A Korean Child Learner's Acquisition of English Grammar: A Four-year-long Case Study*

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Lee, In. (2014). A Korean Child Learner's Acquisition of English Grammar: A Four-year-long Case Study. *The Linguistic Association of Korea Journal, 22*(1), 69-110**.** The purpose of this study is to show how a Korean child learner acquires English grammar. The language informant named Arong was a 3rd grader in 2009 and she participated in a wordless picture book description task for four years from 2009. Her description was recorded onto a digital voice recorder once a month, three or four times per year. To find out how the language informant's English grammar developed, special attention was paid to the analysis of NPs, VPs, ditransitive alternations, expletive Subject constructions, and Passive constructions. The following are the findings: first, Arong's NPs became systematic and stabilized as the language sampling proceeded. The data show that she acquired the rule of Pronominalization. From the beginning of language sampling she began to use various types of Pronouns. Second, Arong's VPs also became systematic and stabilized. Third, Arong used [$_{VP}$ *give*, NP$_{(IO)}$, NP$_{(DO)}$] more frequently than [$_{VP}$ *give*, NP$_{(DO)}$, PP$_{(IO)}$]. Fourth, Arong seemed to acquire the expletive Subject and its constructions. Finally, Arong understood the concept of Passive voice. We can trace her efforts to express a sentence in Passive voice in her performance of two tasks.

Key Words: ditransitive alternation, errors, Interlanguage, spontaneous speech, token

1. Introduction

In Korea, English was implemented to the elementary school curriculum as a regular subject in 1997. It has been observed that Korean elementary school students' communicative competence is enhancing year after year. When we say a 6th grader in Korea can speak English, however, we do not know how well she speaks and by what process she developed her English. As a follow-up study of Lee (2008), the researcher has been collecting language samples of elementary school students' narrative description every year (Lee, 2010; Lee, 2011; Lee, 2013). The more data we collect, the more we can tell about the language development of Korean learners of English.

The purpose of this study is to show how a Korean child learner develops her English grammar. This case study is based on the analysis of her spontaneous utterances collected over the course of four years. The language sampling was conducted as follows: for four months from September to December in 2009; for three months from October to December in 2010; for another three months from September to November in 2011; and for another four months from September to December in 2012. To find out how the language informant's English grammar developed, special attention was paid to the analysis of NPs, VPs, ditransitive alternations, expletive Subject constructions, and Passive constructions.

Only a limited number of studies have paid attention to the Korean child learners' acquisition of English grammar (Choi, H., 2003; Choi, I., 2003; Kim, 2007; Lee, 2011; Lee, 2013). Furthermore, research on Korean child learners' acquisition of English grammar based on longitudinal studies has rarely been conducted. Thus, more studies like this are required.

2. Theoretical Background

2.1. Spontaneous utterance

Bialystok (1978, p.74) classifies language learners' output into two types of responses: Type I Responses and Type II Responses. The former is 'spontaneous

and immediate' while the latter is 'deliberate and occurs after a delay'. When a language learner is asked to narrate the story of a wordless picture book, her responses must be spontaneous and immediate. The Type I Responses will show how big her vocabulary size is and how complex her grammar is. Thus, a language informant's narrative description of wordless picture books was recorded at a regular interval.

2.2. Learner language and errors

Any speech uttered by a language learner is called 'learner language'. In this study, learner language is regarded as Interlanguage, following Selinker (1972), because it is not a fixed language at a final state, but an intermediate state which is in the process of development up to the state of (near) native-like competence. Thus, any utterances deviated from an adult native speaker's norm are called 'errors'. Errors are frequently observed in the natural process of language development. On the other hand, mistakes are considered what should be corrected (Cf. Corder (1967) and his followers).

2.3. Token versus type in word count

What to count in the analysis of a language informant's spontaneous utterances is crucial because word tokens show her current level of proficiency much better than word types. If a language learner uttered 'going', 'go', and 'went' in one session, for example, we can say that she used one word type, but three word tokens. Since word tokens include more information about the learner's grammatical knowledge than word types, word tokens only were counted in this study.

2.4. Dysfluencies in the analysis of oral production

A language informant's spontaneous utterances often include many cases of dysfluencies such as false starts, repetitions, and self-corrections. To count word tokens, Ellis & Barkhuizen's (2005, p. 148) following consideration was adopted. The definition of each dysfluency and how to handle them are shown in Table 1.

Table 1. Handling dysfluencies in the analysis of oral production

Phenomena	Definition	How to Handle
False start	'an utterance that is begun and then either abandoned altogether or reformulated in some way'	Excluded from word count
Repetition	'the speaker repeats previously produced speech'	Excluded from word count unless repetition is for rhetorical effect
Self-correction	'the speaker identifies an error either during or immediately following production and stops and reformulates the speech'	The final version only is included.

Let's consider the following. Four digits enclosed in parentheses at the end of each utterance refer to 'the ending time of utterance in minutes and seconds'; for example, (0029) stands for zero minutes and 29 seconds. Eight digits enclosed in square brackets refer to the date of each session; for example, [10072010] stands for 'October 7, 2010'. A comma (,) in transcriptions, here and thereafter, indicates the language informant's brief pause. Excluded tokens were crossed out in the transcription.

(1) False start
　　a. And, ~~he run down to~~, ah, he, go, he talk to ~~her mother~~, *ani*, his
　　　　mother, "I want this bread." (0029) [10072010]
　　b. And a ~~plant grow~~, seed grow, and grow. (0213) [11042010]

As we see in (1), the language informant made a false start in her utterance. She immediately reformulated her utterance. Thus, her tokens *he run down to* in (1a) were excluded from word count because they are false starts. The NP, *her mother,* in (1a) is an example of Self-correction, which will be discussed below.

(2) Repetition
　　a. And ~~that bird's~~, that bird's mother and father, gave baby bird, a
　　　　bread. (0103) [09052011]
　　b. That seed was growing, growing, and growing. (0138) [10052011]

Examples of Repetition are shown in (2). The repeated expression in (2a), *that bird's,* was excluded from the word count. (2b) is a typical example where a repeated word was included in the word count because its repetition was for rhetoric effect. Thus, the verb, *growing*, was counted three times.

(3) Self-correction
   a. And, ~~he run down to~~, ah, he, go, he talk ~~to her mother~~, *ani*, his mother, "I want this bread." (0029) [10072010]
   b. And ~~a plant grow~~, seed grow, and grow. (0213) [11042010]

When the language informant recognized her errors, she immediately reformulated her utterance. Then, her final version only was included in the word count. Sometimes she uttered a Negation Adverb in Korean, *ani*, to indicate that she identified her errors.

3. Research Design

3.1 Language informant

In the first semester of the 2009 academic year, two girls in the 3rd grade and one boy in the 6th grade were randomly selected as language informants, and Arong was one of them. The researcher asked his university students to carry out a project on Second Language Acquisition (SLA) and they were allowed to choose one of two options: either writing a report on her/his own informant's language development or summarizing a few chapters of any references on SLA. If a student selected the former as her/his project, the student had to follow the following procedures. First, contact her/his own informant every other week and conduct at least four sessions of language sampling. Second, choose one of the Korean folktale books written in Korean and use it as a language sampling kit. Third, ask the informant to tell the story in English and record her/his spontaneous utterances. Fourth, save the audio file onto the computer and transcribe the recorded file. Fifth, analyze the transcribed data and write a report on the informant's language development with reference to the

vocabulary and sentence structures.

The researcher chose eight reports which seemed to be worthy of further study and then contacted each informant's mother and her/his homeroom teacher to obtain their permission to pursue further study. Only three students' mothers consented to collect their child's language samples and Arong was the only student the researcher could collect her spontaneous utterances from for four consecutive years. She is called Arong in this study on condition of anonymity.

When the researcher began to collect Arong's language samples, she was living in J City in Korea. She was rather an early bird in English education. When she was a preschool child, her mother read English story books to her or showed her video materials for English education. She had been taking English classes in a *hakwon* 'private institute' since 2009. In addition, she travelled to the Philippines with her family during her summer vacation and attended an overseas intensive English camp during the winter vacation in 2010. She joined another intensive English camp offered in Canada during the winter vacation in 2011. In 2012 she was exerting almost all of her energy and time only to learning English; she studied about three hours a day, seven days a week. She was an alpha girl in her class as far as learning English is concerned.

3.2. Instruments

A single task of narrating a wordless picture book was administered to Arong to collect her spontaneous utterances. The following two picture books were used for this task: *A circle of friends* by Giora Carmi (2003) and *Frog on his own* by Mercer Mayer (1973). The former is called Picture Book A [henceforth abbreviated to PBa] and the latter, Picture Book B [henceforth abbreviated to PBb]. When these two books were presented to Arong in 2009, she decided to try narrating PBa only. However, she began to describe both of them in 2010 and thereafter.

In 2012, a semi-structured task was added to the describing-a-picture book task. The additional task was to complete a sentence whose Subject was provided as a cue. The researcher was interested in the following three questions: (i) How does the language informant acquire a ditransitive Verb such

as *give* and its construction? (ii) How does she acquire an expletive Subject such as *It* or *There* and its construction? and (iii) Did she acquire Passive constructions? Thus, four scenes were selected from PBa and two scenes, from PBb. An example picture for the sentence completion task is shown in Figure 1. For the other pictures, refer to the Appendix.
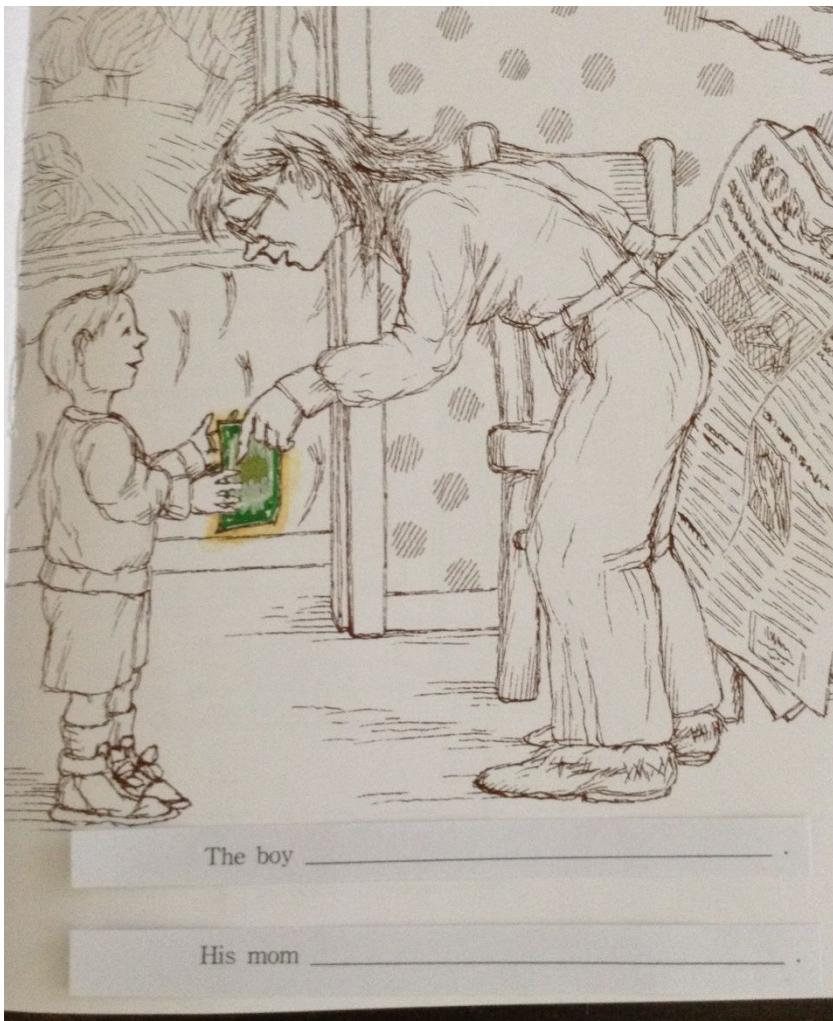
Figure 1. An example of the sentence completion task

3.3. Data collection procedures

The researcher started to meet Arong once a month for four months from September to December, 2009 and language sampling with her continued until 2012. Each session of language sampling was conducted in her classroom after school on prearranged dates. Table 2 shows when and for how long each session took place. Four digits with colons in between under the heading of Duration with PBa/PBb refer to the recording time in minutes and seconds; for example, '01:22' means 'It lasted for 1 minute and 22 seconds'. It was her first time to narrate a picture book in English.

Table 2. Dates & Duration of Each Session

Dates			Duration with PBa	Duration with PBb
2009	Session 1	September 4	01:22	
	Session 2	October 9	01:53	
	Session 3	November 6	02:09	
	Session 4	December 4	01:57	
2010	Session 1	October 7	03:04	04:06
	Session 2	November 4	02:19	03:40
	Session 3	December 2	01:51	02:52
2011	Session 1	September 5	01:43	02:35
	Session 2	October 5	01:49	02:49
	Session 3	November 4	01:39	02:32
2012	Session 1	September 5	01:43	02:07
	Session 2	October 17	02:00	02:12
	Session 3	November 7	02:06	02:49
	Session 4	December 5	02:15	02:55

The researcher presented two picture books to Arong in the first session of language sampling in 2009. When she was asked to narrate those two books in English, she decided to try describing PBa only. Thus, four sessions of language sampling with PBa were recorded in 2009. However, she described both books in 2010 and thereafter. In 2010 the researcher forgot to contact the informant's mother and her homeroom teacher in advance to get permission to collect language data; thus, the first language sampling was delayed until October 7, 2010. That's why the researcher collected her data only three times in 2010. Since Arong joined another intensive English training camp offered in Canada during her winter vacation in 2011, the language sampling sessions had to stop on

November 4. However, the researcher could collect Arong's performance data four times again in 2012.

Before Arong started to tell the story, she was allowed to thumb through the pages of the book. Her narration was recorded with a digital voice recorder (Model: SVR-S820) and the recorded file was saved onto the computer. The researcher transcribed the audio files and then analyzed the transcribed data. Recording time was not fixed. If Arong finished narrating the story of the picture book she selected, the researcher stopped recording.

Data collection of her narrative performance resumed during the second semester of the 2010 academic year. When the researcher asked Arong if she could narrate those two books, she decided to try narrating both of them. The same procedures by which Arong's spontaneous utterances were recorded in 2009 were adopted. Language sampling with Arong resumed in 2011 and 2012.

3.4. Data analysis procedures

Transcriptions based on digital voice recording of Arong's narrative performance were analyzed. To find out how her English grammar developed, the following measurements were taken:

First, a sentence is composed of an NP and a VP, so NPs and VPs she used in each session of her performance were counted. If we take into account the constituents of each phrase, we can tell how complex her grammar is.

Second, ditransitive alternations she showed in each session of language sampling were taken into account. Then the alternations were compared with the changes in the sentence completion task. The results will us how the language informant's Interlanguage developed with reference to a ditransitive verb and its construction.

Third, the usage of an expletive Subject such as *It* or *There* and its constructions were taken into account. Arong's spontaneous and immediate responses in the describing-a-picture book task were compared with her responses in the sentence completion task.

Finally, the Passive constructions were taken into account. Arong's usage of Passive construction in her picture book description task was compared with that in her sentence completion task.

4. Results and discussion

4.1. Development of NPs

4.1.1. NPs Arong used in the describing-a-picture book task with PBa

The average number of NPs Arong used in the picture book description task with PBa increased from 25 NPs in 2009 to 31 NPs in 2010 & 2011, then to 33 NPs in 2012. Specific examples of NPs are shown in Table 3. Underscored words in the list of NPs refer to 'word tokens inappropriate to the given situation or word tokens unclearly heard'. Numerals in parentheses stand for 'the frequency of the token used in each session' and those in square brackets, 'the total number of NPs used in the session'.

Table 3. NPs Arong used in the describing-a-picture book task with PBa

		NPs
2009	**S1**	bakery; a <u>bay</u>; bird(2); a bread; one children; a flower; he(3); a man; this man; money; mother; her mother; <u>mud</u>; muffin; a muffin; a plant; a rain; there(2); this; the trees [20]
	S2	bakery; bench; bird(2); a bird; baby bird(3); a baby bird; one boy(3); a bread(3); the bread; the chair; one grandpa; the grandpa(3); he(4); Mom(2); plant(2); one plant; the plant; the (N); there [19]
	S3	the bakery; the bench(2); bird; a bird; baby bird(2); a baby bird(2); a boy; the one boy; bread(2); a bread(3); a flower; grandpa; one grandpa(2); the grandpa; he(2); it; mother; the outside; plant; the plant; she(3); the stair; the (N); there; the tree [25]
	S4	the baby; the bakery; the bench; a bird; baby bird(2); mother father bird; boy; the boy; bread; a bread; the bread(2); a flower; the flower; grandpa(2); the grandpa; the one grandpa; he; a money; the money; mother; the rained; seed; the seeds; the stairs; the up; the water; the window [27]
2010	**S1**	bakery; the balcony; the bench(2); bird(2); baby bird; the baby bird(2); their baby bird; the bird(3); the boy(2); a bread(2); his bread; this bread; a flower(2); that grandfather; this old grandfather; he(15); him; I; old man; one old man; the old man; money; no money; his mother; a muffin(2); the muffin; one; a many rain; seed; the seed; the sky; someone; the stair; there(2); they(2); the window [36]
	S2	the bakery; their baby; a bakery; the balcony; the bench(2); the bird; the baby bird; the birds; three birds; the three birds; the boy(2); the bread; that country; a flower; old grandpa; a one grandpa; the grandpa(2); the old grandpa(2); he(3); it; his Mom(2); the money(2); the muffin(3); a many rain; seed; a seed; the seed(2); there(5) [28]

	S3	their baby; the balcony; the bench; a bird; baby bird; the bird; the baby bird; one of the birds; a boy; the boy; a bread(2); some bread; a cloud; the grandfather(3); one grandpa; he(6); I; Mom; his Mom; a money; the muffin(2); the rain; a seed; the seed(3); the stair; a sunflower; there; the tree; the window [29]
2011	S1	the bakery; the boy's balcony; the bench; bird; a bird; baby bird; that bird(2); the bird(2); boy(2); a bread(3); that bread; a cloud; a cupcake; he(10); it; one man; the man; that old man; the old man; money; his mother; that bird's mother and father; muffin; one; rain; a seed; the seed(3); the stair; a sunflower(2); that(2); there; the tree [32]
	S2	a baby bird; the baby bird; that baby bird(2); their baby bird; the bakery; the balcony(2); a bench; that bird(2); three birds; one boy; the younger boy; a bread(3); a cupcake(2); the cupcake; man; a one man; that man(3); his money; some money; seed; a seed(2); the stairs; a sunflower; that; there(3); a tree; the window [27]
	S3	their baby; a baby bird; the baby bird(3); a bakery; the balcony; the bench(2); a bird; the bird; that birds; one boy; the boy; a cloud; a cupcake(2); the door; he(7); him; it(2); old man; a one old man; that old man(2); the old man; Mom; a money; a muffin; the muffin; a seed; that seed; the seed; the stairs; a sunflower; that(2); there(3); a tree; the window [34]
2012	S1	their baby; baby bird; that baby bird; the baby bird; the bakery; the bench; bird; a bird; the bird(2); boy(2); a cloud; grandfather(3); one grandfather; that grandfather(2); he(7); him; their home; it; his Mom; a money; muffin; a muffin(3); that muffin; the muffin; some of the muffin; a seed; that seed; the seed; the soil; a sunflower; there(3); they; the window [33]
	S2	baby bird; a baby bird; that baby bird; the baby bird(2); the bakery; the bench(3); one boy; the boy; that bread; the bread; a cloud; grandfather; that grandfather; the grandfather; one grandpa; the grandpa; he(11); him; his house; it(3); some money; his mother; a muffin(2); the muffin; baby bird's parents; a seed; the seed(2); the soil; the stairs; a sunflower; there(3); the tree; the window [33]
	S3	baby bird(2); that baby bird; the baby bird; a baby bird and parents bird; the bakery; the balcony; that grandpa's bench; the bench(4); bird; parents bird; a boy; the boy; a bread; some bread; the cloud; a flower; one grandfather; grandpa; that grandpa; he(7); his home; it(5); his Mom; a money; a muffin(2); the muffin; a seed; that seed; the seed(2); the sky; the soil; the stairs; there(3); a tree; the window(2) [35]
	S4	baby bird; the baby bird(2); the bakery; balcony; the bench; a bird family; that bird; that parent bird(2); a boy; that boy; a bread(2); that bread; the cloud; that old grandfather(4); he(7); him(2); his house; it; an old man; his Mom; money; a muffin; the muffin; a seed; that seed(3); the sky; the stairs; a sunflower; there(3); a tree; the window(2) [31]

Let's consider the specific constituents of these NPs. Arong used one of the following 19 types of NPs: [NP *the* N], [NP ProN], [NP *a* N], [NP N], [NP DemP, N(s)], [NP Qnt, N(s)], [NP PossP, N], [NP *the* Ns], [NP DemP, Adj, N], [NP *the* Adj, N], [NP *a* Qnt, N], [NP *the* Qnt, N(s)], [NP Adj, N], [NP (*a*) Qnt, Adj, N]., [NP NP's N(s)], [NP *one of the* Ns], [NP Qnt *of the* N], [NP Qnt, N and N], and [NP *the* (N)]. Here the abbreviations such as Qnt, N(s), ProN, PossP, DemP, Adj, and [NP *the* (N)] refer to 'Quantifiers', 'singular or plural Nouns', 'Pronouns', 'Possessive Pronouns', 'Demonstrative Pronouns', 'Adjectives', and 'an NP without a Noun', respectively.

The most frequently used types of NPs are [NP *the* N](158), [NP ProN](153), [NP *a* N](101), [NP N](72), [NP DemP, N(s)](33), [NP Qnt, N(s)](22), and [NP PossP, N](21), in this order. She used 72 tokens of NPs which consist of a bare Noun, but most Nouns are preceded by a Determiner such as a definite/indefinite Article, a Demonstrative Pronoun or a Possessive Pronoun. The latter ten types of NPs in Table 4 are relatively low in frequency and they are errors deviated from native adult speakers' norm. In 2009 she used some ungrammatical NPs like uncountable Nouns preceded by an Article or an incomplete NP. However, her NPs stabilized more and more as sampling sessions proceeded. In 2012 her NPs became systematic; if Arong mentioned an NP like *a muffin* or *a bird* earlier, then she used *the muffin* or *the bird* later, respectively. The examples are shown in (4).

(4) When grandfather woke up, there was **a** ~~muffin~~, **muffin**. (0036)
So, that grandfather ate **the muffin**, and then, uhm, he saw **a bird**. (0045)
So, he gave, some of **the muffin**, to **the bird**. (0051) [09052012]

Table 4 on the following page shows the frequency of each type of NP Arong used in each session of language sampling.

Table 4. Frequency of each type of NP used in the description task with PBa

	2009				2010			2011			2012			
	S1	S2	S3	S4	S1	S2	S3	S1	S2	S3	S1	S2	S3	S4
[the N]	0	7	8	13	16	20	17	8	6	12	9	18	16	9
[ProN]	6	5	7	1	24	9	8	15	4	15	16	16	15	13
[a N]	7	3	8	4	7	3	8	9	11	11	10	4	8	8
[N]	6	10	8	9	6	1	2	8	2	1	8	2	6	3
[DemP, N(s)]	1	0	0	0	3	1	0	3	7	2	3	2	3	7
[Qnt, N(s)]	1	5	2	0	1	1	2	1	3	1	1	3	2	0
[PossP, N]	1	0	0	0	2	3	2	1	2	1	3	2	2	2
[the Ns]	1	0	0	2	0	1	0	0	1	1	0	1	1	1
[DemP, Adj, N]	0	0	0	0	1	0	0	1	0	2	0	0	0	4
[the Adj, N]	0	0	0	0	0	2	0	1	1	1	0	0	0	0
[a Qnt, N]	0	0	0	0	1	2	0	0	1	0	0	0	0	0
[the Qnt, N(s)]	0	0	1	1	0	1	0	0	0	0	0	0	0	0
[Adj, N]	0	0	0	0	1	1	0	0	1	0	0	0	0	0
[(a) Qnt, Adj, N]	0	0	0	0	1	0	0	0	0	1	0	0	0	1
[NP's N(s)]	0	0	0	0	0	0	0	2	0	0	0	1	1	0
[one of the Ns]	0	0	0	0	0	0	1	0	0	0	0	0	0	0
[Qnt of the N]	0	0	0	0	0	0	0	0	0	1	0	0	0	0
[Qnt, N & N]	0	0	0	0	0	0	0	0	0	0	0	0	1	0
[the (N)]	0	1	1	0	0	0	0	0	0	0	0	0	0	0

It seems that Arong acquired the rule of Pronominalization. From the beginning of language sampling she began to use various types of Pronouns: Personal Pronouns, Demonstrative Pronouns, Indefinite Pronouns, Interrogative Pronouns, and Expletive Pronouns. Table 5 shows what type of Pronouns she used and how often each of them was used.

Table 5. NPs Arong used in the describing-a-picture book task with PBa

		Pronouns
2009	**S1**	he(3); her; there(2); this(2); what [5]
	S2	he(4); there [2]
	S3	he(2); it ; she(3); there; [4]
	S4	he [1]
2010	**S1**	he(16); him(2); his(2); I; one; someone; their; there(2); they [9]
	S2	he(3); his(2); it; there(5) [4]
	S3	he(6); his; I; their; there [5]
2011	**S1**	he(10); his; it; that(2); there [5]
	S2	he(7); his; that; their; there(3) [5]
	S3	he(7); him; it(2); that(2); their; there(3) [6]
2012	**S1**	he(7); him; his(2); it; some; their; there(3); they [8]
	S2	he(10); him; his(2); it(3); there(3) [5]
	S3	he(9); his(2); it(5); there(3) [4]
	S4	he(9); him(2); his; it; there(4) [5]

4.1.2. NPs Arong used in the describing-a-picture book task with PBb

Arong performed the picture book description task with PBb for three years from 2010 to 2012. The average number of NPs Arong used in this task increased as follows: from about 40 NPs in 2010 to 43 NPs in 2011, and then to 55 NPs in 2012. NPs Arong used in this task are shown in Table 6.

Table 6. NPs Arong used in the describing-a-picture book task with PBb

		NPs
2010	**S1**	baby; the baby(2); the baby 'a baby carriage'(2); bee(2); one, uh bee; the bee; a boat; his boat; the boat(2); a book; some of the book; boy(2); a boy(2); his boy; the boy(2); butterfly; bye-bye; his can; cat; a cat; the cat(2); city park; the city park; my friend; frog(6); a frog; the frog(7); frog and his dog; one girl and one man; he(6); I; milk; the milk; Mom; mother(2); her mother; one mother with one baby; one thing; she(2); a cup of something; the park; there(3); they(2); this(2) [44]
	S2	baby; the baby; the basket; a bee; the boat(3); a book; boy; a boy; one boy; the boy(4); cat; the cat(4); the city park(2); a coffee(2); his dog, frog, and turtle; the dog; a flower; the flower(3); a fly; a frog; the frog(10); he(4); her hand; it's; one man and one woman(2); the man; a milk; that milk; the mom; the baby's mom; their mom; the mouth; a picnic; she; that(2); there(3); they(2); his tongue; his turtle, frog, and dog; woman [40]
	S3	her baby; the baby(3); the basket(2); a bee; the bee(2); a boat; the boat(2); a book; one boy; the boy(3); bye; cat(3); the cat(2); city park; a coffee; his dog; the fly; his friend; frog(4); a frog; the frog(7); he(2); home; one man and one

		woman; a milk(2); mom; his mom; the mouth; she(2); that; there(2); they; his, turtle, frog and his dog; one woman with baby; the woman [35]
2011	S1	baby(2); a baby; the bag; a bee; the bee; a boat; that boat; the boat(3); book; the bowl(2); boy; that boy; the boy; one of the boy; boy, and, dog, and frog, and turtle; cat(3); the city park; a couple; the cup and frog; the dog; fly; frog(9); a frog(2); that frog(2); the frog(2); that girl; hand; he(3); their home; it; that man; that man and woman; milk; a milk; Mom; a mom and a baby; the mom; his mouth; the pain; the river; she(3); that; there; they [44]
	S2	baby; the baby; the baby seat; a bag 'basket'; a bee; boat; a boat; the boat; a book(2); the bowl; boy; one boy; that boy(2); the boy, and frog, and turtle, and dog; a butterfly; cat(2); the cat; a city park; the city park; a couple; the cup; the dog; a drink; a fly; frog(3); a frog; that frog(3); the frog(5); he(3); it; the man; milk; Mom(3); a mom with baby; his Mom; mother; this place(2); the river; she(4); something; there(2); they(3); his, uh, [43]
	S3	baby(3); a baby; the basket; a bee(2); a boat(2); that boat(2); a book; the bowl; one boy, and turtle, frog, and dog; that boy; the boy(2); cat(3); that cat(2); the city park(2); a couple; a dog; that dog; fly; a food; frog(3); a frog(3); that frog(3); the frog(2); the frog's own the boy; that girl; the hand; he(4); it; milk; the milk; Mom(2); a mom and baby; a mom and baby; mother; that mother; she; that(2); that; there(4); they; a water; the water [42]
2012	S1	baby(2); the baby 'the baby carriage'(2); the basket; the bee; some bee; that boat; the boat(2); a boy; that boy; the boy; boy and the dog; cat(2); a cat; the cat; the city park(2); some coffee; a couple; a fly; frog(8); a frog; the frog(2); frog, turtle, and dog; that girl; he; him; a hurt; it(3); a milk; baby mom; a mom and baby; mother; she; there(5); they [34]
	S2	baby; a baby; a baby and his mom; the baby something 'the baby carriage'; the basket; a bee; a boat; the boat(2); one boy(2); a butterfly; cat(2); a cat; city park; the city park; a date; a fly; frog(5); the frog(2); one girl and one man; the girl; he(2); it(3); his leg; the mama; a milk; mother(2); mother, and, baby; frog's owner; the pot; the river; she(2); there; they; turtle, frog and dog; the water [35]
	S3	her arm; baby(2); her baby; the baby carriage; the basket; a bee; the bee; his boat; that boat; the boat; a boy watching a boat floating; one boy; the boy, his owner; cat(2); that cat; the cat; city park; the city park; a coffee; a couple; the cup; dog; a fly; frog(3); a frog; that frog(3); the frog(5); he(8); it(2); frog's leg; a magazine; the man; a milk; that milk; a mom and baby; a mom, reading a book; the mom; mother(2); his pet, dog, turtle and frog; the pot; she(3); something(2); there(4); they [44]
	S4	her arm; baby(2); a baby; her baby; the baby; her basket; a bee; a boat; his boat; that boat; the boat; a bowl; boy; a boy and mom; the boy; baby's carriage; the carriage; cat(4); a cat; the cat; the city park; a coffee; a couple; dog; a dog; a fly; frog(8); a frog(3); the frog; frog's leg; frog's owner; he(2); their house; it(3); a magazine; a man and woman; the man; milk; baby's

milk; Mom; a mom; baby's mom; the baby's mom; mother; his mother; their owner; she(2); something; there(3); they; a woman; the woman [52]

Arong used one of the following 11 types of NPs: [NP ProN](185), [NP *the* N](166), [NP N](137), [NP *a* N](104), [NP DemP, N(s)](32), [NP PossP, N](32), [NP Qnt, N(s)](13), [NP NP's N(s)](11), [NP Qnt, N and N](3), [NP *one of the* Ns](2), and [NP Qnt *of the* N](1), in this order. The frequency of each type of NP is shown in Table 7.

Table 7. Frequency of each type of NP used in the description task with PBb

	2010			2011			2012			
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S4
[ProN]	16	13	8	10	14	20	6	9	20	15
[*the* N]	21	32	24	16	16	9	10	12	16	10
[N]	20	4	11	21	9	14	15	13	11	19
[*a* N]	6	10	7	7	17	17	6	9	10	15
[DemP, N(s)]	0	1	0	7	7	7	3	0	6	1
[PossP, N]	5	5	5	2	2	0	0	1	5	7
[Qnt, N(s)]	3	1	2	0	1	0	2	3	1	0
[NP's N(s)]	0	1	0	0	0	1	1	1	1	6
[Qnt, N & N]	1	1	1	0	0	0	0	0	0	0
[*one of the* Ns]	1	0	0	1	0	0	0	0	0	0
[Qnt *of the* N]	1	0	0	0	0	0	0	0	0	0

As we see in Table 7, the five most frequently used types are [NP ProN], [NP *the* N], [NP N], [NP *a* N], [NP DemP, N(s)], and [NP PossP, N]. The three least frequently used types are [NP Qnt, N and N], [NP *one of the* Ns], and [NP Qnt *of the* N]. Their frequency is relatively low and they were used only in early sessions. This indicates that Arong's NPs became systematic and stabilized. Table 7 also shows that Arong acquired the rule of Pronominalization. Some examples are shown in (5)-(7).

(5) **Boy** ~~is leaving, start~~, leave with city park. (0008)
He is going, with, frog and, **his** dog. (0015)
…
And walk and, **frog** is seeing **one mother**, with **one baby**. (0244)
She is reading, some of the book. (0247)
And **the frog** go inside of **the baby** 'the baby carriage'. (0254)
[10072010]

(6) **The boy, and frog, and turtle, and dog**, went to the city park. (0011)
They saw a butterfly. (0017)
Suddenly, **that frog**, go out, ~~in the~~, in the bowl. (0023)
And **that boy**, go again. (0028)
The frog, saw **a bee**, but **he** thought, **it** was a, fly. (0035) [10052011]

(7) One boy went to city park with, turtle, frog and dog. (0010)
But **frog** jumped out, in the pot. (0016)
He saw **a butterfly**, but ~~he~~, **he** thought ~~it was~~, um **it** was a fly, but **it** was a bee. (0032) [10172012]

Examples in (5)-(7) are the utterances Arong used when she described the beginning scene of PBb. We can see that her grammar developed positively with a one-year interval. *Boy* was changed to *he* and *his* in (5). We can also notice the following changes: from *frog* to *the frog*; from *one mother with one baby* to *she*; and from *one baby* to *the baby*. In (6) the following changes are noticed: from *the boy, and frog, and turtle, and dog* to *they*; from *frog* to *that frog,* then to *the frog* and finally to *he*; from *a bee* to *it*. Examples in (7) also show the following changes: from *frog* to *he* and from *a butterfly* to *it*.

4.2. Development of VPs

4.2.1. VPs Arong used in the describing-a-picture book task with PBa

The average number of VPs Arong used in the picture book description task with PBa changed as follows: 22 VPs in 2009 to 30 VPs in 2010, then to 27 VPs in 2011 and 2012. Specific examples of VPs are shown in Table 8. Underscored words in the list of VPs refer to 'word tokens inappropriate to the given situation or word tokens unclearly heard'. VPs Arong used in 2009 included some errors deviated from native adult speakers' norm, but the average number of VPs she used in 2010 increased and the VPs became grammatical. In 2011 her VPs became stabilized and stabilized more in 2012.

Table 8. VPs Arong used in the describing-a-picture book task with PBa

		VPs
2009	**S1**	be; buy a muffin; eat; eat mud; give a bread; give uh money; go away; to to bakery; is a flower; is a rain(2); is growing; is happy; look; put her mother; say that; think a bay; want to eat [17]
	S2	buy a bread; can fly; eat uh bread; eat yummy; give a baby bird; give a bird a bread; give uh money; give uh one plant; go down to the grandpa; go to bakery; go up; is a rain; is grow; is growing and growing; (is) happy; is sleeping on the bench; put on the chair the bread; put the living; run down the stairs; see uh plant; sees uh bird; talk Mom; thinking a bread [23]
	S3	buy bread; did fly to the grandpa; eat; eat a bread; get up; give a baby bird; give a bird a bread; give a bread in the bench; give a money; give uh plant; go up; grow up; is a baby bird; (is) rainy; look out the outside; look up the tree; put; put it; ran to the stair; see a flower; see one grandpa sleeping in the bench; see the bird; see the window next; talk about mother [24]
	S4	buy the bread; eat the bread; give a bird; give a bread; give a money; give the money; give uh bread; give uh seeds; go to the bakery; go to the grandpa; is coming; is flying; is growing up; (is) happy; is sleeping on the bench; looking out the window; put down; put the water; see a flower; see the, out in the baby; take the seeds to the up; wake up; (go/went) down the stairs [23]
2010	**S1**	ate the muffin; ate up his bread; bought a muffin; gave him a money; get the seed; give the baby bird at him; give to their baby bird; go; go down and down; go home; go to bakery; go to the old man; has no money; is a flower; is a many rain; is flying; is growing and growing; is happy; is looking at the window; is up; left; left in the sky; put a bread on the bren, bench; put on the balcony in, in someone; run down the stair; see a flower; see a muffin; see one; talk to her mother, *ani* his mother; think [+S]; took; use a bread; wake up; want this bread [34]
	S2	buy it; eat; eat the muffin; fly away; get the muffin; get the money; get the seed; give the bird a seed; give the muffin to the grandpa; give to their baby; go downstair; go to his mom; go to the old grandpa; go up; grow and grow; has a many rain, in that country; is a bakery; is a one grandpa; is three birds; (is) happy; put the bread on the bench; put the seed on, in the balcony; see a flower; see outside; see the three birds; sleeping on the bench; talk to his mom to give the money; wake up; was cloudy [29]
	S3	buy the muffin; eat the muffin; give a bird a bread; give a money; give a seed; give the muffin; give their baby a bread; go to bakery; go to his mom; go to the grandfather; is a cloud; is coming; is flying; is uhm, growing; is happy; is looking out, at the window; is on the tree; is sleeping on the bench; 's very poor; put the seed on the balcony; ran down the stair; saw [+

		S](2); see a sunflower; tell [+ S]; think [+ S]; took the seed; wake up; want to eat some bread [28]
2011	**S1**	ate that; became a sunflower; bought muffin; eat that bread; flew; gave a baby bird a bread; gave a seed; get that; give money to buy a bread; go to one of the boy's balcony; go to the bakery; go to the old man; go under the stair; grew and grow; is a cloud; is seeing outside; is sleeping in the bench; put a bread for bird; put the seed; said to his mother; saw a bird; saw a cupcake; saw a sunflower; saw [+ S]; wake up; was happy; will be rain [27]
	S2	ate; bought a cupcake; come; comes; flew; flew away; gave a baby bird a seed; give to their baby bird a bread; give some money; go down to the stairs; go to that man; go to bakery; go up; put a bread; put a cupcake in there; put a seed in the balcony; saw a tree; saw the cupcake; saw [+ S](2); talk to his mommy; took that; wake up; was a sunflower; was growing, growing and growing; was looking out; was starting; was uh, three birds [27]
	S3	ate; bought a muffin; called Mom to give a money; came; flew away; gave a baby bird a seed; gave him a cupcake; gave it to their baby; go down; go to a bakery; go to that old man; go up; grow and grow; open the door; put the muffin on the bench; put the seed on the balcony; ran down to the stairs; saw a sunflower; saw a tree; saw [+ S]; started raining; was a bird; was a cupcake; was flying; was looking, out of the window; was sleeping on the bench; was wake up [27]
2012	**S1**	asked his mom to give a money; ate the muffin; began to grow and grow; began to rain; bought a muffin; flew away; gave bird a seed; gave him a money; gave muffin to that grandfather; gave some of the muffin to the bird; gave their baby a muffin; get that muffin to their home; get that seed; looked outside; put in the soil; saw a bird; saw [+ S]; was a cloud; was a muffin; was a sunflower; was looking out the window; was sleeping on the bench; went to grandfather; went to the bakery; woke up [25]
	S2	asked him mother, give him some money; ate it; began to rain; bought a muffin; flew; flew away; gave a seed; gave it; gave to that baby bird; get that bread; go to that grandfather; grow and, grow and, grow; put the bread on the bench; put the muffin on the bench; put the seed in the soil; ran down the stairs; run away; run to the bakery; saw a baby bird, in the tree; saw one grandpa; saw outside the window; wake up; was a cloud; was a muffin; was a sunflower; was going to his house; was sitting in the window; was sleeping on the bench [28]
	S3	asked his mom to give a money to eat some bread; ate it; became a flower; began to come; began to rain; bought a muffin; came down the bench; flew to fly; gave bird a seed; gave it to baby bird; go to the bakery; go to that grandpa's bench; grow and, grow and grow; put a bread on the bench; put that seed in the soil; put the muffin on the bench; ran down the stairs; saw

	at the window; saw the sky; saw [+ S]; took the seed; wake up; was a baby bird and parents bird; was a muffin; was a tree; was going to his home; was looking out at the window; was lying on the bench and sleeping [28]
S4	asked his mom to give him money; ate; became; began to rain; bought a muffin; came; flew(2); gave him a seed; get that bread; give baby bird a bread; go to that old grandfather; grew and, grew and grew; is looking out the window; opened the window; put a bread; put that seed into, uh, balcony; put the muffin in the bench; ran down the stairs; saw an old man; took that seed; was a bird family; was a muffin; was a sunflower; was a tree; was going to his house; was looking the sky; went to the bakery; woke up [28]

Arong used one of the following 26 types of VPs: [$_{VP}$ V, NP, (PP)], [$_{VP}$ V, PP], [$_{VP}$ V + Adv], [$_{VP}$ *be*, NP], [$_{VP}$ V$^{(+)}$], [$_{VP}$ V, NP, PP], [$_{VP}$ *be*, V-*ing*, PP], [$_{VP}$ V, NP, NP], [$_{VP}$ *be*, V-*ing*$^{(+)}$(+Adv)], [$_{VP}$ V, S], [$_{VP}$ V, VP$_{(inf)}$], [$_{VP}$ *be*, AP], [$_{VP}$ V, NP, VP$_{(inf)}$$^{(+)}$], [$_{VP}$ *be*, V (+Adv)], [$_{VP}$ (*be*), AP], [$_{VP}$ Inc VP], [$_{VP}$ V + Adv, PP], [$_{VP}$ V, NP, VP$_{(ing)}$], [$_{VP}$ V, PP, NP], [$_{VP}$ *be*, V-*ing*, NP], [$_{VP}$ V-*ing*, PP], [$_{VP}$ *did/do*, V, PP], [$_{VP}$ V, PP, VP$_{(inf)}$], [$_{VP}$ *be*, PP], [$_{VP}$ Aux, (*be*), V], and [$_{VP}$ V, VP$_{(ing)}$]. Here notations like [$_{VP}$ V + Adv], [$_{VP}$ V$^{(+)}$], [$_{VP}$ V, S], [$_{VP}$ V, VP$_{(inf)}$], [$_{VP}$ (*be*), AP], [$_{VP}$ Inc VP], and [$_{VP}$ V, NP, VP$_{(ing)}$] stand for 'a VP consisting of a two-word verb', 'a VP consisting of a single Verb or the repetition of the Verb', 'a VP consisting of a Verb followed by a finite clause', 'a VP consisting of a Verb followed by an infinitival clause', 'a VP consisting of an Adjectival or Adverbial Phrase without a copula', 'an incomplete or incomprehensible VP', and 'a VP consisting of a Verb and an NP followed by a participial clause', respectively. The frequency of each type of the VPs is shown in Table 9.

Table 9. Frequency of each type of VP used in the description task with PBa

	2009				2010			2011			2012			
	S1	S2	S3	S4	S1	S2	S3	S1	S2	S3	S1	S2	S3	S4
[V, NP, (PP)]	7	10	9	10	9	8	7	9	5	6	4	6	5	6
[V, PP]	1	2	4	2	7	3	4	4	3	2	3	3	5	3
[V + Adv]	1	2	3	2	4	5	1	1	3	3	3	3	1	1
[be, NP]	2	1	1	0	2	3	1	1	2	3	3	3	3	4
[V(+)]	2	0	2	0	3	2	0	2	3	1	2	0	1	6
[V, NP, PP]	0	0	1	1	1	3	1	2	2	3	3	4	4	2
[be, V-ing, PP]	0	1	0	1	1	0	2	2	0	2	2	3	3	2
[V, NP, NP]	0	0	1	0	1	1	2	1	1	2	3	0	1	1
[be, V-ing(+) (+Adv)]	1	1	0	2	2	0	3	0	4	1	0	0	0	0
[V, S]	0	0	0	0	1	0	4	1	2	1	1	0	1	0
[V, VP(inf)]	1	0	0	0	0	0	1	0	0	0	1	3	3	1
[be, AP]	1	0	0	0	2	1	2	1	0	0	0	0	0	0
[V, NP, VP(inf)(+)]	0	0	0	0	0	0	0	1	1	1	1	0	1	1
[be, V (+Adv)]	1	1	0	1	0	0	0	0	0	1	0	0	0	0
[(be), AP]	0	1	1	1	0	1	0	0	0	0	0	0	0	0
[Inc VP]	0	0	0	3	0	0	0	0	0	0	0	0	0	0
[V + Adv, PP]	0	1	0	0	0	0	0	0	1	1	0	0	0	0
[V, NP, VP(ing)]	0	0	0	0	0	0	0	0	0	0	0	0	1	0
[V, PP, NP]	0	1	0	0	0	0	0	0	1	0	0	0	0	0
[be, V-ing, NP]	0	1	0	0	0	0	0	0	0	0	0	0	0	1
[V-ing, PP]	0	0	0	1	0	1	0	0	0	0	0	0	0	0
[did/do, V, PP]	0	0	1	0	0	0	0	0	0	0	0	0	0	0
[V, PP, VP(inf)]	0	0	0	0	0	1	0	0	0	0	0	0	0	0
[be, PP]	0	0	0	0	0	1	0	0	0	0	0	0	0	0
[Aux, (be), V]	0	1	0	0	0	0	0	0	0	0	0	0	0	0
[V, VP(ing)]	0	0	0	0	0	0	0	0	0	1	0	0	0	0

Some errors are included in the most frequently used types of VPs. Especially ditransitive verbs such as *give* or *put* were used like a transitive verb in earlier sampling sessions in each year. The Verbs, *give* and *put* are ditransitive, but they are different in subcategorization. The former must have [VP V, NP, NP] and [VP V, NP, PP] as its subcategorization, while the latter has [VP V, NP, PP] only. We should also recognize that the constituent PP is different in the usage of each verb. The PP of *give* must include an NP whose thematic role is Goal, but in the case of the Verb *put*, the PP contains an NP

whose thematic role is Locative.

Let's consider the following examples in (8)-(11). Here we can see how differently Arong described the same scene.

(8) And he put, her mother, and say that, and mother give uh, money. (0019) [09042009]
…
And the grandpa give uh, one, plant. (0215)
And, baby bird, go up, and put the, one boy living. (0135) [10092009]

(9) And, he run down to, ah, he, go, he talk to her mother, *ani* his mother, "I want this bread." (0029)
Mother give him, a money. (0033)
…
And, bird, get the seed, and put, on the balcony in, in someone. (0227) [10072010]

(10) He said to his mother, "Give money, to buy a bread." (0011)
…
And that old man gave, a seed. (0116)
And the bird get that and, go to one of the boy's balcony, and put the seed. (0126) [09052011]

(11) He asked his mom, to give a money. (0011)
So, his mom gave him, a money. (0041)
…
And that baby bird went to, grandfather, and grandfather gave bird, a seed. (0117)
So, baby bird get that seed, and put in the, soil? (0125) [09052012]

In 2009 Arong used the Verb *put* in the second session of language sampling for the first time. However, she began to use these two verbs, *give* and *put* from the very first session of language sampling in 2010 and thereafter. Her usage of *give* showed some development, but she did not show any development in the case

of the Verb *put*. We will discuss her usage of the Verb *give* later.

4.2.2 VPs Arong used in the describing-a-picture book task with PBb

The average number of VPs Arong used in the picture book description task with PBb changed as follows: from 35 VPs in 2010 to 35 VPs in 2011, then to 33 VPs in 2012. Specific examples of VPs are shown in Table 10. Here we can see that the VPs Arong used in this task were stabilized.

Table 10. VPs Arong used in the describing-a-picture book task with PBb

		VPs
2010	S1	are going out, at the city park; <u>beating</u> this; catch the frog; eat the bee; go inside of the baby 'the baby carriage'; go inside the baby ' the baby carriage'; help the frog; is a cat; is a frog; is angry(3); is crying(3); is eating a cup of something; is giving the baby, uh, milk; is going down; is going with frog and his dog; is one girl and one man; put his book; is reading a book; is reading, some of the book; is seeing one mother, with one baby; is very slippery; is very surprise; jump out; leave with city park; looking; put the milk; said that; saw; saw one, uh, bee; saw, uh, butterfly; say [+ Direct Speech]; says, bye-bye, to his boy; see a boy; speak I am going to frog; start going fast; start going walk; walk; walking to the park; went away; went to the boat [40]
	S2	are going out; are have a picnic; catch the frog; eating that milk; drink a coffee; get out the boat; get out, the boy; get the flower; give the baby, a milk; give woman a coffee; go inside of the boat; go inside the basket; go out; go to the city park; is a bee; is a boy; 's a fly; is a frog on her hand; is barking to the cat; is crying(2); is going; is one man and one woman; is putting the mouth; is reading a book; is running 'chasing' the frog; is very surprise; put his tongue at the flower; say to the cat; see a flower; see one man; see that; see uh, one boy with the, boat; think that [+ S]; throw the frog; want to catch the frog [35]
	S3	catch the frog; eat the bee; eating a milk; go inside of the boat; go to home, <u>to the</u>; is a bee; is bark to the cat; is come; is crying(3); is drinking a coffee; is fly to the boat; is going to city park; is one woman with baby; is ran up the baby; is reading a book; is running(2); is seeing a boat; is the fly; is there; is very angry; is very surprise(2); is very surprised; open the mouth; put out the boat; run away; say bye to his friend; think [+ S]; want to catch the frog; want to eat the frog; want to give her baby milk; went out(2) [31]
2011	S1	ate that; bark; came; catch a frog; cried; cry; didn't know that [+ S]; get in the boat; get out of the bowl; get the boat; go into the river; go to the city park; go to their home; has the pain; have to give a baby a milk; hit the frog; is flowing that boat; is not in the bowl; is uh fly; run away; saw a bee;

		saw a couple; saw a mom and a baby; thought [+ S](2); threw the cup and frog; want to catch a frog; want to eat milk; want to get in the boat; was a frog; was crying; was open his mouth; was putting hand in the bag; was really surprised; was seeing, uh, book; was surprised, too [35]
	S2	ate; catch the frog; flew away; get out the boat; go again; go out, in the bowl; put something, to get out; ran into the baby seat; run away; run into the river; saw; saw a bee; saw a butterfly; see the frog; sit on, uh, boat; thought [+ S]; thought that [+ S]; took his, uh; walk away; want; want to eat that frog; was a couple; was a fly; was a frog; was a mom with baby; was barking; was floating a boat; was going to the frog; was putting a drink in the cup; was reading a book(2); was really surprised; went out in a city park; went to into a bag; went to the city park; were crying(2) [35]
	S3	ate the milk; barks; catch a frog; flew; flew there; gave baby a food; get out of the bowl; get out of the city park; get that boat; give more; go away(2); got baby want to eat milk; have a dog; put in; put the basket in the hand; saw a bee; saw that; take out that frog; thought [+ S](2); took a boat; took the frog; want to catch a frog; want to eat frog; went to the city park; was a bee; was a couple; was a frog; was a mom and baby(2); was crying(2); was drinking a water; was floating a boat; was fly; was reading a book; was suddenly go into the water; was very surprised [35]
2012	S1	ate it; can't eat; catch the frog; chased the frog; cried; crying; drinking some coffee; gave him a hurt; get into the boat; get into the, uh, baby 'baby carriage'; get out the city park; get that boat; go to the baby; ran away; saw a frog; saw some bee; thought [+ S]; threw it away; want to give baby a milk; was a boy, looking the boat; was a cat; was a couple; was a mom and baby; was boy and dog; went away; went into the basket; went to the city park with frog, turtle, and dog [27]
	S2	ate it; came; came here; caught, his jump, leg; gave a baby, a milk; get into the baby something 'the baby carriage'; get out of the city park; get out the boat; go inside, in the boat; go into the basket; going to the water; grab the frog; jump out, in the pot; ran away(2); saw a butterfly; thought [+ S]; threw the frog; was a baby and her, his mom; was a bee; was a fly; was crying; was floating a boat in the river; was having a date; was surprise; went to city park with, turtle, frog and dog; were surprised [26]
	S3	ate it; ate that milk; barked; came; caught frog's leg; get into the basket; get out of the city park; get out of the pot; go away; go into the baby carriage; go into the boat; have to pick out that boat; have to spit out the bee; saw a bee; saw that frog; should be bitten; started to cry; the chasing; thought [+ S](2); threw the frog; touched the frog; wanted to get out something out; wanted to give a milk to her baby; was a boy watching a boat, floating; was a couple; was a fly; was a frog; was a mom and baby; was a mom, reading a book; was change; was crying; was going down; was going to city park with his pet, dog, turtle, and dog; was on her arm; was putting a coffee on the cup; was reading a magazine; was really surprise; was running; was surprise; was surprised; was trying to catch that frog [41]

S4	bark to cat; began to cry; came; caught frog's leg; didn't know; escape from a bowl; get out that boat; go into the boat; go into the carriage; go to the city park, with their owner; go to their house; run away; saw a fly; saw her baby; threw a frog; threw it out; wanted to eat milk; wanted to get it out something in her basket; was a bee; was a boy and mom; was a cat; was a couple; was a mom and a baby; was already inside; was angry; was chasing a frog; was crying; was floating a boat; was floating 'sinking' down; was frog's owner; was getting out, baby's milk; was giving a coffee to a woman; was in her arm; was inside; was in the carriage; was on baby's carriage; was reading a magazine; was surprised(2); were surprised [39]

Arong used one of the following 24 types of VPs: [$_{VP}$ V, NP, (PP)](61), [$_{VP}$ *be*, NP, (PP)](38), [$_{VP}$ *be*, V-*ing*, NP, (PP)](28), [$_{VP}$ *be*, AP](22), [$_{VP}$ *be*, V-*ing*$^{(+)}$, (+Adv)](22), [$_{VP}$ V + Adv](20), [$_{VP}$ V$^{(+)}$](18), [$_{VP}$ V, VP$_{(inf)}$](16), [$_{VP}$ V, S](15), [$_{VP}$ *be*, VP](11), [$_{VP}$ *be*, V-*ing*, PP](6), [$_{VP}$ V, NP, NP](5), [$_{VP}$ V + Adv, NP](4), [$_{VP}$ V, NP, PP](4), [$_{VP}$ V-*ing*, (PP)](4), [$_{VP}$ Inc VP](4), [$_{VP}$ (Aux) *be*, PP](3), [$_{VP}$ V-*ing*, NP](3), [$_{VP}$ V, NP, VP$_{(inf)}$](2), [$_{VP}$ V, NP, VP$_{(ing)}$](1), [$_{VP}$ V, VP$_{(ing)}$](1), [$_{VP}$ *be*, V, VP$_{(inf)}$](1), [$_{VP}$ *be*, V-*ing*, VP$_{(inf)}$](1), and [$_{VP}$ *be*, V-*ing*, NP, PP](1), in this order. The frequency of each type of the VPs is shown in Table 11.

Table 11. Frequency of each type of VP used in the description task with PBb

	2010			2011			2012			
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S4
[V, NP, (PP)]	8	7	4	9	4	9	6	5	5	4
[*be*, NP, (PP)]	4	5	3	1	4	5	4	3	3	6
[*be*, V-*ing*, NP, (PP)]	5	3	2	4	4	3	2	0	1	4
[*be*, AP]	5	1	4	2	1	1	1	1	2	4
[*be*, V-*ing*$^{(+)}$ (+Adv)]	3	3	5	1	3	1	0	1	3	2
[V + Adv]	2	1	1	1	4	4	2	3	1	1
[V$^{(+)}$]	2	0	0	4	3	2	2	1	2	2
[V, VP$_{(inf)}$]	0	1	3	3	1	2	1	0	2	3
[V, S]	2	1	1	3	2	2	1	1	2	0
[*be*, VP]	2	1	3	2	0	2	0	0	1	0
[*be*, V-*ing*, PP]	1	1	1	0	1	0	0	0	1	1
[V, NP, NP]	0	2	0	0	0	1	1	1	0	0
[V + Adv, NP]	1	0	0	0	0	1	1	0	0	1
[V, NP, PP]	1	1	1	0	0	1	0	0	0	0
[V-*ing*, (PP)]	2	0	0	0	0	0	1	1	0	0
[Inc VP]	1	0	1	0	1	0	0	0	1	0
[(Aux), *be*, PP]	0	0	0	0	0	0	0	0	1	2
[V-*ing*, NP]	0	1	1	0	0	1	0	0	0	0
[V, NP, VP$_{(ing)}$]	0	0	0	0	1	1	0	0	0	0

[V, VP_(ing)]	1	0	0	0	0	0	0	0	0	0
[be, V, VP_(inf)]	0	0	1	0	0	0	0	0	0	0
[be, V-ing, VP_(inf)]	0	0	0	0	0	0	0	0	1	0

Let's consider the 10 most frequently used types of VPs: $[_{VP}$ V, NP, (PP)](61), $[_{VP}$ be, NP, (PP)](38), $[_{VP}$ be, V-ing, NP, (PP)](28), $[_{VP}$ be, AP](22), $[_{VP}$ be, V-ing$^{(+)}$, (+Adv)](22), $[_{VP}$ V + Adv](20), $[_{VP}$ V$^{(+)}$](18), $[_{VP}$ V, VP$_{(inf)}$](16), $[_{VP}$ V, S](15), and $[_{VP}$ be, VP](11). The Head of $[_{VP}$ (Aux) V$^{(+)}$] and $[_{VP}$ V + Adv] was used as Intransitive, while the Head of $[_{VP}$ V, NP, (PP)], $[_{VP}$ V, S], and $[_{VP}$ V, VP$_{(inf)}$] was used as Transitive. The Head V in $[_{VP}$ be, V-ing, NP, (PP)] and $[_{VP}$ be, V-ing$^{(+)}$, (+Adv)](22) was used in Progressive, but the Head of $[_{VP}$ be, NP, (PP)] and $[_{VP}$ be, AP] is a Copula. Thus, we can say that she used quite a big range of VPs.

Let's consider Arong's spontaneous utterances in four different usages of VP.

1) Transitive usage of VP

Arong's spontaneous utterances in (12) show a transitive usage of VP. The most frequently used type of VP, $[_{VP}$ V, NP, (PP)], includes some errors.

(12) And the boy is crying, and mother is, ~~put his the~~, ~~put his book~~, **put out** his boat. (0238) [10072010]

And frog, want to get in the boat, so he get in the boat, but, that boy cry, so Mom go into the river, and **get** the boat. (0212) [09052011]

And frog go into the boat, and boy was surprised. (0118)

And he began to cry because, his boat was floating down. (0123)

So,, his mother came, and mother **get out** that boat. (0130) [12052012]

As we see in (12), she used a phrasal verb *put out* or *get out* instead of *take out*. She made a wrong choice in the vocabulary, but the constituents of her VPs are quite grammatical.

2) Intransitive usage of VP

The Head of $[_{VP}$ V$^{(+)}$] or $[_{VP}$ V + Adv] was used as Intransitive. Arong used phrasal verbs quite well, but she made some errors in the usage of VP which consists of a Head V only. Some examples are shown in (13)-(14). There are some inconsistencies in Tense and Agreement.

(13) And, she is, very surprise, and, uhm, and the frog **went out**. (0115)
    [12022010]
    So .. he took his, uh, and then, he **walk away**. (0046)   [10052011]
    But frog went away. (0018)   [09052012]

(14) But, the boy **is come** and, his dog **is bark** to the cat, and ~~cat~~, cat is
    very surprise and, ~~go~~, run away. (0245)   [12022010]
    Cat catch a frog, but ~~the boy~~, boy **came**, and the dog **bark**. (0231)
    [09052011]
    And cat catch, the frog, but the dog was barking. (0242)   {10052011}

The first example in (14) is an error which is common in the Korean child
learners' spontaneous utterances. It is typical because the Head is preceded by a
copula. In the previous studies, the researcher assumed that this error might be
caused by L1 transfer (Cf. Lee, 2008; Lee, 2010). However, the second and third
examples in (14) show the development of Arong's usage of Intransitive VP.

  3) VPs in Progressive
  The Head V in [$_{VP}$ *be*, V-*ing*, NP, (PP)] and [$_{VP}$ *be*, V-*ing*$^{(+)}$, (+Adv)] was
used in Progressive. Some examples are shown in (15)-(17). Arong's VPs in
Progressive are grammatical although there are some inconsistencies in Tense
and Agreement. A Copula as an Aux was missing in the third example in
(17).

(15) And her mother, **is reading** a book. (0220)
    The frog went to the boat, and the boat **is going** down. (0226)
    And the boy **is crying**, and mother is, put his the, put his book, put out
    his boat. (0238)   [10072010]

(16) In this place, one boy **was floating** a boat, and his mom was reading
    a book. (0129)
    When the frog, sit on uh, boat, boy **were crying**, so, Mom run into the
    river, and get out the boat. (0144)   [10052011]

(17) One boy **was, floating** a boat, in the, in the river. (0103)

So the frog go inside, in the boat. (0108)

So the mama, **going** to the water, and get out the boat. (0116)
[10172012]

4) *be* as a Head of VP

The Head of [VP *be*, NP, (PP)] and [VP *be*, AP] is a Copula. Some examples
are shown in (18)-(20). Examples in (18) include some errors in Tense and
Agreement, but examples in (19)-(20) do not include such errors.

(18) There **is one girl, and one man**. (0130)

And, he is eating a good, a cup of, something. (0140)

And one thing, but, suddenly, there **is a frog**. (0147)

There is, he think, but this **is very slippery**, and he said that. (0155)
[10072010]

(19) And there **was a couple** in there. (0049)

And the man was, putting a drink, in the cup. (0055)

And they ate, but frog, went into, a bag 'basket'. (0101)

And, when she put something, to get out, there **was a frog**. (0110)

So, she **was really, surprised**, ~~and, flew~~ and then, that frog, flew away.
(0120)   [10052011]

(20) There **was a couple**, drinking some coffee, but frog went into the
basket. (0046)

And, that girl saw a frog, and she threw it away. (0052)

There **was a boy**, looking, the boat and, frog, get into the boat. (0103)
[09052012]

4.3. Ditransitive alternations and Passive constructions

PBa deals with the theme: 'A chain of giving results in happiness.' The story
begins with a boy's Mom who gives money to her son. The boy buys a muffin
and gives it to a homeless man, who gives some crumbs of the muffin to a

couple of birds. The parent birds take and give the crumbs to their baby birds. When one of the baby birds flies to the homeless man, he gives a seed to the bird, which drops the seed into a flower box in the balcony of the boy's house. After a rain shower, the seed grows and it becomes a sunflower, which finally gives happiness to the boy.

To find out how the language informant used a typical ditransitive verb, *give*, two scenes from PBa and one scene from PBb were presented to her. The subject of each scene was provided to help her complete the sentence. One example of the scene which can be described with a ditransitive verb was shown in Figure 1. Two more scenes were presented to Arong: one scene was selected from PBa and the other scene, from PBb (For these two scenes, refer to the figures in Appendix). The researcher was interested in the following questions: (i) 'How does Arong use the ditransitive verb, *give*?' and (ii) 'Does she know the correct usage of a Passive construction?' Thus, the researcher expected that Arong's description of the second scene would be: 'The old man gave/gives a seed to a little bird.' and 'A little bird was given a seed (by the old man).' When the third scene was presented to Arong, her description was expected to be: 'A handsome man gave/gives a cup of coffee to a pretty woman.' and 'A pretty woman was/is given a cup of coffee (by the handsome man).'

4.3.1. Ditransitive alternations observed in the picture description task

When Arong performed the describing-a-picture book task with PBa, she allowed the following ditransitive alternations: [$_{VP}$ *give*, NP$_{(DO)}$](22), [$_{VP}$ *give*, NP$_{(IO)}$, NP$_{(DO)}$](18), [$_{VP}$ *give*, NP$_{(DO)}$, PP$_{(IO)}$](5), [$_{VP}$ *give*, NP$_{(IO)}$](3), [$_{VP}$ *give*, PP$_{(IO)}$](3), [$_{VP}$ *give*, NP$_{(DO)}$, PP](1), [$_{VP}$ *give*, NP$_{(IO)}$, PP](1), or [$_{VP}$ *give*, PP$_{(IO)}$, NP$_{(DO)}$](1), in this order. Here notations like NP$_{(DO)}$, NP$_{(IO)}$, and PP$_{(IO)}$ stand for 'an NP as a Direct Object', 'an NP as an Indirect Object', and 'an NP preceded by a Preposition, *to,* and used as an Indirect Object', respectively. Notice that alternations of [$_{VP}$ *give*, NP$_{(IO)}$, NP$_{(DO)}$](18) or [$_{VP}$ *give*, NP$_{(DO)}$, PP$_{(IO)}$] only conform to native adult speakers' norm. Table 12 shows the frequency of each type of ditransitive alternation.

Table 12. Frequency of each type of VP used in the description task with PBa

	2009	2010	2011	2012
[*give*, NP(DO)]	10	4	4	4
[*give*, NP(IO), NP(DO)]	2	4	4	8
[*give*, NP(DO), PP(IO)]	0	1	1	3
[*give*, NP(IO)]	3	0	0	0
[*give*, PP(IO)]	0	2	0	1
[*give*, NP(DO), PP]	1	0	0	0
[*give*, NP(IO), PP]	0	1	0	0
[*give*, PP(IO), NP(DO)]	0	0	1	0

In the describing-a-picture book task with PBb, however, she used one of these three alternations: [VP *give*, NP(IO), NP(DO)](10), [VP *give*, NP(DO), PP(IO)](2), or [VP *give*, NP(DO)](1). Among 8 types of ditransitive alternations, Arong used [VP *give*, NP(IO), NP(DO)] most frequently in the picture description task with both books. Some spontaneous utterances of ditransitive alternations are shown in (21)-(22).

(21) Ditransitive alternations in the task with PBa
     And, bird eat, give a baby bird. (0127) [10092009]
     And give a bread, in the bench. (0052) [11062009]
     And they give to, their baby bird. (0149) [10072010]
     And he give the muffin, to the grandpa. (0047) [11042010]
     And old man gave, a seed. (0116) [09052011]
     That bird give to their baby bird, a bread. (0058) [10052011]
     So, parents bird came down the bench, and gave it, to baby bird.
     (0115)
     And grandpa gave bird, a seed. (0129) [11072012]

(22) Ditransitive alternations in the task with PBb
     But, the boy give more, and go away. (0021) [11042011]
     So, the bee, gave him, a hurt? (0035) [09052012]
     There was a couple, and the man was, giving a coffee, to a woman.
     (0043) [12052012]

4.3.2. Ditransitive alternations observed in the sentence completion task

Let's consider the ditransitive alternations observed in the sentence completion task. This task was different from the picture book description task in that a certain scene was presented to Arong regardless of the story line. Passive construction like 'The boy <u>was given a dollar (by his mom)</u>' was expected in each scene, but such a construction was not observed at all. She completed two sentences in Active voice only. It might be far beyond her comprehensibility yet. For ditransitive constructions, she used one of these three alternations: [VP *give*, NP(IO), NP(DO)](8), [VP *give*, NP(DO), PP(IO)](3), or [VP *give*, NP(DO)](1), in this order. Arong completed sentences in Scenes 1 & 3 with a ditransitive Verb, *give*, but she used *give* only once when she completed the sentence in Scene 2. Her spontaneous utterances are shown in (23)-(25).

(23) Scene 1 from PBa
    The boy <u>ask, a money, to his mom</u>.
    And his mom, <u>gave him, a money</u>.   [09052012]
    The boy <u>asked his mom to give money</u>.
    His mom <u>gave him a money</u>.   [10172012]
    The boy <u>asked her mom, to give him money</u>.
    His mom <u>gave him a money</u>.   [11072012]
    The boy <u>asked mom, to give him, a money</u>.
    His mom <u>gave him a money</u>.   [12052012]

(24) Scene 2 from PBa
    The old man <u>gave a baby, little bird a seed</u>.
    A little bird<u>, get that seed.</u>   [09052012]
    The old man <u>take out a seed</u>.
    A little bird<u>, get that seed.</u>   [10172012]
    An old man, <u>get out, a seed, from his pocket.</u>.
    The little bird, <u>get that seed?</u>   [11072012]
    The old man<u>, take out the seed</u>.
    A little bird <u>get that seed</u>.   [12052012]

(25) Scene 3 from PBb

The handsome man gave a coffee, to pretty woman.

Pretty woman wish that.   [09052012]

A handsome man gave a woman a coffee.

A pretty woman, get that coffee.   [10172012]

A handsome man was giving a coffee to woman.

A pretty woman uh holding a cup to, get, get some coffee. [11072012]

A handsome man gave, a coffee, to a pretty woman.

A pretty woman, get that coffee.   [12052012]

4.4. Arong's acquisition of expletive Subject and its construction

Two scenes which can be described with an expletive Subject, *There* or *It* were presented to Arong. Pictures for these scenes are shown in the Appendix. The expected sentences were: (i) 'There was dark cloud/were dark clouds (in the sky).' and (ii) 'It rained/It began to rain.' Arong described these scenes as expected; we see her spontaneous utterances in (26).

(26) There was a cloud. It began to rain.   [09052012]

     There was, a cloud. It began to rain.   [10172012]

     There was a cloud. It started to rain.   [11072012]

     There was cloud. It began to rain.   [12052012]

In the picture description task with PBa, Arong described the same scene as follows: only *there* was used in 2009 and 2010. However, she began to use both *there* and *it* in 2011 and 2012. Her spontaneous utterances are shown in (27)-(30).

(27) There is a rain, and, a plant is growing. (0117)   [09042009]

     There is a rain, and, uh, plant is grow. (0146)   [10092009]

     So the, rainy, (0157) the plant, grow up. (0202)   [11062009]

     The rained is coming. (0146)   [12042009]

(28) And there is a many rain. (0250)   [10072010]

     And ~~there~~, there has a many, rain, in that country. (0206) [11042010]

     ~~There, uh, very~~, the rain is coming. (0136)   [12022010]

(29) There is a cloud, maybe it will be rain. (0131)   [09052011]
　　 Cloudy comes, and raining was starting. (0131)   [10052011]
　　 There was a cloud, and it started raining. (0130) [11042011]

(30) So, suddenly, there was a cloud. (0129)
　　 It began to rain. (0131)　　　　　　　　　　　 [09052012]
　　 Suddenly, there was, a cloud, and, it began to rain. (0143) [10172012]
　　 And suddenly, the cloud, began to, come, and it began to rain. (0151)
　　　　　　　　　　　　　　　　　　　　　　　 [11072012]
　　 Suddenly, the cloud became, and began to rain. (0205)   [12052012]

4.5. Arong's acquisition of Passive construction

Four scenes in the sentence completion task were selected to find out if Arong could describe a scene in Passive voice. The researcher expected that one of the two sentences in each scene would be completed in Passive voice: for example, 'The boy was given a dollar (by his mom).' in Scene 1; 'A little bird was given a seed (by the old man).' in Scene 2; 'A pretty woman was given a cup of coffee (by a handsome man).' in Scene 3; and 'The frog was caught by the cat.' in Scene 4. The first three scenes were adopted from PBa and the last scene, from PBb. Scene 4 is a typical situation, where any adult speaker of English will describe the scene in the Passive. Arong did not use expected Passive constructions in the first three scenes (cf. Examples in (23)-(25)), but she tried to complete one of the sentences in Scene 4 in Passive voice. We can trace her efforts to express a sentence in Passive voice. It seems that she had the concept of Passive voice. Her performance with Scene 4 is shown in (31).

(31) The cat <u>catch the frog's leg</u>.
　　 The frog <u>was fright, maybe</u>.　　　　　　 [09052012]
　　 The cat, <u>catch that, frog's leg</u>.
　　 The frog <s>wan</s>, wants to get out.　　　 [10172012]
　　 The cat<u>, caught that, frog's leg</u>.
　　 The frog <u>was scared.</u>　　　　　　　　　 [11072012]
　　 The cat<u>, caught, a frog's leg</u>.
　　 The frog<u>, was surprised</u>.　　　　　　　 [12052012]

5. Conclusion and educational implication

5.1. Conclusion

To find out how a Korean child learner of English developed her English grammar, Arong, a 3rd grader in 2009, was randomly selected as a language informant. She participated in a wordless picture book description task for four years. Her narrative description was recorded onto a digital voice recorder for four months from September to December both in 2009 and in 2012, once a month, four times per year. It was also recorded for three months from October to December in 2010 and another three months from September to November in 2011, once a month, three times a year. The following two picture books were used for this task: *A circle of friends* by Giora Carmi (2003) and *Frog on his own* by Mercer Mayer (1973). The former was called Picture Book A [abbreviated as PBa] and the latter, Picture Book B [abbreviated as PBb].

In 2009 she performed the picture book description task with PBa only. In 2010 she tried to describe both PBa and PBb. Her picture description task with both books resumed in 2011 and 2012. She also performed a semi-structured task, completing a sentence whose Subject was provided as a cue. The researcher was interested in the following questions: first, how does the language informant acquire a ditransitive verb such as *give* and its construction? Second, how does she acquire an expletive subject such as *It* or *There* and its construction? Third, did she acquire a passive construction? Four scenes from PBa and two scenes from PBb were selected for the sentence completion task. The analysis of her narrative description with both PBa and PBb was discussed with reference to the results of the sentence completion task.

To find out how Arong's English grammar developed, the following were analyzed: NPs and VPs she used in two tasks; ditransitive alternations she showed in two tasks; usage of an expletive Subject such as *It* or *There* and its constructions she used in two tasks; and the Passive constructions she used in two tasks. The following are the findings:

First, Arong used 19 types of NPs in the picture description task with PBa. The average number of NPs Arong used in this task increased as follows: 25 NPs in 2009 to 31 NPs in 2010 & 2011, then to 33 NPs in 2012. In the picture

book description task with PBb, the average number of NPs increased from about 40 NPs in 2010 to 43 NPs in 2011, and then to 55 NPs in 2012. The most frequently used types of NPs were [NP ProN] and [NP *the* N]. It seems that Arong acquired the rule of Pronominalization. From the beginning of language sampling she began to use various types of Pronouns: Personal Pronouns, Demonstrative Pronouns, Indefinite Pronouns, Interrogative Pronouns, and Expletive Pronouns. This indicates that Arong's NPs became systematic and stabilized as the language sampling proceeded.

Second, Arong used 26 types of VPs in the picture description task with PBa and the average number of VPs Arong used in this task changed from 22 VPs in 2009 to 30 VPs in 2010, then to 27 VPs in 2011 and 2012. In the picture description task with PBb, Arong used 24 types of VPs and the average number of VPs Arong used in this task changed from 35 VPs in 2010 and 2011 to 33 VPs in 2012. We found that Arong's VPs also became systematic and stabilized.

Third, when Arong performed the describing-a-picture book task, she used 8 different VPs for ditransitive alternations, and in the sentence completion task, she used 3 VPs. The most frequently used VPs were [VP *give*, NP$_{(IO)}$, NP$_{(DO)}$](36), [VP *give*, NP$_{(DO)}$](24), and [VP *give*, NP$_{(DO)}$, PP$_{(IO)}$](10). It seems that Arong acquired [VP *give*, NP$_{(IO)}$, NP$_{(DO)}$] better than [VP *give*, NP$_{(DO)}$, PP$_{(IO)}$].

Fourth, as far as expletive Subject and its constructions, Arong used *there* better than *it* both in the picture description task and in the sentence completion task. We found that Arong acquired expletive Subject and its constructions.

Finally, Arong used the expected Passive constructions in the sentence completion task. It seems that she understood the concept of Passive voice. We could trace her efforts to express a sentence in Passive voice when she performed the two tasks.

5.2. Educational implication

This study analyzed a single language informant's spontaneous utterances, but it is based on the analysis of her spontaneous utterances collected for four years. It is hard to generalize how Korean child learners develop their English grammar because we cannot control every learner difference. We could tell how Arong, the language informant, developed her English grammar. If we

accumulate the data collected from different language informants in different situations, we will be able to tell the general process by which the Korean child learners acquire English as their second language.

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Appendix 1 Scene 2 for ditransitive alternation
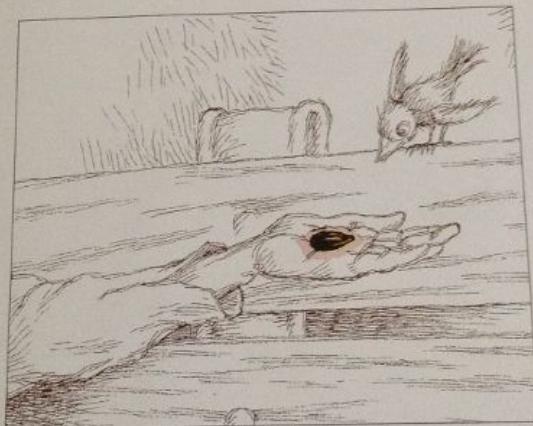
The old man _____ .

A little bird _____ .

Appendix 2. Scene 3 for ditransitive alternation

A handsome man ————————————————

A pretty woman ————————————————

Appendix 3. Scene 1 for an expletive subject, *there*

There _____ .

Appendix 4. Scene 2 for an expletive subject, *It*
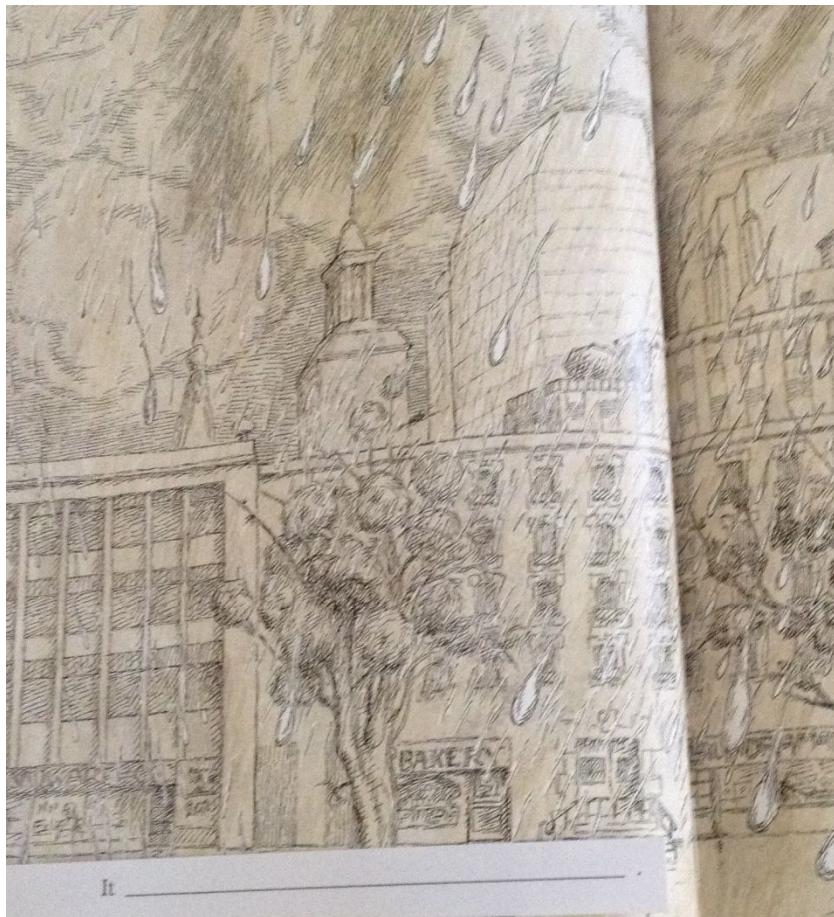
Appendix 5. Scene for a Passive construction

The cat _____ .

The frog _____ .