

Case study: Child language project

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The following report analyzes English child speech from a video (Sims, 2014) and consists of the following three sections: phonetics and phonology; vocabulary and morphology; as well as syntax, pragmatics, and sociolinguistics. The transcription of the video in both IPA and English is included in the Appendix for reference. The purpose of this report is to simply analyze English child speech to gain experience for further child speech analyses and therefore no predictions or research questions are present.

Keywords: Child language; child speech; case study

1 Phonetics and Phonology

The following tables show the child's phonological inventory (Sims, 2014). Note that the segments in round brackets are those that have not been acquired yet or were not observed and segments with a question mark in brackets beside them are those that may or may not have been acquired. Segment /ʌ/ was not included due to the variety of English spoken by the parent in the video that does not use /ʌ/. In Table 2, all back vowels are rounded except the low /ɑ/.

Table 1

Consonant inventory

	<i>bilabial</i>	<i>labiodental</i>	<i>dental</i>	<i>alveolar</i>
<i>plosive</i>	p b		t d	
<i>nasal</i>	m		n	
<i>fricative</i>		f v	θ (ð)	s z
<i>liquid</i>				retroflex: r lateral: l
	<i>postalveolar</i>	<i>palatal</i>	<i>velar</i>	<i>glottal</i>
<i>plosive</i>			k g	ʔ
<i>nasal</i>			ŋ	
<i>fricative</i>	(ʃ) ʒ(?)			h
<i>affricate</i>	(tʃ) (dʒ)			
<i>glide</i>		j	w	

Table 2*Vowel Inventory*

	<i>Front</i>	<i>Central</i>	<i>Back</i>
<i>High</i>	i		u
	ɪ		ʊ
<i>Mid</i>	eɪ	ə	oʊ oɪ
	ɛ	ʌ	
<i>Low</i>		æ	ɑ
		aj aw	

The child seems to have acquired all vowels of English as seen above in Table 2 as all of them were observed (see Appendix). Most of the consonants have also been observed, however some were not due to difficulty in production. For example, /ð/ could have occurred in multiple words as in ‘then’ and ‘the’, but /d/—a voiced dental plosive—was produced instead. This replacement was consistent throughout the child’s speech. The voiceless counterpart of the fricative mentioned above seems to have been acquired but is not produced in every instance, as in 39a ‘thing’ is pronounced as /tɪŋ/. Other consonants were not observed due to lack of environment that they can occur in, as is the case for the postalveolar affricates and fricatives. An interesting occurrence of /z/ in /bɪkʌzɪ/ on line 21a, may have been a production slip-up as the child already acquired the segment /z/ as is evident in multiple other pronunciations. It was the only occurrence of splitting up the features of segment /z/ in two separate ones, i.e., the palatal fricative followed by a dental stop. Thus, due to lack of data, it cannot be concluded that the child acquired the postalveolar consonant or other postalveolar sounds from Table 1.

The occurrences of /l/, the lateral liquid and /r/ the retroflex liquid, seem to be intermittent and are usually reduced to a glide or completely omitted in consonant clusters. For example, the child is able to say ‘love’ /lʌv/ and ‘like’ /laɪk/, but in ‘flowers’ and ‘Miles’ on line 51a the lateral approximant is omitted as in /fawz/ and /majəz/ due to consonant clusters present in the onset and coda respectively. However, the lateral liquid is present in the second occurrence of ‘Miles’ on line 65a (see Appendix) and is reduced to a glide in ‘telling’ /twɛwɪŋ/ despite the absence of a cluster in the target pronunciation. The retroflex liquid is reduced to /w/ in clusters like ‘frozen’ and is omitted completely in clusters such as ‘strawberries’ and ‘truth’ (see Appendix). Interestingly, /r/ occurs as a /w/ in ‘story’ even though no consonant cluster is present to make production of the retroflex approximant more difficult, similarly to /l/ in ‘telling’. Finally, /r/ occurs as an /r/ in ‘everything’ despite being adjacent to /v/, but it may be because they are in two separate syllables, /v/ is in the coda of the preceding syllable and /r/ in the onset of the next.

Consistent consonant clusters that do not get reduced seem to be in the coda position—/nt/ and /nd/, and the /st/ cluster in the onset. However, there are instances where the final stop is deleted, such as on line 41a, where both ‘and’ and ‘didn’t’

have reduced codas (see Appendix). The most complex consonant cluster is present in the coda of the word ‘seconds’ as in /sɛkəndz/.

Despite the above production deficits, the child clearly understands the parent who produces all of the above segments and clusters.

One variation, besides the liquid-glide variation present in this child’s speech, is the glottal stop and /t/ variation. For example, line 8a exhibits this with /ɪt/ and /ɪʔ/. Although the child does not seem to have a problem producing the final /t/, sometimes she replaces it with a glottal stop as in ‘that’ /dæʔ/ and ‘not’ /nɑʔ/, lines 9a and 53a respectively. Note another interesting variation present on line 6a of ‘mad’ (see Appendix). More data is needed to determine the relevant significance of this variation.

The child forms questions with rising intonation and stresses words in a target-like fashion, without any abnormally stressed syllables. For example, ‘strawberries’ and ‘everything’ both occur with primary stress on the first syllable.

2 Vocabulary and Morphology

The following table shows the child’s morphological inventory as seen from Sims (2014). Besides the various suffixes and prefixes the child has acquired, Table 3 also outlines the grammatical categories acquired by the child. Note, the morphemes included in each of the grammatical categories are shown without the suffixes with which they may or may not appear in the transcript (see Appendix).

The compound words “everything” and “someone” were considered as monomorphemic because the child did not demonstrate the use of “every”, “one”, or “some” as clear evidence of the acquisition of the separate morphemes. The same was considered for “daddy” as the child did not demonstrate any other uses of the diminutive suffix anywhere else or the morpheme “dad” on its own. The compounds “time-out” and “strawberry” were also counted as one morpheme each for the same reasons. The compound “anywhere” was considered monomorphemic for the sake of consistency with the other compounds mentioned above because “where” was not produced on its own during the video. However, the child does produce “any” as a separate morpheme on line 79, which may imply that “anywhere” is actually two separate morphemes in the child’s vocabulary and should be treated as a compound word. With the outlined points above, the MLU of the child was calculated using the total number of morphemes (188) divided by the total number of utterances (34), which yielded an MLU of 5.5.

Table 3*Morphological Inventory*

<i>Category</i>	<i>Examples</i>
<i>Noun</i>	<i>Noun</i> room, doughnut, time-out, cake, truth, story,
<i>Phrase</i>	thing, second, daddy, flower, strawberry, nothing, Miles, everything
	<i>Pronoun</i> I, my, me, you, it, this, someone, he, him
	<i>Determiner</i> a, the
<i>Preposition</i>	in, to, on, out, at, about
<i>Verb</i>	put, poke, cry, go, can, see, want to, eat, ask, love, got, tell, am, is, gonna
<i>Adjective</i>	mad, any, big
<i>Adverb</i>	right, like, that, then, now, anywhere, there
<i>Conjunction</i>	cause, and, because, but
<i>Interjection</i>	no, yeah, okay
<i>Suffixes</i>	<i>plural</i> flower-s, strawberrie-s, second-s
	<i>progressive</i> was cry-ing, am tell-ing, was go-ing
	<i>past</i> regular: pok-ed
	irregular: did, was, frozen, took, had
	<i>negation</i> was-n't, did-n't, not

From Table 3, it is evident that the child acquired many grammatical categories, including a full range of pronouns in various cases. The pronouns which were not produced by the child in this clip were “she” and the corresponding inflected forms, i.e., “her” and “hers”, as well as the plural pronouns “we” and “they”. However, the presence of other single person pronouns leads to the prediction that the child did acquire the pronoun “she” and did not have the chance to produce it in this particular video. The plural pronouns may or may not have been acquired. Again, the context of the discourse simply may not have provided the child with the opportunity to produce plural pronouns. Note that the child also acquired the contracted copula “be” with the pronouns, such as “I’m” and “he’s”, which are not shown in the table.

The child did not produce any prefixes and as outlined above there was no evidence for any multimorphemic compounds. Note, however, the use of “doughnut thing” on line 39 instead of “container”, which could be considered as a compound word made up by the child. Further, the child produced many different inflectional suffixes, including the regular plural morpheme *-s*, with no allomorphic variation present. That is, the child’s only instances of producing the regular plural morpheme included the [-z] allomorph. No irregular plural nouns were present in the transcript. However, the child does seem to have acquired the irregular past for several verbs including “did”, “was”, “took”, “had” and “frozen”. Note that with the “frozen” verb, the child seems to have overgeneralized the use of the past participle morpheme *-en*, since the intended use on line 21 (see

Appendix) is the past, i.e., “froze”. However, this interpretation of the data may not be correct. The child also demonstrated the use of the regular past morpheme *-ed* in “poked”. The production of progressive *-ing* was also present, although it was not consistent as the child did not produce the morpheme on line 23 (see Appendix) in “talk” but did everywhere else. The negation suffix (or clitic) *-n’t* seems to have been acquired as well, as the child used both “wasn’t” and “didn’t” correctly and in addition used the non-contracted form “not” in instances like “he’s not” on line 53 and “I’m not” on line 79. The pronunciation of the *-n’t* suffix seems variable, but only for “didn’t” and not for “wasn’t”. Comparing lines 21a and 41a, for example, the child omits the [t] in the second instance (see Appendix). The child also varied in the production of the morpheme “mad” on line 6a as mentioned in the previous section of the report. No derivational suffixes were produced.

The child’s competence seems to be higher than their production, because the child seems to understand everything the mother is saying, despite not producing a lot of the vocabulary demonstrated by the mother’s speech. There does not seem to be any evidence for mis-segmentation in the child’s speech or any use of under- or over-extension.

3 Syntax, Pragmatics and Sociolinguistics

The syntax exhibited by the child from Sims (2014) reflects the acquisition of relatively complex phrase structure where different clauses are connected by conjunctions, such as those on line 7 and 21 (see Appendix). The established phrase structure also includes the proper acquisition of syntactic properties of verbs and argument structure. Furthermore, the child seemed to have acquired inversion in questions. For example, “*can* you see it now?” on line 17, is showing the movement of the modal verb *can* to the beginning of the sentence, meaning that the child has at least partially acquired the operation of Move. Evidently, the child also seemed to have acquired some auxiliaries and proper negation using auxiliaries such as “he *wasn’t* going anywhere” on line 7 or “because I *didn’t* want to” on line 21 (see also Appendix, line 41). Note, the auxiliary *do* does not seem to appear in questions in the transcript, only in statements. Thus, it is inconclusive whether or not the child has fully acquired questions with negation such as “What *don’t* you like?” where the non-inversion with that particular auxiliary tends to persist, e.g., “What you *don’t* like?”. The transcript does not demonstrate the acquisition of other auxiliary verbs, such as *have* and *will*, besides *can*, *was* and *do*, but that may not reflect the child’s true competence in the domain of auxiliaries. It may be that the child simply did not have the opportunity to produce them within the context of this particular discourse and a short period of time. Similarly, the child’s speech within the transcript does not show the use of passive sentences or relative clauses, which may imply that they have not yet been acquired. No reflexives are present in the transcript, implying that Binding Principles have not been fully acquired yet either. Again, these syntactic concepts could have been acquired by the child already, but it is not evident due to the lack of data. The absence of relative clauses, reflexives, and passive sentences suggests that the child

has not fully acquired complex adult phrase structure even though, as mentioned previously, coordinate structures with conjunctions *and* and *but* on line 21 (see Appendix) are present.

In the video and therefore in the transcript, the child's only interlocutor is the mother. Thus, it is impossible to judge whether or not the child changes register when conversing with another speaker. Similarly, the setting does not change throughout the discourse and therefore one cannot judge whether the child is already able to adapt their speech to different settings. Although the evident parent-child power dynamic is present, the child employs a defensive tone and does not use any semantic mitigators. In fact, the threat "I'm not gonna love you *any seconds*" on line 79 has a semantic aggravator—*any seconds*—which intensifies just how much the child will not love the interlocutor. In this particular situation, the child uses language that seems to be appropriate for a parent-child confrontation, where children usually get defensive since they are familiar with the parent, but which would be an unlikely occurrence with an adult who is a stranger for example. Yet the child does not get as aggressive as they might with a peer, due to the power dynamic mentioned above.

The child is able to change the illocutionary force of their utterance because they are capable of expressing their intentions indirectly. For example, throughout the video the intent of the child is to deflect blame away from themselves. By describing the narrative, the child tries to create a cover story in order to demonstrate that in fact, they "did everything right" (see Appendix line 4 and 9) and that implies that they did not take the doughnut. Similarly, on line 41 (see Appendix), the child states that someone must not have put the doughnut back, again implying that it was not the child who took the doughnut out, but somebody else.

Acknowledgements

I first had the pleasure of meeting Dr. Leslie Saxon in her third-year syntax class. This class was absolutely one of my favorites and fueled my passion for theoretical linguistics. Previously I was planning on going into speech pathology, but Dr. Saxon's excitement and passion for language led me to pursue a different path. Her teaching approach encourages curiosity and exploration, as well as inclusivity and I believe that this is the true purpose of post-secondary education. From the bottom of my heart, I would like to thank Dr. Leslie Saxon for showing me and the rest of the students at the University of Victoria the wonders of everyday language and its hidden powers.

References

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Appendix A

1 MOM: so, what did you do wrong?

2 CHI: nothing.

2a /nʌθɪŋ/

3 MOM: you didn't do anything wrong?

4 CHI: no. I did everything right in my room.

4a /nɒw//aj dɪd ɛvriθɪŋ raɪ ɪn maɪ rʊm/

5 MOM: really?

6 CHI: daddy put me in my room cause he was mad mad mad.

6a /dædi pʌt mi ɪn maɪ rʊm kəʊz hi wʌz məd məd məd/

7 CHI: and I poked daddy and he was crying and then it was in time-out and then he wasn't going anywhere.

7a /ænd aj pɒwt dædi ænd hi wʌz kraɪɪŋ ænd ðen ɪt wʌz ɪn taɪm aʊt ænd ðen hi wəzənt ɡoɪɪŋ ɛniwɛr/

8 CHI: I was going to my room. It had flowers on it, it had cake on it, it had strawberries on it.

8a /aj wʌz ɡoɪɪŋ tu maɪ rʊm// ɪ? hæd fawz ɒn ɪt ɪt hæd keɪk ɒn ɪt ɪ? æ stəbɛrɪz ɒn ɪt/

9 CHI: like that. I did everything right.

9a /ləɪk ðæt?//aj dɪd ɛvriθɪŋ raɪt/

10 MOM: Tiffany? Now, what is that right there? What is that?

11 CHI: doughnut.

11a /downʌt/

12 MOM: it's a what?

13 CHI: a doughnut.

13a /ə downʌt/

14 MOM: were you supposed to get a doughnut?

15 CHI: no.

15a /now/

16 MOM: I can still see the doughnut.

17 CHI: can you see it now?

17a /kæn jə si it naw/

18 MOM: I can still see it. Look at me. Now, did I tell you that you could have a doughnut?

19 CHI: no.

19a /now/

20 MOM: I didn't, right? So why did you come here and tell me a story?

21 CHI: because I didn't want to but (I) got out my room and someone frozen it and now xxx eat it and daddy was mad at me.

21a /bɪkʌzɪt əj dɪdnt vʌnt tu bʌt gə ʔʌ məj rum ænd sʌmwʌn fwɔwzən ɪt ænd naw xxx ɪt ɪt ænd dædi wʌz məd æt mi/

22 MOM: Daddy is not even here.

23 CHI: no I'm talk about story.

23a /na ajm tak əbawt stawɪ/

24 MOM: I'm not — no. I meant are you telling me the truth or a lie?

25 CHI: um the truth. I am telling the truth.

25a /ʌm də tuθ//ajm twɛwɪŋ də tuθ/

26 MOM: the truth? Really?

27 CHI: mhm.

28 MOM: well Tiffany what's inside that hat? Move the doughnut that's on top of that hat. Open up the hat. There's — so, you stole a whole doughnut, huh?

29 CHI: Uh-uh.

29a /ʌʔʌʔ/

30 MOM: You didn't?

31 CHI: uh-uh.

31a /ʌʔʌʔ/

32 MOM: what is it that I'm lookin' at?

33 CHI: this.

33a /dɪs/

34 MOM: I'm lookin' at the hat? So I don't see that doughnut?

35 CHI: uh-uh.

35a /ʌʔʌʔ/

36 MOM: Tiffany open your hand. There's a doughnut, right?

37 CHI: there.

37a /ðɛr/

38 MOM: yeah. And where was it supposed to be?

39 CHI: in a doughnut thing?

39a /ɪn ə daʊnʌt tɪŋ/

40 MOM: yeah, in that container.

41 CHI: and he —someone didn't put it in there.

41a /æn hi sʌmwʌn dɪdɛn pʊt ɪt ɪn ðɛr/

42 MOM: no it was in there. Somebody took it out.

43 CHI: yeah.

44 MOM: who?

45 CHI: it was daddy.

45a /ɪt wʌz dædi/

46 MOM: really?

47 CHI: yeah.

48 MOM: hmm.

49 CHI: he took it out.

49a /hi tʊk ɪt aʊt/

50 MOM: but daddy is not here.

51 CHI: no. Miles took it out.

51a /nɒw//majɜz tʊk ɪt aʊt/

52 MOM: Miles is in here with mommy.

53 CHI: no he's not.

53a /nɒw hɪs nɔ?/

54 MOM: he was in here.

55 CHI: but he wasn't.

55a /bʌt hi wəzənt/

56 MOM: so what were you doing?

57 CHI: nothing.

57a /nʌθɪŋ/

58 MOM: huh?

59 CHI: nothing.

59a /nʌθɪŋ/

60 MOM: nothing?

61 CHI: no.

62 MOM: so did you have the doughnut?

63 CHI: no.

64 MOM: you didn't?! then who had the doughnut?

65 CHI: Miles.

65a /majəlz/

66 MOM: really?

67 CHI: had a big doughnut.

67a /hæd ə bɪg daʊnʌt/

68 MOM: Miles had the big doughnut?

69 CHI: go ask him.

69a /ɡoʊ æsk ʔɪm/

70 MOM: but I see you with a doughnut.

71 CHI: he— he is goin— he's—

72 MOM: now should you get in trouble for that?

73 CHI: no.

74 MOM: you shouldn't?

75 CHI: no.

76 MOM: what should happen?

77 CHI: umm nothing.

78 MOM: you were disobedient.

79 CHI: cause I'm not gonna love you any seconds.

79a /kəz əjm nət ɡənʌ lʌv ju ɛni sɛkəndz/

80 MOM: you're not gonna love me any seconds? That's okay. You don't have to love mommy, but you do have to be obedient. Look at me. Look at mommy. Now, just because you were disobedient you don't get any more sweets all day. Okay?

81 CHI: okay.

81a /owkej/