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1. Introduction

First language acquisition has become more important in linguistics. It is not only reflecting on how a person develops an adult-like language, but also gives hints to the controversial topics in general classic linguistics. In this end-term paper, we are going to do a diachronic case study on an English-speaking child, Ross MacWhinney. The datafiles are extracted from the database of CHILDES. The first datafile “MacWhinney/ 010609.cha” records the conversation when Ross was 1 year and 6 months old. The second datafile “MacWhinney/ 020608.cha” is when he was 2 years and 6 months old.¹ In this paper, we will examine the early words that Ross produce in his 1st stage. Discussion on the role of parents in the aspect of a child’s lexical acquisition follows. Then, we will compare the two datafiles to find out the lexical, morphological, syntactic and pragmatic development differences and use language acquisition theories to explain them.

2. Data Analysis and Discussion

In this part, we use the figure and substantial speech data to support our analysis of early words and four aspects of language development.

2.1.1 Early words

We have analyzed and classified Ross’s early words into three major categories and their sub-classes, i.e. content words, functional words, and interjections and social function words². The result shows in Table 1.

¹ We use “1st stage” to refer the former file and “2nd stage” to refer the latter file.

² As the interjections that adults produced sometimes have an interactional goal. Therefore, we count them into early words as well.

			Stage 1			
			No. of words	Sub-class Percentage (%)	Percentage (%)	Percentage of content words and function words (%)
Content words	Nouns	Common Noun	22	28	31	61
		Proper noun	3	4		
	Verbs	Lexical verb	12	15	16	
		Copula	1	1		
	Adjectives		3	4	4	
	Adverbs		5	6	6	
	Interrogatives		3	4	4	
	Number words		0	0	0	
Function words	Auxiliary	Auxiliary verb	1	1	4	25
		Modal auxiliaries	2	3		
	Prepositions		5	6	6	
	Articles	Definite article	0	0	1	
		Indefinite article	1	1		
	Demonstratives		1	1	1	
	Pronouns	Possessives	2	3	10	
		Indefinite pronoun	0	0		
		Nominative and accusative	6	8		
		Reflexive	0	0		
	Conjunctions (coordinating)		0	0	0	
	Negations		2	3	3	
To-infinitive		0	0	0		
Interjections and social function words			11	14	14	14
Total			80	100	100	100

Table 1. The statistics of Ross early words in 1st stage ³

³ The gray highlighted items are the word categories that appear in the 2nd stage. We discuss them in session 2.2.1 mainly.

In the datafile 1, Ross produces 80 different words in the early stage. The largest word class is noun which is about 31% of the total number of words. Common nouns (28%) and proper noun (4%) are two sub-classes of nouns. The second largest word class is verb which is 16%. Accompanying with 4% adjectives, 6% adverbs and 4% interrogatives, content words share 61% of the total number of early words. Moreover, 25% are function words which contain 10% pronouns, 6% preposition 4% auxiliaries, 3% negations, 1% articles and 1% demonstratives. Furthermore, the third largest word category is interjections and social function words which share 14%. This results roughly agree with the findings of Nelson's study (1973) where common noun is the largest word class (51%), followed by proper noun (14%) and verb (14%).

For content words, we find the types of common nouns are mainly related to foods (apple), animals (kitty), houses (key, spoon), and body parts (hands) ⁴, while proper noun are the name of the animate objects (dad) that use to stay with Ross. Moreover, verbs are usually related to the actions that are obviously observed (get, fall), asking for something (want, give) and general-purpose verbs (do, go) (Clark, 1993). As Gleason and Ratner (2016) suggest nouns have the features of more concrete and identifiable reference than those of verbs, so in the early words, children learn more nouns.

Meanwhile, Maguire, Hirsh-Pasek and Golinkoff (2006) suggest that children acquire early words by referring to shape, individuality, concreteness and imageability. It helps explain some abstract nouns, imaginary verbs, adjectives and adverbs which do not have real referents and cannot form images in the mind learn later.

⁴ As the word limits, we provide one example for each type.

For function words, pronoun is the largest word class when comparing with other function words. It is because pronouns are usually used to substitute nouns. They seem to carry more meaning. Other functional words use for grammatical functions. Absence of other function words may cause grammatical problems, but absence of pronouns (and content words) affect the understanding of the utterances. And thus, pronoun is the fourth largest word category in early words.

Interjections and social function words (okay, yeah) serve to social convention and rituals. Therefore, children can hear them frequently which enhance them to acquire them.

2.1.2 The role of parents in the child's lexical acquisition

Parents play an important role in helping their children to acquire words. We suggest that parents act as a samples-provider, trigger and linkage. Parents' motherese and parentese can facilitate their child's lexical acquisition.

The first role is a samples-provider. Parents should speak to their children, even though their children give minimal response, because parents utterances are inputs of the children. Children may imitate what their parents say and acquire the lexical items. In datafile 1, line 1595-1615, Ross's parents discussed how Ross enjoys firecracker very much. When they are communicating, they use "firecracker" several times. They are giving inputs to Ross. And thus, in line 1615, he produces "firecracker" successfully.

The second role is a trigger. Parents should invite their children to speak out the words as a response so that they can enhance their memory of the words. At the same time, they can try to give guidance for the better pronunciation of the lexical. In line

900-1007, Ross is asking for wearing shoes and he produces “too”. In line 958, Brian says “too, too, shoe”. He is doing a kind of self-correction, which provides a better pronunciation of the word to Ross. After that, he asks Ross what the word for the referent “shoe” is in line 961. It tries to trigger an answer for Ross to help him learn the word.

The third role is a linkage. The parents should present links of the words and the referents, so it helps the children organize sensational, functional and contextual features of the objects (Rescorla, 1980), and thus builds images in their mind. Joint attention that’s why is important (Gleason & Ratner, 2016). In line 441-475, Brian mentions about spoons. Then, Ross responses to his utterance. Brian grasps this opportunity to present him the word (pronunciation) and the real object. Moreover, he also demonstrates different spoons so help Ross to get the necessary features of “spoon”.

2.2. Language development

Child's language abilities are developed rapidly, even a one-year gap can make differences in lexical, morphological, syntactic and pragmatic development

2.2.1 Lexical development

The comparison between the 1st stage and 2nd stage words produced by Ross are presented in Table 2.

			1 st Stage				2 nd Stage			
			No. of words	Sub-class Percentage (%)	Percentage (%)	Percentage of content words and function words (%)	No. of words	Sub-class Percentage (%)	Percentage (%)	Percentage of content words and function words (%)
Content words	Nouns	Common Noun	22	28	31	61	21	18	27	65
		Proper noun	3	4			10	9		
	Verbs	Lexical verb	12	15	16		22	19	20	
		Copula	1	1			1	1		
	Adjectives		3	4	4		8	7	7	
	Adverbs		5	6	6		9	8	8	
	Interrogatives		3	4	4		2	2	2	

	Number words		0	0	0		2	2	2	
Function words	Auxiliaries	Auxiliary verb	1	1	4	25	2	2	3	28
		Modal auxiliaries	2	3			2	2		
	Prepositions		5	6	6		6	5	5	
	Articles	Definite article	0	0	1		1	1	2	
		Indefinite article	1	1			1	1		
	Demonstratives		1	1	1		1	1	1	
	Pronouns	Possessives	2	3	10		5	4	13	
		Indefinite	0	0			1	1		
		Nominative and accusative	6	8			8	7		
		Reflexive	0	0			1	1		
Conjunctions (coordinating)		0	0	0	1	1	1			
Negations		2	3	3	2	2	2			
To-infinitive		0	0	0	1	1	1			
Interjections and social function			11	14	14	14	9	8	8	8
Total			80	100	100	100	116	100	100	100

Table 2. The comparison between Ross early words in 1st stage and 2nd stage

When comparing the words produced by Ross in the 1st stage and 2nd stage, the most obvious figure is the number of words in each stage. Datafile 1 is a transcription of 32 minutes conversation, Ross produces 80 words. Meanwhile datafile 2 is that of about 21 minutes, but Ross utters 116 words. The number of words produced in the 2nd stage is 45% more than that of the 1st stage. It means Ross has a growth of vocabulary size within a year.

The first difference of lexical development is that the proportions of the word categories have changed. The percentage of interjection and social function words has decreased from 14% to 8%. However, the percentage of content words and function words increase by 4% and 3% respectively. It reflects that Ross may rely less on interjections to express his ideas and tend to use content and function words. Although noun is still the largest word category, it reduces from 31% to 27%. While the proportion of verbs increase from 16% to 21%. Ross acquires more verbs within that year. Pronouns become the third largest word category, it shares 13% of total words in the 2nd stage. Moreover, indefinite pronouns (one), reflexive pronouns (yourself), number words (two, four), definite article (the), conjunctions (and) and to-infinitive (to), which is absent in 1st stage, are present in 2nd stage.

The varieties of nouns and verbs are more. As mentioned in session 2.1.1, nouns in stage 1 are mainly foods, animals, houses, and body parts. While verbs related to the actions that are easily observed, asking for something and general-purpose verbs.⁵

⁵ Since session 2.1.1 has already given some example of these types, we do not mention them in the content of paper again but restate here. Nouns: foods (apple), animals (kitty), houses (key, spoon), and body parts (hands). Verbs: he actions that are easily observed (get, fall), asking for something (want, give) and general-purpose verbs (do, go).

They are concrete and can be observed generally. However, nouns and verbs in stage 2 can be more abstract and cannot be easily observed. For nouns, abstraction (help, days), institution (preschool), absence of real-object referents (cough). For verbs, which are actions that hard to observe (wait, try), expressing visual and verbal actions (see, say), possessions (have), and static actions (live).

2.2.2 Morphological development

In this part, we are going to investigate the 14 morphemes that have been analyzed in Brown’s studies (1973). We find that Ross has differences between 1st stage and 2nd stage in morphological development, namely articles and contractible copula.

1 st stage	2 nd stage
1. CHI: I want tape+recorder. (line 2048)	5. CHI: I have a bad nice cough. (line 11)
2. CHI: apple. (line 2222)	6. CHI: I got a tumble. (line 90)
3. CHI: a no? (line 1475)	7. CHI: want to see the football helmet. (line 192)
4. CHI: is that a camera? (line 2323)	8. CHI: and Rachel not bad boy. (line 537)

Table 3. Examples of morphological development – articles

First, the usage of articles in simple sentences is different. In the first stage, although we can find that, in example 4, there is an indefinite article “a” preceding the noun “camera”, this example is an interrogative sentence. In the statement, we find that he seldom uses articles. In example 1 and 2, an article “a/an/the” should precede the noun “tape recorder/apple”, but he does not do so. In example 3, the article “a” is followed by a negation “no”. They are ungrammatical in adult-like speech. These examples proof that at least Ross does not fully acquire the usage of articles in simple sentences in stage 1. In stage 2, a definite article “the” is found in example 7. It is absence in stage 1. Example 5-7, a noun phrase is preceded by a definite or indefinite

article. Even though, he still omits an article sometimes (“a” in example 8). Ross can use articles in simple sentences more adult-like in stage 2 than that in stage 1.

1 st stage	2 nd stage
1. CHI: that your xxx [= bank]? (line 386)	4. CHI: they're sunglasses. (line 140)
2. CHI: is that a camera? (line 2223)	5. CHI: they're dirty. (line 764)
3. CHI: what's that? (line 630)	6. CHI: oh that's mine. (line 688)
	7. CHI: what's you? (line 700)

Table 4. Examples of morphological development – contractible copula

Second, the usage of contractible copula in simple sentences is different. In stage 1, we find that Ross uses both uncontractible and contractible copula in interrogative sentences, shown in example 2 and 3. However, in example 1, the copula “is” is absent in a simple sentence. Moreover, there is no example to show that he can use contractible copula in a statement grammatically. Therefore, there is no reason to say Ross can use contractible copula in statements in stage 1. In stage 2, example 4-7 shows that he can add the contractible copulas after the subjects or wh-word. Therefore, Ross in stage 2 acquire contractible copula more mature than him in stage 1.⁶

2.2.3 Syntactic development

In this part, we will discuss the syntactic development by comparing how Ross makes negatives and wh-questions in stage 1 and 2.

⁶ Undoubtedly, in stage 2, Ross sometimes omits copulas in statements and questions. However, it is normal for a language development. What we are arguing in this part is that in both statements and interrogative sentences, we can find the example of using contractible copula. It seems that Ross start to use this morpheme in more adult-like way. While contractible copula can only be found in interrogative sentences but not statements in stage 1.

1 st stage	2 nd stage
1. CHI: no. (line 499)	4. CHI: and Rachel not bad boy. (line 537)
2. CHI: no no no! (line 1450)	5. CHI: that my &ban [/] that my &ban [//] that not my &ban bandage. (line 842)
3. CHI: &nodduff [= ? not af(raid)]. (line 1627)	6. CHI: I don't want my pants. (line 758)

Table 5. Examples of syntactic development – negative⁷

In 1st stage, Ross tends to use a negation word or a sequence of negation words to do negation. In example 1, Ross rejects Brian's request by saying "no". In example 2, Ross' parents joke on him by telling him there is no bear. He answers with a sequence of negation words "no, no, no" showing his unwillingness. There is an example shows that Ross tries to put negative marker at the front of the sentence. In example 3, "not" is in the utterance beginning and precedes an adjective "af(raid)". Ross seems to enter the first developmental stage of negatives. In 2nd stage, example 4 and 5 show that Ross starts to put the negative marker within the sentence. Moreover, example 6 demonstrates that he knows where to put the auxiliary which is followed by the negative marker. These examples show that Ross is in the second developmental stage of negatives and is getting into third one in datafile 2.

1 st stage	2 nd stage
1. CHI: hm: [<] ? (line 2011)	5. CHI: Why? (line 969)
2. CHI: what? (line 820)	6. CHI: I see (.) what that? (line 724)
3. CHI: why you leave it? (line 719)	7. CHI: what's xxx. (line 730)

⁷ Although in the transcription of datafile 1, we can find some examples of adult-like negatives (line 151,1104, 1133). However, when we listen to the original sound track. We cannot listen the negations clearly as the transcriptions describes. Since the researchers of CHILDES use the Conversation Analysis approach, their transcriptions are only partial representation. Writers of transcriptions may have their bias in transcribing. Therefore, we listen to all the case of negatives again, and we cannot find adult-like negatives in stage 1.

4. CHI: what doin(g) ? (line 2311) CHI: doin(g) ? (line 2314)	8. CHI: what can I say? (line 1134)
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Table 6. Examples of syntactic development – wh-questions

In stage 1, Ross asks wh-questions by using interjections with rising intonation (example 1 functions like asking “what do you say?”), using wh-word only (example 2 only “what” is used, both auxiliary and subject is absence), using rising intonation with a word/ phrase (example 3 “doing” with rising intonation, functioning the same as line 2311). Moreover, he usually omits the auxiliaries when asking wh-questions. Example 3 and 4, auxiliaries “do” and “are” are missing respectively. In stage 2, although there are some cases that Ross uses the wh-word only (example 5), he tends to ask questions by using interrogative sentences. Sometimes, he omits the copula (example 6, “is” is missing). In more case (example 7 & 8), he can use adult-like wh-questions, including adding copulas (“is”) or auxiliaries (“can”), and inversion of them and subjects.

2.2.4 Pragmatic development

In this part, we will discuss the Pragmatic development by comparing how Ross makes request and his conversational skills in stage 1 and 2.

1 st stage	2 nd stage
1. CHI: xxx! MOT: you want those shoes on? CHI: too too too too. FAT: I don't know that it was shoe FAT: why do you think it was shoe? [+ dia] MOT: cause he's got a shoe in each hand. (line 900-916)	4. CHI: I need help. CHI: I want to get him. (line 34-37)
2. CHI: I want tape+recorder .	5. CHI: want to see the football helmet.

FAT: you want to do zsipi@s:hun zsupa@s:hun ? (line 2048-2051)	(line 192)
3. FAT: there's no bath+room up here . CHI: zzz CHI: (.) let (.) me up . (line 1154-1160)	6. CHI: Marky scream. FAT: Marky's screaming? CHI: yeah. (line 71-78)

Table 7. Examples of syntactic development – making requests

Ross's examples show that in stage 1, he makes requests by directing his parents to that objects and produces nonsense syllables with intonation. Example 1, Ross holds shoes on his hand and produced "too, too, too" verbally for asking his parents to help him to wear the shoes. Moreover, he also uses direct request. Example 2, he asks his dad to give him the tape recorder. Example 3, he asks his dad to bring him up. Example 2, he uses a simple sentence with "want", while example 3, he uses imperative sentence starting with a verb "let". Both "want" and "let" show Ross' volition. In stage 2, we find that Ross makes request mainly using language. Example 4 (simple sentence) and 5 (imperative sentence) are direct requests. The words "need" and "want" are used to show his volition. Example 6 shows his trial to make a request indirectly. Ross hears Marky is screaming and he wants his dad to take care of him. Instead of saying "Marky wants daddy." He says, "Marky scream" hinting his dad "Marky need him".

1 st stage	2 nd stage
1. FAT: you want to come and watch me and help me Ross? FAT: clean up the tub? FAT: come on and see me clean up the tub. FAT: that's a really interesting thing to do. (line 1177-1190)	4. FAT: and are those sunglasses? CHI: yeah. FAT: what are those? FAT: no you just hafta sit down Ross. FAT: right there. FAT: what are those? CHI: they're sunglasses.

	(line 118-140)
<p>2. FAT: (.) do you have wet diapers? FAT: (.) do you have wet diapers? CHI: oh. FAT: do you have wet diapers little honey? MOT: not now. CHI: no! FAT: you don't? CHI: I don't want food. (line 130-151)</p>	<p>5. FAT: Rachel's a nice girl. CHI: and Rachel not bad boy. (line 534-537)</p>
<p>3. FAT: is that Micah cat? CHI: coscorder [: tape+recorder] FAT: mhm , it's a tape+recorder Honey . (line 1986-1992)</p>	<p>6. FAT: what's your name ? CHI: my name +... CHI: Ross . CHI: MacWhinney . FAT: Ross MacWhinney . CHI: yeah CHI: xxx . CHI: I live Denver . FAT: how old are you ? CHI: two . FAT: two years old . (line 341-370)</p>

Table 8. Examples of syntactic development – conversational skills

In stage 1, Ross does not maintain the current topics. Example 1, in that situation, there are Ross and his dad only. Originally, they are chatting. However, it becomes father's solo talk, even though the father tries to select Ross as the next speaker. Example 2, they are talking about wet diapers, but Ross changes the topic sharply to food and does not mention the previous topic anymore. Example 3, father asks about what animal Micah is. Ross ignores it and talks about another object "tape recorder".

In stage 2, Ross can maintain the topics, using cohesive devices is a good support. Example 4 and 5, Ross uses pronoun “they” and conjunction “and” to link his utterance to the current topics. Moreover, in example 6, he can say something related to the current topic. Brian asks Ross’s name. Ross gives an answer, and then he also tells him where he lives. All his utterance here is about self-introduction.

2.3 Application of language acquisition theory

In this parts, cognitive theory and social interaction theory are used to explain the language development that we have discussed above.

Cognitive theory is suggested by Jean Piaget. He suggests that our language development is based on the development of cognitive abilities and experience. For explaining the complex structure of language, he uses a constructivism approach, i.e. the interaction between the cognitive functioning and the child’s linguistic and non-linguistic environment help construct the complexities in language (as cited in Gleason & Ratner, 2016). In stage 1, Ross is in the sensorimotor stage. He mainly relies on the sensory information and action to process the world. While in stage 2, he is in preoperational stage, he can form image and representation in their mind. He can also handle the abstractions better than that in stage 1. Therefore, for lexical development, he learns more abstract noun and verb in stage 2. For morphological development, he has a better idea for the abstract grammatical morpheme (like specific-nonspecific, number and earliness), so he can use articles and contractible copula in a more advanced way when compared with stage 1.

Social interaction theory suggests that environment has a crucial role in Child’s language development. It suggests the two-way interaction where the need of

communication facilitates the language development (language is for the child to express their intention), then the more advanced language development helps their communication. Therefore, the complex language development can be acquired (as cited in Gleason & Ratner, 2016). In stage 2, from Ross's conversation, we know that he has entered preschool. The new environment creates a need for him to communicate with others which facilitates his language development. It explains, for syntactic development, he starts to find the negation focus in negatives and form adult-like wh-questions. For pragmatic development, he uses various strategies to make request and continuous the topics in order to express his intention more clearly.

3. Conclusion

In conclusion, we have discussed the early words that an English-speaking child Ross produced when he was 1 year and 6 months old. The results align with the previous studies. Then, we compare his conversation that is recorded when he was 2 years and 6 months old. We find that he has better lexical (vocabulary size and types of nouns and verbs), morphological (articles and contractible copulas), syntactic (negatives and wh-questions) and pragmatic (making requests and maintenance of topics) developments which can be explained by cognitive theory and social interaction theory.

4. References

- Brown, R. (1973). *A first language: The early stages*. Cambridge, Mass.: Harvard University Press.
- Clark, E. (1993). *The Lexicon in acquisition*. Cambridge, UK: Cambridge University Press.
- Gleason, J.B., & Ratner, N. B., (eds) (2016). *The Development of Language*. 9th edition. Boston: Pearson.
- Maguire, M., Hirsh-Pasek, K., & Golinkoff, R. M. (2006). A unified theory of word learning: Putting verb acquisition in context. In Hirsh-Pasek, K., & Golinkoff, R. M. (Eds.), *Action meets word: How children learn verbs* (pp. 364–391). New York, NY: Oxford University Press.
- Nelson, K. (1973). Structure and strategy in learning to talk. *Monographs of the society for research in child development*, 38 (1-2, Serial No. 149), 1-135.
- Rescorla, L. A. (1980). Overextension in early language development. *Journal of child language*, 7(2), 321-335.

5. Appendix

			Stage 1	Stage 2
Content words	Nouns	Common Noun	apple, balld, bank, bottle, boy, camera, car, cat, dear, food, hands, key, kitty, pa, pee, pop, spoon, uppy, too (shoe), firecracker, tape-recorder (coscorder), wastebasket	bandage, bottle, boy (boys), cough, days, football, head, helmet, help, milk, name, pants, pat, pee+pee, poo, popsicles, preschool, sunglasses, telephone, tumble, spaceship
		Proper noun	dad, Micah, Titus	Daddy, Denver, Erin, Incredible Hulk, Jacob, MacWhinney, Mark (Marky), Mommy, Rachel, Ross
	Verbs	Lexical verb	do(ing), fall(fell), get (gotta), give, go (gone), have, leave, let, like, say, sleep, want	bumped, cry(ing), do (did), fall (fell), feed, get (got), go (going, gonna), have, help, hit, hurt, live, need, picking, say, scream, see, tickles, try, wait, walk, want(wants, wanna)
		Copula	be (is, what's, he's)	be (am, is, are, they're)
	Adjectives		afraid (&nodduff [= ? not af(raid)]), bad, dirty	bad, big, dirty, lot, more, nice, own, wrong
	Adverbs		away, here, really, there, up	later, more, now, on, over, right, there, tomorrow, up
	Interrogatives		how, what, why	what, why
	Number words			four, two
	Function words	Auxiliaries	Auxiliary verb	do
Modal auxiliaries			will, can (can't)	do, can
Prepositions		like, out, over, to, with	at, for, like, of, on, with	

	Articles	Definite article		the
		Indefinite article	a	a
	Demonstratives		that	that
	Pronouns	Possessives	my, your	his, Marky's & Mommy's, mine, my, your
		Indefinite		one
		Nominative and accusative	he, I, it, me , us (let's), you	I, he, him, it, me, them, they, you
		Reflexive		yourself
	Conjunctions (coordinating)			and
	Negations		don't, no	no, not
	To-infinitives			to
Interjections and social function		ah, eh, ew, hm, huh, mm, oh, okay, ow, uh, yeah	hm, mhm, oh, okay, uhhuh, uhhum, well, yeah, yep	

Appendix 1. Classification of words in 1st and 2nd stage