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Eight Months Later: A Family Case Study of L2 Acquisition of English Morphology

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Abstract

This is a follow-up of our 2010 family case study (Zhang & Widyastuti, 2010) in which we examined the acquisition of L2 English morphology by three members of an Indonesian family who had been living, working and studying in Australia for 12 months. In this paper, we will present a fresh set of data collected after a further 8 months in order to build a longitudinal picture of their L2 English morphology development. We will focus on the Mother and her 6-year-old Daughter, whose L2 English morphology, in 2010, was found to be at the beginning and post-beginning stages as measured by the 'emergence criterion' (Pienemann, 1998). We are interested in the extent of progress they had made since, and whether the L2 English grammatical morphology had been fully established by the end of their 20 months of residence in Australia. Our analysis of their speech data showed that while there was indeed progress, the progress was not comprehensive and the acquisition was incomplete. We discuss the finding from the perspective of immersion, home environment, and affective factors in L2 grammatical development, in particularly, in child L2 learners. The results of the study may inform language professionals and parents of young child L2 learners of the lengthy period required as well as the type of optimal L2 environment for their L2 grammatical development.

Keywords: Second Language Acquisition, Child Second Language Learning, English Morphology Development, Age and Language Learning, Immersive Language Learning

Introduction

In our 2010 study (Zhang & Widyastuti, 2010), we examined the status of grammatical morphology in the L2 English of three members of an Indonesian family – the father (an MA student at an Australian university), the mother (a full-time worker) and their daughter (a 5-year-old girl in kindergarten) – after they had been in Australia for 12 months. The purpose was to see how much English morphology they had acquired after a year of immersion, and to what extent the acquisition interacted with the learning setting.

The study focused on 5 English morphemes. Based on the principle of grammatical information exchange in Processability Theory (Pienemann, 1998), these 5 morphemes were classified into three categories occupying three developmental stages.

Stage A: Lexical Morphology

At this stage, there is no grammatical information exchange between the head and the other constituents. The morphemes are read off the conceptual structure. For example, the generic plural *–s* and the past tense marker *–ed* are lexical morphemes because their application to nouns and verbs is subject to the recognition of grammatical

categories of nouns and verb and the expression of generic entities and past events, as the following examples show.

Plural *–s*	'John bought apples, not oranges'
Regular past *–ed*	'John walked to school yesterday'

Stage B: Phrasal Morphology

At this stage, the grammatical information exchange takes place between the head and its modifier within a phrase. For example, in 'these apples,' the plural information needs to be transferred between the head 'apples' and its modifier 'these.' Similarly, the aspectual form of the verb (V-ing, V-en) needs to be in agreement with the auxiliaries (be, have). Information exchange occurs during speech production, requiring the speaker to process English plural and aspectual grammars as he/she speaks. Ungrammatical forms are produced if the speaker lacks the required processing skills.

Plural *–s*	'John bought these apples.'
VP (*be-Ving, have-Ven, Modal-Vinf*)	'John is watching TV now.' 'John has watched TV.'

Stage C: Interphrasal Morphology

At this stage, the grammatical information exchange occurs across phrasal boundaries. For example, the insertion of *–s* (3S) in 'goes' in the below example is dependent on the Subject NP being 3rd person singular and the event being in the present tense. The information must be transferred from the Subject NP to the verb. It is retrieved at the point of the verb production and inserted after the verb.

3rd person singular *–s* (3S)	'John goes to school everyday.'

According to Processability Theory (Pienemann, 1998, 2005), the extent of information exchange defines the processing complexity, which gives rise to an acquisition hierarchy that exhibits an implication relationship between these three stages. Stage A morphemes are acquired before Stage B morphemes, and Stage C morphemes bring up the rear. Conversely, successful acquisition of Stage C morphemes implies successful acquisition of Stage A and Stage B morphemes.

This was indeed found to be the case in our 2010 study: the results showed a clear developmental pattern in line with the acquisition hierarchy. Using the emergence criterion (Pienemann 1998), defined in our study as four productive tokens in obligatory contexts, we found that while the father had reached Stage C, the mother had attained Stage B, as evidenced by the NP morphology (plural *–s*) in her data. As for the Daughter, her data contained only the lexical plural *–s* along with the stand-alone *V-ing* form (e.g., *ehmm father ehm working after working he go home after go home eating and he sleep and he working again*) -- both being Stage A forms. Other Stage B evidence, such as modals, perfective and progressive verb phrases, was not sufficient in the data of the Mother and the daughter for a conclusive analysis.

Judging by the accuracy criterion (80% correct suppliances), the NP morphology (plural *–s*) is the only form that had reached the criterial level (80%), and only by the Father.

The results came as a surprise because we hypothesized that after living in an English-speaking environment with daily immersion for 12 months, the 5 English morphemes would have all emerged in the L2 English of our informants although the accuracy rates might vary. We also hypothesized that the Daughter would have outperformed both parents due to her young age and three-month formal intensive learning in an English language class in Australia.

We discussed the results from several perspectives, focusing on the Mother and the Daughter. First, the impact of prior learning on subsequent L2 acquisition in the immersive environment and the level of L2 proficiency upon

arrival in the target language country. Research showed that the higher the L2 proficiency one had obtained prior to arrival in target language country, the more rapid progress one would make (Schmidt, 1983). Unlike the Mother and the Father, the Daughter did not enjoy this advantage as she had no English upon arrival. We also contextualized the findings in the literature on tutored versus untutored L2 learning for adults, and age related L2 learning for young children. Numerous studies pointed to an initial rate advantage for older L2 learners, but not for child L2 learners (For an overview, see Hyltenstem & Abrahamsson, 2003; Michael Long, 1990). Moreover, tutored learners are both qualitatively and quantitatively superior in learning outcome (De Graaff & Housen, 2009; Ortega, 2009). This might explain the progress of the Mother, whose L2 progress in English grammar, while slow, was faster than her Daughter because she had learned English formally years ago in Indonesia but did not receive formal English training when living in Australia. It might also explain the slow development of the Daughter, who had never learned English. At the age of 5 at that time, she was a young child beginning to learn L2 English.

At the end of our discussion, we indicated that we would continue to monitor the Mother and the Daughter by carrying out further data collection so as to obtain a longitudinal view of their L2 morphological development. In the following, we will report on this fresh set of data, collected 8 months later when the family had been in Australia for a total of 20 months. We hypothesize that after nearly two years of immersion, both the Mother and the Daughter would have progressed to Stage C (Interphrasal) as measured by the emergence criterion.

Method

Informants' Daily Routine

The family came to Australia on the Father's two-year scholarship to study at an Australian university. The Mother worked on 2-3 jobs daily, including a full-time job in an age care facility as a kitchen assistant. Although she needed to speak English to the residents from time to time, it was mostly routine service-related short conversion or exchange. There was no change in her daily routine in the last 8 months.

The daughter's circumstances changed in the 8 months since our first study. Having completed the kindergarten and 3-month English language program at an intensive English training centre, she was enrolled in a mainstream primary school. There, she had full immersion 5 days a week, speaking English and making friends with Australian children. Outside school, however, she had no contact with local children. At home, she played games in English with her little brother (age 1.5) who did not speak English at all.

The home language was Bahasa Indonesia. Due to their busy schedule, the family had little contact with local Australian community apart from Sunday church service. They watched English TV in the evenings and traveled in Australia during the school break.

Data Collection and Analysis Informants' Daily Routine

The present research is a follow-up of the first case study in 2010 (Zhang & Widyastuti, 2010). The procedure for this round of data elicitation was identical to the first, so was the researcher who was a friend of the family. The data was collected in the home setting using communicative tasks and questions to engage the informants in conversation. The tasks were designed to target the morphemes under investigation. The interview lasted 15'10'' with the Mother, and 21'35'' with the Daughter. All interviews were audio-recorded.

As the following examples show, the morpheme 3S (e.g., John smokes everyday) was elicited through a description of daily routine, and the plural *–s* (e.g., two chairs) through identifying objects in the room. These methods provided a large number of contexts for the suppliance of the grammatical morphemes, ensuring a high data density as well as a high degree of data reliability. In other words, the absence of certain morphemes in obligatory contexts is not due to a lack of opportunity. Table 1 shows two excerpts of data transcripts.

Table 1. Interview Task and Target

Communicative Task	Target	Example
Task A	3S	*Interviewer* : o I see and then what does your mother do everyday? *Daughter* : working *Interviewer* : and then? *Daughter* : and then she come back home and then go to school [meaning she took her daughter to school]
Task B	plural *–s*	*Interviewer* : what is this? *Daughter* : a bin. Three bin. … *Interviewer* : good and then what is this? *Daughter* : a grape *Interviewer* : what? *Daughter* : grapes *Interviewer* : good *Daughter* : three grapes

The audio material was transcribed and relevant morphology was tagged. We applied the same emergence and accuracy criteria as in Zhang & Widyastuti (2010): for emergence, four tokens in obligatory contexts with morphological or lexical variations (*talks/talked,* or *talks/sings*) to ensure the productive nature of the morphemes. For accuracy, we continued to use 80% as the criterion.

Results and Discussion

Results

The brief sketch above shows that the Daughter's immersion setting was superior in quality compared to the Mother, but not ideal as this was confined within the school setting. Nevertheless, it would be interesting to see whether by the end of further 8 months and a total of 20 months in Australia, both the Mother and the Daughter had reached Stage C and acquired all 5 English morphemes.

These results are displayed in Table 2. 'Mother 1' and 'Daughter 1' refer to the data in 2010. 'Mother 2' and 'Daughter 2' refer to the data in the present study. The figure before the slash is the number of tokens found in the data, and the total number of relevant context is given after the slash. No evidence of the relevant context is shown by a slash. The asterisk * means meeting the emergence criterion.

Table 2. Morphemes Production

Stage	Morpheme	Mother 1	Mother 2	Daughter 1	Daughter 2
A. Lexical Morphology	Past *-ed*	0/12 (.00)	0/3 (.00)	0/6 (.00)	1/2 (.50)
	V-ing	1	/	20	9
	Lexical pl *–s*	*6/14 (.43) >1	*4/5 (.80)	*4/25 (.16)	*5/10 (.50)
B. Phrasal Morphology	NP: phrasal pl *–s*	*20/33 (.61)	*4/11 (.36)	2/23 (.09)	*5/22 (.23)
	VP: AUX+V				
	be+Ving	1/1	*6/9 (.66)	1/1	1/7 (.06)
	have+Ven	(1/1)	0/1	/	/
	MOD+V	1/1	*8/8 (1.0)	2/2	*12/12 (1.0)
C. Interphrasal Morphology	3S	2/17 (.12)	3/6 (.50) (does x2)	1/40 (.03)	0/6 (.00)

Table 2 shows that both the Mother and the Daughter made progress in the 8-month interval but the progress was not comprehensive, and the accuracy rates were not high.

Mother

a. NP morphology (lexical and phrase *–s*) was maintained (Stage A and Stage B); the lexical -s met the accuracy criterion of 80%.
b. VP morphology emerged: [be + V_{ing}], [Modal + V_{inf}] (Stage B)
c. 3S did not meet the emergence criterion, hence not acquired (Stage C)
d. The past tense *–ed* was still problematic (Stage A).

Daughter

a. Lexical plural *–s* was maintained (Stage A)
b. Phrasal plural *–s* emerged (Stage B)
c. Modals emerged, but not other VP morphology (Stage B)
d. Stand-alone [V_{ing}] form decreased (Stage A)
e. There was no evidence of 3S (Stage C)
f. There was not enough past tense *–ed* context in the data (Stage A)

The Daughter had progressed to Stage B (Phrasal Morphology). The Mother remained at Stage B although she seemed to be slightly more advanced than the Daughter as measured by both emergence and accuracy criteria. Stage C (Interphrasal) was still beyond them.

Discussion

The acquisition pattern of the L2 English morphology in Table 2 shows a classic picture of the Interlanguage (IL) development as defined in Processability Theory (Pienemann, 1998): it is an incremental and staged progression from the lexical morphology (Stage A) to the phrasal morphology (Stage B), and the Interphrasal morphology (Stage C) develops last if at all.

The issue in question is why the Daughter, a 6-year-old girl, failed to fully establish the L2 English morphology system after living in an immersive environment for nearly two years. She had made significant progress in general and communicative English, and was able to use English to describe, explain, request, and state facts. It was her

English morphology – part of the English grammatical system – that seemed to be under-developed in the 20-month period.

In our 2010 paper, we referred to research on the rate and the ultimate attainment of child L2 acquisition. Numerous studies showed an advantage for young L2 learners in the long run, i.e., the ultimate attainment, but not at the early stage (eg. Harley & Wang, 1997; Krashen, Long, & Scarcella, 1979). The question raised in our study is this: how long is the early stage? How long does it take for young children to catch up?

In an overview on the maturational constraints on language acquisition, Long (1990) mentioned one to three years in one study (Fathman, 1975), and more than 2 years in another study (Ekstrand, 1976). Our study seems to indicate that it may be at least 2 years if exposure is not consistently extensive and intensive. An early study by Hyltenstam (1992) on the ultimate attainment of immigrant children seemed to suggest that even after being in Sweden for 10 years or so, the young starters of L2 Swedish still contained grammatical errors. These were balanced bilingual speakers in upper secondary schools at the time of the study, and some of them arrived in Sweden below age 6.

Another important issue not discussed in our 2010 paper is the influence of the home environment in the early stage of L2 development of child learners. In the case of the Daughter, it might have indeed played a key role.

First, the Daughter's home language was Bahasa Indonesia. English was insignificant in terms of communication at home. Although the Daughter played with her little brother in English and watched English TV programs, there was, however, no interaction involved in these activities. The family did not seem to socialize beyond their Indonesian community. In the weekly church service, English was heard, but not produced by them. Indeed, the home environment did not appear to be inductive to L2 learning as neither frequency nor intensity of L2 use existed at home.

Outside home, the Daughter had a rather favorable L2 immersive environment. She had daily interactions in English with her teachers and fellow pupils, receiving a great deal of English input as well as practicing L2 English output. No doubt the school environment offered favorable opportunities for frequent and intensive use of English, which saw her progress up to the phrasal stage (Stage B). However, this full immersion environment was available only for 8 months in the mainstream schooling, including a short period of intensive English classes.

The affective factors might also have impacted on the Daughter's L2 learning. Unlike her parents, the girl had mixed feelings about being in Australia. She loved Australian animals and enjoyed the theme parks, but she preferred to live in Indonesia. During the interview, she spoke fondly of her relatives and Christmas holidays in Indonesia, and was looking forward to going back to Indonesia. Although negative feelings about the target language country does not prevent young child learners from the ultimate attainment in L2, they do have an adverse effect on the initial rate of progress.

Compared to the Daughter, the Mother's daily routine indicates a rather weak immersive pattern. Even though one of her jobs required her to use English, it was not intensive, nor was it fully engaging. Outside her work, the Mother had virtually no contact with English apart from TV in the evening. Even so, she had picked up more English morphology than her daughter during the last 8 months, confirming the rate advantage of adult L2 learners at the early stage of learning. A further advantage to the Mother, also confirmed by previous study done by Schmidt (1983), was her prior rather extensive learning of English at school and university in Indonesia10 years before her arrival in Australia. She was not an *ab-initio* learner like her Daughter. The latent knowledge, once activated, seemed to assist her in ways not available to true beginners. On the other hand, research shows that for adult learners, formal instruction plays a significant role in the rate of learning and the quality of the outcome (De Graaff & Housen, 2009; Ortega, 2009). Unfortunately, due to family circumstances, the Mother did not attend any English classes while in Australia. The restricted immersive setting, and along with it, a narrow range of L2 input and limited opportunities of L2 output, characterized her L2 learning as L2 'pick-up' and did not aid the full extent of her English morphological development in two years.

Conclusion

To conclude, the present case study of the acquisition of L2 English morphology by two members of a family, an adult and a child, shows living, working, and studying in a target language country for 2 years does not guarantee the completion of L2 grammatical acquisition. For child L2 learners, the beginning is slow, and immersion in a new and 'strange' environment can be daunting. Negative affective factors may be a strong impediment in child

L2 development in the short term. These findings may offer some fruit for thought for teachers and parents of young child L2 learners. It seems the optimal environment for L2 development differs between young children and adults. For the former, a rich and comprehensive L2 environment at school and home is desirable. For the latter, the tutored setting seems indispensable at some point.

The investigative focus of the present study is confined to the L2 acquisition of English grammatical morphology. The acquisition of general English proficiency by our informants in areas such as syntax, use, communicative skills was not examined. Therefore, our conclusion is only relevant to the L2 morphology and should not be generalized or extended beyond that.

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