

LT 4227 First Language Acquisition
Semester B, 2016/17

Semester-end Project:
Early Words and Language Development
of an English-Speaking Child

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1. Introduction

In order to study the early words and language development of children, data in the Providence Corpus is reviewed. This paper mainly focuses on an English-speaking child named William. The spontaneous speech interactions with his parent who speak Standard American English are analyzed. With the observation from speech data, the role of mother in early language development is also examined. More importantly, by comparing file wil07.cha that recorded when William aged 1 year 8 months with file wil42.cha that recorded when William aged 3 years 3 months, the paper is going to demonstrate his language development in term of lexical, morphological, syntactic and pragmatic perspective. Meanwhile, Piaget's Cognitive Theory is applied to account for the overall language development of the child.

2. Data Analyses and Discussion

In this part, speech data will be organized as number and figure for the analysis of early words and the four aspects of language development.

2.1 Early words

From the first file (wil 07), the early words are analyzed in term of various word categories. Overall, William used 135 words while 85% of them are content words. Meanwhile, more than half of the content words are noun (46%). The second most is verb (19%), followed by adjective (9), interjection (7%), adverb (2%) and negatives (1%). On the other hand, only 15% of the words are function words. 7% of them are pronoun, followed by preposition(4%). Determiner, conjunction, copula verb and auxiliary verb are just 1% each. In table 1, it is obvious that content words (as marked in yellow) are used more frequently than function word (as marked in green). The priority of early words can be explained by features of the word categories.

Table1. Number of words and percentage in stage 1

	%	number of words
noun	46%	62
verb	19%	26
adjective	9%	12
interjection	7%	10
pronoun	7%	9
preposition	4%	6
adverb	2%	3
determiner	1%	2
negation	1%	2
copula	1%	2
conjunction	1%	1
auxiliary	1%	1

2.1.1 Content words

As mentioned, noun occupies the greatest proportion of words. It is also found that a quarter of nouns used are proper nouns, including ‘mama’, ‘uncle’, ‘daddy’, etc. As noun always links with the a particular person or a kind of object, there must be a concrete referent. The relationship between a noun and a referent is therefore considered as arbitrary and symbolic, so it will be easier for children to acquire in early stage of language development. Furthermore, the repeated exposure to the referent in daily life also increases the familiarity

of the object and corresponding naming. It explains why there are many proper nouns which are the names of parents, close friends and relatives in the data. Apart from proper noun, other kinds of noun include animals, toys and furniture. There are many animal species recorded, like lion, cat, snake, cow, bird, frog, horse. It is found that these names always appear on the picture of word game for young child and are all relatively easy to spell and to remember. Besides, nouns of toy and chair like 'ball', 'puzzle', 'chair' are also shown in the data because they are all common in every house and accessible for a child.

Following noun, verb is the second most frequent spoken word category. For the verbs in early stage, it is found that most of them are action verbs. Some of the verbs are used for the child to request something. For example, *want* and *help* to ask for a general request, *go* to ask for going out, *hug* to ask for a hug from the parent. In addition, verb can also be used in games, like *play* and *catch* when playing a ball game.

After that, adjective and interjection are the third and fourth common word category. For adjective, most are descriptive. It consists of simple color words (e.g. *blue*) and quantity words (*one* to *six*). It is remarkable that no sensation and emotional words shown in the early words. This finding also provides an insight of why there are interjection words used. According to Stange (2009:17), interjection is an expression in emotional and exclamative aspect. In early development, children still not yet acquired adjectives to express their emotion or feelings towards an event. For example, in the data, when William cannot find any food, he just said '*uhoh*' instead of saying adjective like '*hungry*', '*more*' *food*. It again indicates the immature development of adjectives.

2.1.2 Function words

From the speech data in early stage, only 15% of words are function words. Among the proportion of function words, half of it are pronouns. The feature of pronoun is similar to a proper noun as mentioned above. As pronoun always represents a referent, it is easier to pair the pronoun with an object or person in the real world. However, unlike content words, other function words consist little lexical meaning. Instead, they contribute to the overall structure of a sentence. Without function words, sentences will be considered as ungrammatical. However, function words are not obligatory for comprehending the intended meaning. For example, from the speech data, even William said *Caillou*, *want see* without any function

words, it is easy to get that he means ‘I want to see *Caillou* (an educational children's television series)’.

2.1.3 The role of mother

Through the early language development, mother acts as the main source of lexical input for the child. From the speech interaction, it is observed that William’s mother utilized explicit and implicit instruction to communicate with her child. For explicit instruction, some adjustment will be given when the child used the wrong word, for example:

MOT: what's this one?

CHI: truck.

MOT: train, that one's a train

CHI: train.

But more frequently, an implicit instruction is given. Firstly, the mother tried to repeat the sentence if no response is received from the child. Yet, it is not the exact repetition but rather in a hierarchy. For example, repetition can be in a decreasing step:

MOT: can you play catch with Mommy?

MOT: come play catch with Mommy.

MOT: come play catch.

In this case, the mother indirectly ask the child at first, but later altered to a simpler sentence as a direct command which is indeed less complicated for comprehension. Besides, repetition can also be in an increasing step:

MOT: well , can you put that down please and come play catch ?

MOT: alright I'll leave the ball here and you let me know when you'd like to play catch.

In this case, when the mother made sure that her child understood *come play catch*, a more complicated sentence structure was applied. When the utterances become longer, there is more lexicon input for the child. With the decreasing and increasing steps of repetition used by the mother, it is able to provide instruction for the child at an appropriate level. Secondly, the mother interpreted the child’s action and reconstructed it into a sentence, for example:

CHI: truck push.

MOT: mhm , you can push the truck right.

In this way, the child learned more function words like auxiliary *can*, pronoun *you* referring to himself. Thirdly, the mother extended the word produced by the child to a longer sentence, for example:

CHI: see doggie.

MOT: yeah I see the doggies, right here.

As the child did not acquire the locative preposition *right here*, he could not mention the location of the dog (*doggie*) clearly. In this way, the child can learn from mother's speech and soon acquire the lexicon.

Apart from the instruction, the mother enhanced the child's lexical acquisition by playing a card game and reading story books. For example, in the following conversation, pictures of animals in a book are shown to the child:

MOT: you can bring that to mommy, we can read that book

MOT: what's this?

MOT: bear.

CHI: bear.

MOT: what's that?

CHI: bird.

MOT: a bird, yeah.

MOT: what does a bird see?

CHI: duck.

By using the interactive way in storytelling, the animal nouns become impressive and easier for the child to recall.

Remarkably, similar to William, sometimes his mother also spoke in short utterances and with little function words. For example, the mother said *no touching* instead of a more proper sentence *don't touch it*. In this way, it is easier for the child to understand the meaning but also less exposure to function words.

Overall, from the constant input and feedback from the mother, it is predictable that the child could acquire a larger number of lexicons in different word categories. On top of the lexical

acquisition, the instruction from mother also contributes to morphological, syntactic and pragmatic acquisition in later developmental stages.

2.2. Language development

In this part, the lexical, morphological, syntactic and pragmatic competence at the two stages will be compared and further analyzed in light of language acquisition theories.

2.2.1. Lexical development

Compared with the first stage, the total number of words has increased from 135 to 311 in the second stage. The growth of vocabulary size is almost 1.5 times which shows that the child could apply a greater variety of lexicons. Meanwhile, the proportion of function words in the second stage also increased (from 15% to 21%). In other words, the proportion of content words dropped (from 85% to 79%). Compared table 2 with 3, the distribution of content and function words become more equal in the priority. Although the percentages of the two stages are not significantly different, the detailed number in the subcategories will provide a closer look at the lexical development.

Table 2. Number of words and percentage of stage 1 (Left-hand side) and stage 2 (Right-hand side)

	%	number of words		%	number of words
noun	46%	62	verb	34%	105
verb	19%	26	noun	27%	82
adjective	9%	12	pronoun	9%	28
interjection	7%	10	adjective	7%	23
pronoun	7%	9	adverb	7%	23
preposition	4%	6	preposition	6%	17
adverb	2%	3	interjection	3%	10
determiner	1%	2	copula	2%	6
negation	1%	2	conjunction	2%	5
copula	1%	2	auxiliary	2%	5
conjunction	1%	1	determiner	1%	4
auxiliary	1%	1	negation	1%	2
sum		135	sum		310
content word	85%	115	content word	79%	245
function word	15%	20	function word	21%	65

In stage two, verb and noun still occupied more than a half of the total lexicons. Nevertheless, different from stage one, the child used more verbs (34%) than nouns (27%) which gave rise of the reversed sequence of the two categories. Among the verbs recorded in the speech data,

it is observed that in addition to the action verbs, the child acquired the verb which refers to the mental states and verbal process. For example, *think* and *know* express the change of cognition while *say* and *speak* express the verbal process. These two types of verb are relatively difficult compared to action verbs which refer to a concrete action.

Following verb and noun, pronoun is the third most frequently spoken word category (9%). Compared to the first stage, there are more types of pronouns in stage two. In stage one, pronouns mainly consist of *I, you, it, my*. These kinds of pronouns are mostly in the nominative case. Moreover, most are referring to self. It is understandable as children are more self-oriented in an early stage. Stepping into stage two, the child started to use pronouns like *we, he, she, your, his, mine*. In addition to the acquisition of possessive case of self, the child also learned to refer to second or third person perspective.

For adjective, although the percentage is similar, the number increases (from 12 to 23) and the types become diversified. At the first stage, the child tended to use number and color adjectives, but in the second stage the speech data shows more sensation adjective like *hot* to describe touch, *sweet* to describe taste and adjective to describe a situation like *hard, good* and to describe a person or personality like *careful, funny, old*. After acquired varied adjectives, it is remarkable that the child used less interjection. For example, previously the child just said '*uhoh*' there is no food, but in stage two the child was able to say the '*it is all left, I need to get more*'. Adjective *left, more* were applied in the situation instead of interjection as the lexical development of adjective became more mature.

Among function words, it is particularly significant that more prepositions are acquired in second stage. In stage one, most prepositions are locative e.g. *on, up, over* which always refer to a concrete location of an object or person that can be observed. In stage two, preposition is used with respect to time e.g. *at, after* and event e.g. *about*. Moreover, from the use of preposition like *from, out, off, through*, it is realized that the child understood how to apply prepositions for a goal, source or path. It further examined that he has mastered the advanced knowledge on the locative relationship of between origin and destination.

2.2.2 Morphological development

A wider variety of grammatical morphemes are acquired by William in stage 2 as shown from the data but not in stage 1. Further to the discussion in the previous part that William showed a higher proportion of verb in stage 2, he also showed to master a wider variety of tenses. More present progressive is shown in stage 2 for describing the actions the child was undergoing at that time. Some use of present progressive even showed the knowledge of future tense. From the data, the child used the structure “am going to” (e.g. “*I am going to play over there.*”) to address the action of playing will be happening very soon. Other examples like “*I’m coming after you*” and “*I’m coming up*” also show that the child started to use present progressive to talk about future arrangement. Although use of present progressive is also shown in stage 1, the child only started to relate it to future arrangements in stage 2.

Moreover, William is able to master a wider scope of copula including both the contractible and uncontractible form, and also various auxiliaries in the second stage. The use of copulas and auxiliaries is often neglected in the early language development of the children as they only serve the grammatical functions and will not cause any communication breakdown even when they are used wrongly. These items are often appeared as less salient to children comparing content words like nouns and verbs, causing more obstacles for children to acquire them correctly. From the data, William only used very few copula e.g. “*is*” and “*am*”, and auxiliary “*will*” in stage 1. However, when proceeding to stage 2, he started to use copula in different tenses, e.g. “*be, were, was*” and more auxiliaries in different forms, e.g. “*would, can, could, don’t*”.

Furthermore, traces of plurality are found in stage 2 development but not in stage 1. Although numbers constantly appear in stage 1 utterance, no plural nouns were used by William. Plurality only start appearing at stage 2, for example, when he was asked by his mother “what are these called?”, the answer “pizzas” was given which revealed his understanding of the plural pronoun “these”. Also, the plural form of the pronouns are found in stage 2 only. William only used the singular form “this” in the first stage but started to use “those” and “these” in the second stage, e.g. he used “see those” when he wanted to show something to his mother and asked “what about these?” to refer to the toys left. The plural nouns and pronouns used in stage 2 showed that William has started to understand the concept of plurality.

The use of third present tense singular is also apparent in stage 2. From the data, third present tense singular is missing in stage 1. However, William started to use the third present tense singular in stage 2, e.g. *“car that goes up to the tractor”* to describe the action of the car, and *“what does he have on his farm?”* in the utterance. Correct use of third person present tense singular is found in both statement and question which shows a great leap of language development in the later stage.

2.2.3 Syntactic development

The complexity of the syntactic structure is enhanced in the second stage. One of the most distinct features is the simple structure with keywords only. Telegraphic speech is shown in the first stage of language development. It is found that William spoke in telegraphic speech, e.g. *“see doggie”* when he wanted to ask his mum to look at the little dog. Only content words (V-O) is shown in this statement, which is a contrast to the adult speech *“yeah, I see the doggies, right there”* replied by his mum. The later shows a more complex sentence structure, with the use of function words, inflections and modifications of a noun phrase. When growing to stage 2, William started to produce more adult-like utterances. For example, he said *“we need one car.”* instead of saying *“need car”*. In addition, he asked others to *“look at my car”* instead of asking *“see car”* like the first stage. These examples of utterance reveal that William started to use more complex sentences in the second stage.

Negatives are also used differently by William in the two stages. In stage 1, he tended to use put the negative marker at the front, e.g. *“no horsie”* or in many cases, just simply express negatives by a single word *“no”* or repeating the negator to emphasize by saying *“no no no no”*. Although one example of using auxiliary to negate is found, e.g. *“I don’t want to see it.”*, the pattern is not consistent and it is hard to conclude that William has mastered it from this single example. Rather, this utterance may be due to the constant use of *“don’t”* in the mother’s utterance. When proceeding to stage 2, William started to put the negative marker within the sentences. Utterances like *“I no want that”* and *“I no know”* are shown in the conversation. More complete sentence structures are found which implied that William was probably going to master the use of different auxiliaries in the later stage of development.

A more mature use of wh-questions is used in the stage 2. In the first stage, William could only use a single wh-word for form questions, e.g. *“what?”* and *“where?”*. However, he was able to use wh-words to form questions with auxiliary verbs and other elements such as

“from where?”, “where’s the roll?”, “what about this?” and “what does he have on his farm?” later. The wh-questions appear in a more adult-like language in the second stage.

Another improvement in stage 2 is subject-verb agreement. In stage 1, the child was only able to use *is* and *am* for *that is* and *I am*. It is therefore not clear to show the ability of subject-verb agreement in the early stage. Yet, in stage 2, from the sentence “*I’m doing some work*”, “*we are not in this farm*”, “*the car is going down*”, it is significant that the child could use the verb corresponding to the preceding subject. For example, *am* with the first person singular *I*, *are* with the first person plural *we* and *is* with third person singular *it*. These examples provide an evidence that the subject-verb agreement had been mastered by the child.

2.2.4 Pragmatic development

William used some direct requests in stage 1 utterances. He used statements such as “*wanna see*” and “*I don’t want to see it.*” to express his request of seeing something explicitly. However, William used more direct and indirect requests in stage 2. When he wanted to ask for help from his mum, he first said “*help me please*” to his mum, followed by “*I can’t, it’s too hard*” to further emphasize the difficulty of the task and his need for seeking help. These utterances showed that he can master both direct and indirect requests flexibly. In addition, semantic aggravator like ‘now’ is used by the child to intensify his request, like in the sentence “Now I need a xxx.”.

In addition, William was able to show his comprehension in understanding other’s request through his conversation with his mother as follows.

MOT: I want you to help me with the table.

CHI: Is this for football?

MOT: Sure, for baseball too, I think.

The above conversations showed that William was able to understand the request of his mother in helping her with the table and appropriate response is given.

Correct use of deictic pronouns is demonstrated in the second stage especially. William was only able to use the first person pronouns like “I” in the first stage. He started to use more deictic pronouns in the second stage. When he was talking with his mum on the issue of table cleaning, he was able to understand the topic and said “*I want to clean the house.*” and

asked “*do you want to clean the house?*” in the utterances. The acquisition of both first and second person pronouns are shown extensively in the second stage. In addition, the use of third person pronoun is found in stage 2. William asked “*what does he do?*” in the conversation with her mother. His mother replied him with “*I think he just does silly sound.*” which implied that the third person singular “he” is used appropriately in the conversation.

The awareness of polite expression is shown in stage 2 but not in stage 1. The use of semantic mitigator like “please” is found in the utterance like “*help me please*”, “*please, spoon*” and “*please, pizza.*” to soften the request. On the other hand, William expressed his gratitude by saying “*thank you*” when his mother passed him something for the play. In addition, William could even respond “*you welcome*” when his mother said “*thank you very much*” to him. The use of different politeness strategies in stage 2 helped William to better achieve his goals by adjusting the language uses in different contexts.

2.3 Language acquisition theory

In the case of William, Piaget’s Cognitive Theory is suitable to account for the overall language development. According to his theory, language is not an innate characteristics but is primarily directed by cognition, such as the interplay between cognition ability and experiences.

For lexical aspect, the cognitive development allows children to learn more abstract lexicons. In Piaget’s theory, it is claimed that language development cannot precede the development of cognitive abilities. From the comparison of lexical acquisition in the previous session, it is found that in the early stage, William used more concrete wordings like nouns with the referent, action verbs, descriptive adjectives, locative preposition, etc. While in stage 2, William started to talk about the abstract concept of time, reasoning and emotion. The findings can be explained by the cognitive development from stage 1 to stage 2. In stage 1, William tended to use sensorimotor abilities to learn new words. With the improvement of cognitive abilities in stage 2, William is more likely to acquire the abstract lexicons.

For morphological aspect, the understanding of the abstract concept “time” is increasing through the cognitive development of William. The master of increasing types of tenses is one of the examples. In the early stage, he only used simple present tense as it was used to describe things happening in the present and hence was less abstract to comprehend. More

tenses were mastered by William in the second stage like the present progressive and future tense. These reveals a more mature understanding of time that William showed hypothetic thoughts about what is happening right now and in the future but not only focused on the present situation seen.

For syntactic aspect, William showed an increasing understanding of the syntactic rules throughout his development. Before asking the wh-questions like “what does he have on his farm?”, the child has to understand the affirmative statement “he had a piggy on his farm.” He will then select the appropriate wh-word and put it in the beginning of the sentence. The child will also learn the auxiliary-inversion rule in the later stage of development. The increasing numbers of wh-word questions used in the second language stage of William can be accounted for his enhanced cognition.

For pragmatic aspect, William started to take others’ viewpoint with the enhanced cognitive development. He was only able to use first person pronouns like “I” and “me” in the early stage. However, more deictic pronouns like “he” and “you” were used in the later stage of development accurately. The appropriate pronouns were selected in the utterance for referring to the agents and they were justified by the responses from his mother in the conversation. It shows that egocentrism has been developed in the early stage but started to fade away in the later stage. William is able to take the point of view of another and distinguish between self and others.

Overall, with the evidence of Piaget’s Cognitive Theory, the sequence of language development can be determined by the sequence of cognition development.

3. Conclusion

From the evidence of speech data, William’s language ability is evaluated according to his early words. Further, with the change of frequency, similarity and difference in lexical, morphological, syntactic and pragmatic development are analyzed. On top of the data analysis, with regards to Piaget’s cognitive theory, the overall language acquisition is explained by the sequence of cognitive development. Meanwhile, it is found that mother’s role is particularly significant for children language development. Not only to encourage the

child, the mother is also able to increase the language input. In the light of this, the importance of parent education is again revealed.

For limitation, the speech data only provides us with a part of usage, there may be some language ability which has not been covered in the speech data. In addition, as language comprehension can be expressed in the way of gesture, the speech data is not enough to explain all the language development, especially in pragmatic development. For example, when a command (e.g. Give me a ball.) is received from the parent, the child may be able to comprehend and respond with action in the reality but these cannot be shown in the data. As a result, it is suggested that the visual recording could help the analysis to be more accurate.

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Appendix:

Appendix A: word list of stage 1

Noun			
(i) Proper noun	(ii) Animal	(iii) Sound	(iv) Others
ma	bear	quack	truck chair
gram	snake	beep	baby ball
uncle	lion	choo	bus stop
mama	horse		school slipper
daddy	frog		mom slide
dad	duck		bubble picture
Caillou	cow		way moon
Sarah	cat		camera light
dada	bird		zipper licking
mommy			train end
papa			sheep day
James			puppy button
pop			puzzle book
dean			peacock beach
			balloon bay
Verb	Adjective	Interjection	pronoun
see	hungry	um	you
want	awake	oh	those
got	soft	uhoh	that
done	good	okay	I
do	blue	yeah	it
catch	all	hooray	this
wanna	sick	hey	my
play	one		
gonna	four		

go find come watch wake push move hug have fall watch pick	six two three		
preposition	Adverb	Determiner	Negative
on with up to over	here more again	a the	not no
Copula	Conjunction	Auxiliary	
is am	and	will	

Appendix B: word list of stage 2

Noun			
(i) Proper noun	(ii) Animal	(iii) Sound	(iv) Others
Streisand	bird	yay	farm street
McDonald	turtle	bop	car seat
daddy	dog	yup	tractor police
Barbara	piggy	yep	pizza pizzas
Amanda	horse	ya	spoon peas
mom	pig	beep	bike parlor
William	lion	doo	truck nose
Kay		bah	song nobody
			something monkey
			bulldozer ice
			shirt hole
			house hat
			football guy
			costume furniture
			bye food
			bus dumptruck
			ball door
			way cream
			thing bow
			table birdcage
			anybody bin
			aid baseball
			superman band
			job

Verb	Adjective	Interjection	pronoun
want	make	some	I
play	let	right	it
do	clean	more	you
get	take	red	this
go	stir	all	me
need	ride	sure	my
done	making	hot	we
had	help	yellow	that
look	fix	sore	he
work	wear	ready	your
put	walk	old	his
see	tickle	little	those
have	think	hard	these
did	thanks	careful	mine
are	show	big	we
like	mind	sorry	she
know	jump	own	
going	goes	other	
give	does	blue	
doing	crashing	good	
come	coming	funny	
thank	carry	fast	
sing	rob		
roll	open		
broke	messing		
went	left		
welcome	hold		
watch	happened		
wants	guess		
wanted	getting		

use try throw stuck stick speak sit sign say	forgot fit find dropped close broken bring gotta wanna			
preposition	Adverb	Determiner	Negative	
on up with for in at around over out off from about through after	here there now too very else yet never later away tomorrow today rather outside just forward everywhere down already again here	a the another an	not no	

Copula	Conjunction	Auxiliary	
is am be were was	and the but so cause	will would can could do	

Appendix C: Table of result in stage 1

	%	number of words
noun	46%	62
verb	19%	26
adjective	9%	12
interjection	7%	10
pronoun	7%	9
preposition	4%	6
adverb	2%	3
determiner	1%	2
negation	1%	2
copula	1%	2
conjunction	1%	1
auxiliary	1%	1
sum		135
content word	85%	115
function word	15%	20

Appendix D: Table of result in stage 2

	%	number of words
verb	34%	105
noun	27%	82
pronoun	9%	28
adjective	7%	23
adverb	7%	23
preposition	6%	17
interjection	3%	10
copula	2%	6
conjunction	2%	5
auxiliary	2%	5
determiner	1%	4
negation	1%	2
sum		310
content word	79%	245
function word	21%	65