1	1	1	0	4	1	3	0	0	0	0	5	2	4	1	10	0
- <i>masendeshita</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	2	1
- <i>mashoo</i>	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0
- <i>temasu</i>	0	0	0	0	0	0	0	2	0	0	10	2	0	3	0	2	0	0	0	0	0	0	0	0	3	0
- <i>temashita</i>	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
- <i>temasen</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
- <i>temasendeshita</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- <i>te</i> (request)	0	2	4	2	1	4	2	6	0	2	1	3	5	2	1	4	0	2	6	1	4	0	1	3	1	2
- <i>te</i> clause	2	1	19	11	1	39	32	13	19	37	38	16	69	27	26	54	40	67	58	70	44	55	35	46	36	34
- <i>naide</i> (negative request)	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	1	2	0	0	0	1	0
- <i>naide/-nakute</i> clause	1	0	0	0	0	0	0	0	0	0	3	0	5	0	0	2	1	1	1	0	4	3	1	2	2	1
- <i>tete</i> clause	0	0	0	0	1	0	0	0	0	8	2	1	72	25	0	2	2	1	1	1	0	1	0	0	0	8
Other affixes	1	2	4	2	0	3	2	0	4	2	5	3	10	2	2	7	7	10	2	5	10	5	7	6	7	11

Appendix D (To be inserted as p. 354)

Table Two: Occurrences of all verbal affixes

	Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	Total
Verbal affix																												
-u		24	58	49	22	18	33	37	20	83	22	50	28	65	35	62	57	81	70	59	42	75	50	93	65	48	97	1343
-ta		19	23	72	45	25	35	27	40	33	39	47	36	20	38	36	60	38	40	47	42	44	47	75	49	47	63	1087
-nai		9	43	32	17	17	16	14	10	22	6	20	12	15	17	11	17	22	12	15	20	37	9	36	15	25	25	494
-nakatta		0	1	0	3	1	0	0	2	1	1	1	2	1	1	0	4	3	4	1	0	4	5	2	5	2	3	47
-oo		0	0	0	0	1	0	0	0	0	2	0	2	2	0	1	3	0	2	0	0	1	1	1	3	4	1	24
-teru		6	28	13	8	9	6	11	14	42	23	36	25	37	16	34	19	19	29	22	14	36	24	34	44	30	27	606
-teta		4	5	1	1	0	1	0	2	4	0	4	0	5	5	1	1	0	0	0	1	1	0	3	1	4	13	57
-tenai		3	9	4	2	1	6	10	2	7	4	12	8	5	7	3	3	4	2	12	1	3	7	7	17	13	4	156
-tenakatta		0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	4
-chatta		0	0	0	11	2	3	0	2	0	1	0	0	1	2	0	1	0	3	3	2	3	1	1	0	0	2	38
-masu		0	1	0	0	0	7	0	7	0	4	11	33	1	3	1	12	0	1	1	0	5	6	7	1	23	1	125
-mashita		0	1	0	0	0	14	0	8	0	3	0	26	0	15	1	17	0	2	0	3	7	3	1	4	26	24	155
-masen		0	0	1	1	0	1	0	0	0	1	1	1	0	4	1	3	0	0	0	0	5	2	4	1	10	0	36
-masendeshita		0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	2	1	9
-mashoo		0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	4
-temasu		0	0	0	0	0	0	0	2	0	0	10	2	0	3	0	2	0	0	0	0	0	0	0	0	3	0	22
-temashita		0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	11
-temasen		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	
-temasendeshita		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-te		0	2	4	2	1	4	2	6	0	2	1	3	5	2	1	4	0	2	6	1	4	0	1	3	1	2	59
-te clause		2	1	19	11	1	39	32	13	19	37	38	16	69	27	26	54	40	67	58	70	44	55	35	46	36	34	889
-naide		0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	1	2	0	0	0	1	0	8
-naide/-nakute clause		1	0	0	0	0	0	0	0	0	0	3	0	5	0	0	2	1	1	1	0	4	3	1	2	2	1	27
-tete clause		0	0	0	0	1	0	0	0	0	8	2	1	72	25	0	2	2	1	1	1	0	1	0	0	0	8	125
Imperative		0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	4
V-desiraderative(-tai)		0	0	0	0	0	2	0	0	0	0	2	1	0	1	1	2	3	1	0	0	1	1	0	0	1	1	17
-chau		1	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	1	0	0	2	1	1	11
-tetta		0	1	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3
tette / -chatte /-toite		0	0	0	0	0	1	1	0	0	0	0	0	5	0	0	0	0	2	0	2	0	1	0	1	0	0	13
Others		0	1	3	1	0	0	0	0	3	0	3	2	5	0	1	5	4	5	2	3	7	3	7	3	5	8	71
Sub total		69	174	199	125	77	169	135	135	217	155	241	200	313	206	180	273	217	249	228	203	285	220	309	262	284	321	5446
Echoic		8	17	10	3	13	5	1	6	8	2	8	8	12	9	4	7	8	3	9	7	7	6	5	13	2	3	184
Intermediate/incomplete/ interrupted		2	5	7	2	0	4	0	5	0	5	0	2	5	0	2	3	0	0	0	3	5	3	3	3	2	4	65
Formulaic		0	0	4	1	2	5	16	4	12	5	13	10	8	12	13	17	9	24	30	11	29	7	16	18	19	9	294
Chigau. (No/ wrong)		18	32	36	25	5	15	31	11	14	28	21	38	33	17	35	37	30	50	41	49	37	18	26	21	15	19	702
chigau (different)		3	8	7	0	2	0	0	5	10	0	6	2	0	0	3	2	0	2	9	0	1	3	5	0	0	5	73
Sub total		31	62	64	31	22	29	48	31	44	40	48	60	58	38	57	66	47	79	89	70	79	37	55	55	38	40	1318
Grand total		100	236	263	156	99	198	183	166	261	195	289	260	371	244	237	339	264	328	317	273	364	257	364	317	322	361	6764

Table Four: Distribution of ill-formed verbs (To be inserted as p.356)

Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
Affix																											
-u			1	1									1														
			<i>kauru</i>	<i>totsu</i>									<i>kakiru</i>														
-ta			2	1																							
			<i>otta</i>	<i>nigeruta</i>																							
			<i>yomutta</i>																								
-nai	1	1					1	1		1															2		
	<i>nai</i>	<i>iunai</i>					<i>arunai</i>	<i>dashinai</i>		<i>taberawanai</i>															<i>ierarenai</i>		
-nakatta																											
-oo																1							1				
																<i>miroo</i>							<i>miroo</i>				
-teru					1					2		1							1								
					<i>atteru</i>					<i>okoratteru</i>		<i>atteru</i>							<i>atteru</i>								
-teta																											
-tenai		1	1			2		1	1			1															
		<i>ikimas</i>	<i>shimashi</i>			<i>yarimashitenai</i>	<i>attenai</i>	<i>attenai</i>				<i>shittenai</i>															
		<i>hitenai</i>	<i>tenai</i>			<i>/ attenai</i>																					
-tenakatta																											
-chatta																											
-masu																											
-mashita																											
-masen																											
-masendeshita																											
-mashoo																											
-temasu																											
-temashita								2																			
								<i>attemashita</i>																			
								<i>/itemashita</i>																			
-temasen																											
-temasendeshita																											
-te																											
-te clause															1												
															<i>mawasude</i>												
-naide																											
-naide/-nakute																1					2						
clause																<i>tasanaide</i>				<i>kigatsukanakatte</i>							
-tete clause													2	2													
												<i>attete</i>	<i>attete</i>														
Others																											
Total	1	2	4	2	1	2	2	4		0	3	0	2	3	2	1	2	0	0	1	0	2	0	0	1	2	0

Appendix F (To be inserted as pp. 357 &358)

Table Five: Distribution of *kaite* and other V1s in the *-te aru* structures

Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	Total		
V1 in <i>-te aru</i>																													
<i>kaite</i>					1		2		7	1		1		3	2		1			1				1		1	12	33	
V1s other than <i>kaite</i>												1						1			1			1		1	4	9	
Total V1s in <i>-te aru</i>					1		2		7	1		2		3	2		1		1		1		1		2		2	16	42
Example for V1s other than <i>kaite</i>											<i>Tsukete</i> <i>aru</i>							<i>Tsukutte</i> <i>aru</i>			<i>Oite nai</i>		<i>*Ochite aru</i>	<i>Kitte aru</i>		<i>Oite aru x 2</i> <i>Dekite aru</i> <i>Oite atta</i>			

Table Six: Distribution of *kaite* as V1 in “Spot the difference” games and other tasks

Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	Total
V1 in <i>-te aru</i>																											
<i>kaite</i> in “Spot the difference”					1		2		7		1		2			1							1		7		22
<i>kaite</i> in other tasks										1			1	2						1			1			5	11
Total <i>kaite</i>					1		2		7	1	1		3	2		1				1			1	1		12	33

Table Seven: Distribution of other V1s than *kaite* in “Spot the difference” games and other tasks

Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	Total
V1 in <i>-te aru</i>																											
Other V1s in “Spot the difference”											1							1								2	4
Other V1s in other tasks																					1		1	1		2	5
Total											1							1			1		1	1		4	9

Appendix A

List of Abbreviations⁵⁵

A	Adjective	N	Noun
ADV	Adverb	OBJ	Object
AGR	Agreement	OBLag	Oblique agent
AFFIRM	Affirmative	OBLIG	Obligation
ASP	Aspect	PASS	Passive
AUX	Auxiliary verb	PAST	Past tense
CAUS	Causative	POL	Polite
COMP	Complementiser	POT	Potential
COND	Conditional	PRES	Present
COP	Copula	PRESUM	Presumptive
DIREC	Directional	PROG	Progressive
DO	Direct object	Q	Question
EMPH	Emphatic	QUOT	Quotative
EP	Extended predicate	REP	Representative
GEN	Genitive	SUBJ	Subject
HON	Honorific	TOP	Topic
IADJ	<i>I</i> -type adjective	TOPI	Topicalisation
IMP	Imperative	V	Verb
INF	Infinite	VOL	Volitional
INTERM	Intermediate	VP	Verb phrase
INTERPT	Interrupted	WO	Word order
INCOMP	Incomplete		
IO	Indirect object		
LOC	Locative		
NAADJ	<i>Na</i> -type adjective		
NEG	Negative		
NONPAST	Nonpast tense		
NUM	Numeral		
NP	Noun phrase		

⁵⁵ Most of the linguistic glosses used in this thesis are based on Slobin (1985, pp. x-xi) and Clancy (1985, pp. 515-516).

Appendix B

Table

One: Shaun's oral proficiency rated with ASLPR after commencement of the study by two teachers at the Japanese school

Date	Events	ASLPR Rating	ASLPR General Description “Teacher’s additional comments. (Mr Honda / Mr T Mr Tanaka)”
10-11/98	7-8 months at the school	S:0+ Initial proficiency	<i>Able to operate only in a very limited capacity within very predictable areas of need.</i>
10/98	7 months at the school	S:0+ Initial proficiency	Utterances rarely consist of more than two or three-words and are marked by frequent long pauses and repetition of an interlocutor’s words. “Three word utterances emerged. (Mr Honda)”
10-11/98 (and continued to 1/99)	7- 10 months at the school	S:0+ Initial proficiency	Vocabulary limited to that necessary to express simple elementary needs and basic courtesy formulae, Syntax is fragmented, inflections and word endings frequently omitted, confused or distorted and the majority of utterances consist of isolated words or short formulae.
12/98	Preliminary session		
1/99	Commencement of the study		
3/99		S:0+ Initial proficiency	In interactions where the context strongly supports the utterance. “As a sentence, yes. (Mr. Honda)”
		S:1-	<i>Able to satisfy immediate needs using learned utterances.</i>
3/99		Elementary proficiency	The first signs of spontaneity and flexibility are emerging but here is no real autonomy of expression, “March, 99. (Mr. Honda)” , but frequent long pauses and repetition of an interlocutor’s words still occur. “A little before March, 99. (Mr Honda)”
2/99			
3/99			Word endings (both inflectional and non-inflectional) are often omitted and distorted. “Yes, that’s right. (Mr Honda, March 99)”
Before			Vocabulary is limited to areas of immediate survival needs.

3/99

“No, it has been already at a higher level than this before March 99. (Mr Honda)”

Can differentiate most phonemes when produced in isolation but when they are combined in words or groups of words, errors are frequent and, even with repetition, may severely inhibit communication even with persons used to dealing with such learners. **“No, that is not the case. I understand what Shaun says. (Mr Honda, March 99)”**

Little development in stress and intonation is evident. **(No, that is not the case. He sometimes sounds strange when reading out loud but when he speaks, it is OK. (Mr Honda, March 99)”**

S:1

Able to satisfy basic survival needs and minimum courtesy requirements.

Minimum
survival
proficiency

4/99 One year at
the school

In areas of immediate need or on very familiar topics, can ask and answer simple questions, initiate and respond to simple statements, **(Yes. Mr Tanaka)**

9/99 One and half
years at the
school

and maintain very simple face-to-face conversations. **(Yes. Mr Tanaka)**

6-8 or 9/99

Vocabulary inadequate to express anything but the most elementary needs; **“As a Year Two, adequate. (Mr Tanaka)”**

3/00 Nearly two
years at the
school

fractured sentence structure and other grammatical errors are frequent; **“Sentence structure is not fractured but grammatical errors are evident. Even so, what he says is understandable. (Mr Tanaka)”**

strong interference from L1 occurred in articulation, stress and intonation. **“There are problems with some sounds, such as *ta, chi, tsu, te, to* [particularly difficulty in distinguishing between *tsu* and *su*] (Mr Tanaka)”**

Before
3/00

Misunderstandings frequently arise from limited vocabulary and grammar and erroneous phonology but, with repetition, can generally be understood by native speakers in regular contact with foreigners attempting to speak their language. **“Even a child who has just arrived from Japan can understand what Shaun says. (Mr Tanaka)”**

3/00

Little precision in information conveyed owing to tentative state of grammatical development and little or no use of modifiers. **“Modifiers are used, but sometimes inaccurately. Mr Tanaka)”**

2/00	S:1+	<i>Able to satisfy all survival needs and limited social demands.</i>
	Survival proficiency	Developing flexibility in a range of circumstances beyond immediate survival needs. Shows some spontaneity in language production but fluency is very uneven
	S:2	Able to satisfy routine social demands and limited work requirements.
	Minimum social proficiency	
	S:3	Able to speak the language with sufficient structural accuracy and vocabulary to participate effectively in most formal and informal conversations on practical, social and vocational topics. “Probably not yet. (Mr Tanaka)”
	Minimum vocational proficiency	

Appendix C removed for copyright reasons. Pages 338-353.

Table Two: Occurrences of all verbal affixes

Verbal affix	Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	Total
-u		24	58	49	22	18	33	37	20	83	22	50	28	65	35	62	57	81	70	59	42	75	50	93	65	48	97	1343
-ta		19	23	72	45	25	35	27	40	33	39	47	36	20	38	36	60	38	40	47	42	44	47	75	49	47	63	1087
-nai		9	43	32	17	17	16	14	10	22	6	20	12	15	17	11	17	22	12	15	20	37	9	36	15	25	25	494
-nakatta		0	1	0	3	1	0	0	2	1	1	1	2	1	1	0	4	3	4	1	0	4	5	2	5	2	3	47
-oo		0	0	0	0	1	0	0	0	0	2	0	2	0	2	0	1	3	0	2	0	0	1	1	1	3	4	24
-teru		6	28	13	8	9	6	11	14	42	23	36	25	37	16	34	19	19	29	22	14	36	24	34	44	30	27	606
-teta		4	5	1	1	0	1	0	2	4	0	4	0	5	5	1	1	0	0	0	1	1	0	3	1	4	13	57
-tenai		3	9	4	2	1	6	10	2	7	4	12	8	5	7	3	3	4	2	12	1	3	7	7	17	13	4	156
-tenakatta		0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	4
-chatta		0	0	0	11	2	3	0	2	0	1	0	0	1	2	0	1	0	3	3	2	3	1	1	0	0	2	38
-masu		0	1	0	0	0	7	0	7	0	4	11	33	1	3	1	12	0	1	1	0	5	6	7	1	23	1	125
-mashita		0	1	0	0	0	14	0	8	0	3	0	26	0	15	1	17	0	2	0	3	7	3	1	4	26	24	155
-masen		0	0	1	1	0	1	0	0	0	1	1	1	0	4	1	3	0	0	0	0	5	2	4	1	10	0	36
-masendeshita		0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	2	1	9
-mashoo		0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	4
-temasu		0	0	0	0	0	0	0	2	0	0	10	2	0	3	0	2	0	0	0	0	0	0	0	0	3	0	22
-temashita		0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	11
-temasen		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
-temasendesihita		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-te		0	2	4	2	1	4	2	6	0	2	1	3	5	2	1	4	0	2	6	1	4	0	1	3	1	2	59
-te clause		2	1	19	11	1	39	32	13	19	37	38	16	69	27	26	54	40	67	58	70	44	55	35	46	36	34	889
-naide		0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	1	2	0	0	0	1	0	8
-naide/-nakute clause		1	0	0	0	0	0	0	0	0	0	3	0	5	0	0	2	1	1	1	0	4	3	1	2	2	1	27
-tete clause		0	0	0	0	1	0	0	0	0	8	2	1	72	25	0	2	2	1	1	1	0	1	0	0	0	8	125
Imperative		0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	4
V-desiraderative(-tai)		0	0	0	0	0	2	0	0	0	0	2	1	0	1	1	2	3	1	0	0	1	1	0	0	1	1	17
-chau		1	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	1	0	0	2	1	1	11
-tetta		0	1	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3
tette / -chatte /-toite		0	0	0	0	0	1	1	0	0	0	0	0	5	0	0	0	0	2	0	2	0	1	0	1	0	0	13
Others		0	1	3	1	0	0	0	0	3	0	3	2	5	0	1	5	4	5	2	3	7	3	7	3	5	8	71
Sub total		69	174	199	125	77	169	135	135	217	155	241	200	313	206	180	273	217	249	228	203	285	220	309	262	284	321	5446
Echoic		8	17	10	3	13	5	1	6	8	2	8	8	12	9	4	7	8	3	9	7	7	6	5	13	2	3	184
Intermediate/incomplete/ interrupted		2	5	7	2	0	4	0	5	0	5	0	2	5	0	2	3	0	0	0	3	5	3	3	3	2	4	65
Formulaic		0	0	4	1	2	5	16	4	12	5	13	10	8	12	13	17	9	24	30	11	29	7	16	18	19	9	294
Chigau. (No/ wrong)		18	32	36	25	5	15	31	11	14	28	21	38	33	17	35	37	30	50	41	49	37	18	26	21	15	19	702
chigau (different)		3	8	7	0	2	0	0	5	10	0	6	2	0	0	3	2	0	2	9	0	1	3	5	0	0	5	73
Sub total		31	62	64	31	22	29	48	31	44	40	48	60	58	38	57	66	47	79	89	70	79	37	55	55	38	40	1318
Grand total		100	236	263	156	99	198	183	166	261	195	289	260	371	244	237	339	264	328	317	273	364	257	364	317	322	361	6764

Appendix E

Table Three: Occurrences of ill formed verbs

Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	Total
Affix																											
-u			1	1									1														3
-ta			2	1																							3
-nai	1	1					1	1		1															2		7
-nakatta																											
-oo																1								1			2
-teru					1					2		1							1								5
-teta																											
-tenai		1	1			2	1	1				1															7
-tenakatta																											
-chatta																											
-masu																											
-mashita																											
-masen																											
-masendeshita																											
-mashoo																											
-temasu																											
-temashita								2																			2
-temasen																											
-temasendeshita																											
-te (request)																											
-te clause															1												1
-naide (negative request)																											
-naide/-nakute clause																1				2							3
-tete clause												2	2														4
Others																											
Total	1	2	4	2	1	2	2	4	0	3	0	2	3	2	1	2	0	0	1	0	2	0	0	1	2	0	37

Table Four: Distribution of ill-formed verbs

Affix	Session 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
-u			1 kauru	1 totsu									1 kakiru													
-ta			2 otta	1 nigeruta																						
-nai	1 nai	1 iunai					1 arunai	1 dashinai		1 taberawanai															2 ierarenai	
-nakatta																										
-oo																1 miroo							1 miroo			
-teru					1 atteru					2 okoratteru		1 atteru							1 atteru							
-teta																										
-tenai		1 ikimashi tenai	1 shimashi tenai			2 yarimashiten ai / attenai	1 attenai	1 attenai				1 shittenai														
-tenakatta																										
-chatta																										
-masu																										
-mashita																										
-masen																										
-																										
masendeshit																										
a																										
-mashoo																										
-lemasu																										
-temashita								2 attemashita /itemashita																		
-temasen																										
-																										
temasendesh																										
ita																										
-te																										
-te clause															1 mawasude											
-naide																										
-naide/-																	1 tasanaide				2 kigatsukanakatte					
nakute																										
clause																										
-tete clause													2 attete	2 attete												
Others																										
Total	1	2	4	2	1	2	2	4	0	3	0	2	3	2	1	2	0	0	1	0	2	0	0	1	2	0

Appendix F

Table Five: Distribution of *kaite* and other VIs in the *-te aru* structures

Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	Total		
V1 in <i>-te aru</i>																													
<i>kaite</i>					1		2		7	1		1		3	2		1			1				1		1	12	33	
V1s other than <i>kaite</i>												1						1			1			1		1	4	9	
Total V1s in <i>-te aru</i>					1		2		7	1		2		3	2		1		1		1		1		2		2	16	42
Example for V1s other than <i>kaite</i>											<i>Tsukete</i> <i>aru</i>							<i>Tsukutt</i> <i>e aru</i>			<i>Oite nai</i>		<i>*Ochite aru</i>	<i>Kitte aru</i>		<i>Oite aru</i> x 2 <i>Dekite aru</i> <i>Oite atta</i>			

Table Six: Distribution of *kaite* as V1 in “Spot the difference” games and other tasks

Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	Total
V1 in <i>-te aru</i>																											
<i>kaite</i> in “Spot the difference”					1		2		7		1		2			1								1		7	22
<i>kaite</i> in other tasks										1			1	2						1			1			5	11
Total <i>kaite</i>					1		2		7	1	1		3	2		1				1			1	1		12	33

Table Seven: Distribution of other V1s than *kaite* in “Spot the difference” games and other tasks

Session	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	Total
<i>V1 in -te aru</i>																											
Other V1s in “Spot the difference”											1							1								2	4
Other V1s in other tasks																					1		1	1		2	5
Total											1							1			1		1	1		4	9