
A CRITICAL APPRAISAL OF THE PHONOLOGY OF CHILD LANGUAGE

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ABSTRACT

Phonological variation most often focused on adult speakers of a particular language especially as it relates to variation in different dialects of a language. At times researchers focus on assessing the relatedness or otherwise of pronunciation patterns of second language learners in relation to the target language. The present study focuses on children's language and assesses the different types of variation that are seen in children's pattern in comparison with adult language. The study used the interview method for the collection of data from two year old girl and a two year boy over a period of one month. The findings of the study reveal that there were deletion of consonants, vowel sounds and syllables at the lexical levels. The study also reveals that there were instances of truncation in words that are relatively long. It also reveals that there were lots of innovative lexical items among the two children and all these resulted in these children having a pronunciation pattern that are relatively different from their adult speech patterns even as there were no noticeable difference in the prosodic features of tones assigned to these utterances. The researchers concludes that since these variations contextually do not distort the meaning inherent in those words/utterances, phonological variations in children language should be linked more on maturational process rather than seeing it as aggrammatical or being inferior to adult language.

KEYWORDS: Phonology, Child Language, Variation, Pronunciation,

INTRODUCTION

Language is an art, which needs a long time to master (Rauch, 2003) and apart from being the chief means of human communication moulds and enhances the worldview of children (Abonyi and Obuasi, 2023). Phonological development is an integral part of language and may also need a long time to master. While affirming the views of Mulford, (1988), De Boysson-Bardies and Vihman, (1991), MacNeilage and Davis, (2000) McCune and Vihman, (2001), and Majorano et al., (2014), Garmann, Hansen, Simonson and Kristoffersen (2019), observe that, „the phonology of children's first words can be influenced by the ambient language on the one hand and by children's cognitive and motoric abilities, such as memory capacity, vision, proprioceptive feedback from the articulators and motoric dispositions and control on the other“. They therefor affirm that disentangling these factors and their influence on children's lexicon is interesting for both practical and theoretical reasons.

But do these developmental processes require such level of variation to the extent that the language of a child should be looked at as being distinct or sometimes referred to as being inferior to adult language?

Variations in utterances are noticed in both children and adults who speak a language. According to Best (1991), very young infants discriminate not only the segmental contrasts of

their native language, but many non-native contrasts as well. They even at times correct adults who try to imitate them and demand that adults maintain their own variety while they maintain theirs. This has either made experts in phonological variation in children language to modify their stand on why children's utterances differ from their adult counterpart phonetically or even drop their previous idea/theory for new one.

According to Fikkert (2015), children's utterances differ from adults because children do not speak like adults since their language skill is still developing. Fikkert observe that in line with relativity theory,

... one could say that in order to acquire a language's phonology, children need to acquire, (a) the segmental inventory of that language, (b) phonological processes, (c) restrictions, word prosodic structure and larger prosodic units that define the adult grammar (phonology). In addition, children need to build a lexicon in which phonological representations of words are stored (p.5)

All these have been mastered by the adult speakers of a language. However, Best (1991) points out that young children show phonological variations from early age and this may have prompted the author to suggest that variations in children's and adults' phonology may be due to environment and perception. In their own account, Taelman & Gillis (2015, p. 1) opine that, "a lexicon account stipulates that the child's lexical representation is deficient or underspecified. Consequently, the child's production reflects this immaturity in a truncated rendition of the adult word". However, contrary to this stand, Hudson Kam & Newport (2005), point out that the language spoken by the child is very much the same as that used by the people or the adults who provided her input. They went further to state that at time, learners/children altered their input and produced a different type of language as their output. But even at the face of all these controversy, Fikkert (2015) asserts that child phonology and its inherent variation is important in understanding phonology.

In this study, utterances from Aka (2½ year old boy) and Noolu (2 year old girl) were collected and compared with adult language. The main objective being to find out the type of phonological differences observed in their utterances and the effect they have on the meaning of such utterances. This research is relevant as it collected and analyzed data from Igbo language and to the best of the knowledge of the present researcher studies on phonological variation in child language have not focused on children.

THEORETICAL STUDIES

Phonological variation is a prominent feature of the phonology of any known language. This can be seen in the linguistic data/utterances of both e adults and children. Child phonology traditionally according to Fikkert (2015) studies patterns in child language production. The patterns include not just the different phonological processes employed by the child in the production of utterances but also the attendant variation in the production.

Children engage in all kinds of phonological processes which include generalization. Explaining this, Buckley (2003, p.1) posits:

Various attempts have been made to determine experimentally what kind of phonological generalizations are learned more easily than others. While the matter is a difficult one to test, particularly with regard to children first acquiring a language, there is support for the idea that unnatural processes are learned well.

Generalization basically is an inherent aspect of child phonology, and may be caused by either maturational limitation or other reasons.

A basic change and or variations in children language which marks it out is lack of instructions, as children do accept this in their quest to acquire language. In this respect, Fromkin, Rodman & Hyams (2011, p.528) state that “a basic cause of change is the way children acquire the language is children’s inability to accept correction and instructions. No one teaches a child the rules of grammar. Each child constructs the rules of her language alone, generalizing rules from the linguistic input she receives”. In furtherance with this style of learning, Hudson Kam & Newport (2008) affirm that what many children did was to regularize a language, imposing patterns that were not the same as their input. Thus children and adults do not learn from variable input the same way and this greatly result in phonological variation in their utterances.

However, the above explanations do not mean that the child does not make any effort to attain the adult standard in terms of attaining adult standard in terms of pronunciation. According to Brown (2015) child is able to contrast two phonemes in his or her grammar once that phonological structure has been acquired and representation has been constructed. However, Brown went further to observe that in order for a child to detect that two sounds are used contrastively, the child must be able to discriminate two sounds perceptually. Thus proper development of the phonological system is dependent on properties of the speech perception mechanism. While emphasizing the view of Burnham (1986), Brown (2015) went ahead to indicate that given the fact that a child may be born into a language environment, it is imperative that the child be equipped with adequate cognitive machinery to perceive and produce utterances.

Production of different utterances/speech patterns of adults within the language environment also depend on whether the child is normal (Agbedo, 2009) and the maturational stage of the child involved. Various studies have thus identified various phonological variations in children’s language. Buckley (2013) sees the child phonology as being unnatural due to its variation with adult language; but Provost & White (2015) see children’s language as being characterized by lots of truncation or missing inflections and these affect production of children’s utterances. Byun, Richtsmeier, & Maas (2015) even describe children utterances as being characterized by speech errors due to the variations.

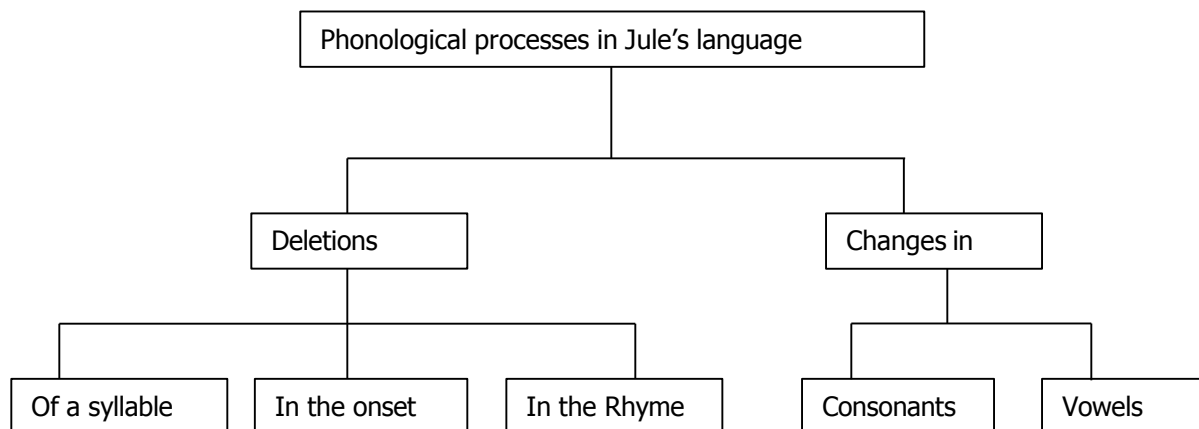
The present study looks at phonological variations as observed among Igbo children. It sets out to identify phonological variations seen among these children and compare them with the utterances of adult native speakers of the Igbo language.

EMPIRICAL EXPLICATIONS

Different researches have been carried out on child language. While some try to explain the intricate processes involved in language acquisition, others focus on both phonological and morphological processes involved in child language acquisition. Phonological variation studies on the other hand seemed to be an exclusive subject matter of research in sociolinguistics and have been linked to language contact and in some cases in dialect varieties. Even when variation studies focus on the sounds or phonological process, the target population had always been adult speakers of either the first language (L1) or second language learners (L2). However, phonologists have also focused on phonological variation /development in child language.

Rauch (2003) carried out a study to investigate the phonological development in child language. Rauch observe that apart from other things, children acquire during their development, the phonological inventory of their mother tongue is paramount. This researcher reports that as Jakobson (1968) claimed that phonological acquisition follows an innately determined order, Stampe (1979) is of the view that children start the learning process with innate limitations of phonetic capacity and a number of natural phonological processes to deal with such limitations. Rauch (2003) seem to belong to this school of thought and states that this, “could also be observed in the language of the German child, Jule, whose language he examined. The main objective of the study was to describe the phonological processes observable in Jule’s language. The above author adopted the descriptive method in his research and used the interview/observation method in the collection of data. The recording of the child’s utterance was done between 10th of April to 26th of May 2003 and the intention was to collect speech samples that describe the differences between normal speech of an adult and the speech of Jule.

The result of the study was summarized in the diagramme seen below.



In above diagramme, Rauch explained that Jule usually deleted syllable in onset and this brings a change in comparison with the standard adult German. There is also the deletion of rhyme in her syllable as Jule fails to recognize rhyme in her speech. On the other side also, there were a lot of changes in both the consonant and vowel sounds and in most cases consonants and vowel sounds in adult German speeches are substituted by others in Jule speech. The main finding of the study was the existence of deletion and changes in sounds of Jule in relation to adult German.

The result of the study is relevant to the present one as it looked at the phonological processes and variations in Jule's speech in comparison with that of adult. It however did not state whether there were instance where such deletions/change brought a change in meaning and this is one of the concern of the present study.

In another study, Buckley (2003) carried out another study on the phonological characteristics of children's language. The study captioned, "children's unnatural phonology" put forward a number of researches carried out on the phonological variation in relation to children's language. Buckley (2003) opines that despite the strength of the tendency towards CV syllable, Bernhardt & Stemberger, 1998:371) state that "[t]here is no reason to believe that all children initially require all syllables to have onsets". Buckley went ahead to state that in fact there are many situations in which onsetless syllables occur in child language, including of course languages with onsetless adult forms. While reporting on the work of Freitas (1996), Burkley remarked that even target onsets are often omitted or a vowel without an onset is inserted; matching results reported below:

	Child	Adult		Gloss
a.	[po]	[poj]	poe	put
	[a:i]	[aki]	aqui	here
	[a:]	[agwa]	agua	water
	[apa]	[paw]	pao	bread
	[ea]	[zuaw]	Joao	(name)

In another study, Menn (1974) reported that Daniel (another child) from the age of 29 months to 24 months usually deleted fricatives in the onset but permitted them in the coda as seen below:

a.	[it]	seat	dos	toast
b.	[iz, is]	cheese	[æ]	watch
c.	[i]	fish	[ejndz]	change
d.	[uz]	shoes	[ufs]	juice

Thus from above data Burkley opines that it could be said that Daniel had a much larger inventory of sounds in the coda than in the onset. Daniel could thus produce the fricatives at word finals but not at word initials.

Buckley, based on the studies conducted by different researchers, sees classifying children's phonology as being unnatural due to some seen differences between children's language and adults as being baseless. Buckley (2003) rather opines that since infants can learn natural and unnatural patterns after brief exposure, naturalness cannot be said to be a significant factor in the learning of phonological rule and in child phonology. This study, though relevant to the present study also did not state the impact of these phonological variations on the utterances of these children.

The stand that children's phonology should not be written off as being unnatural or arbitrary seem to be stressed by Hazan, & Barrett (2000). In their study they aimed at assessing the development of phonemic categorization across a range of phonemic contrasts which included; /g/-/k/, /d/-/g/, /s/-/z/ and /s/-/ʃ/. Specifically, they intended to investigate the age at which children achieve adult-like competence in relation to their consistency in categorizing a range of phonemic contrasts, and their ability to categorize stimuli with limited acoustic cue.

The descriptive approach and participant observation were used in the collection of data. In the study, Hazan & Barret created six-stimulus, „synthetic continua“ in which acoustic cues signaling these contrasts were manipulated singly or in combination and presented same to the 84 children used for the study. The 84 children have normal – hearing ability and were aged between 6 and 12 months while 13 adults were used as control group.

The result of the study according to Hazan & Barrett (2000) state,

The gradients of the identification function increased significantly in steepness between the ages of 6 and 12 but, by 12 years, children were still not, on average, categorizing the phonetic contrasts as consistently as adults. This study provides therefore further evidence that phonemic boundary sharpening occurs well into the second decade of life.

The study concludes that just as children are less consistent than adults in categorizing „continua“ containing limited acoustic cue information, children aged between 6-12 years equally appear to show less flexibility in their perceptual strategies than adults. All these have great impact on the production of sound by children.

In the present study, effort is made to assess the acoustic properties/phonological contrast between the two children selected for this study and their adult counterparts. It also focuses on finding out whether the variations brought a change in the meaning of the utterances.

DATA PRESENTATION, ANALYSIS AND DISCUSSION

Utterances collected from the two children Aka and Noolu are presented, analyzed and discussed under this sub-heading. Thus:

- a) Onset deletion
- b) Coda deletion
- c) Substitution of phonemes
- d) Truncation
- e) Innovative word

A. Onset Deletion

Child utterance	Adult Utterance	Gloss
i) Ya [jæ]	Bi a [biæ]	come
ii) E e [ee]	Ri e [rie]	eat
iii) E so [eso]	Me so [meso]	Name of a person (Mmeso)
iv) E e [ee]	E e [chii]	Name of a person (Chibuike)

In the data shown above, there is the onset deletion of either the initial consonant or vowel sounds. In the data, while the bilabial plosive /b/ was deleted, /r/ a post-alveolar approximant and /m/ a bilabial nasal were deleted in the utterances [bi æ], [rie] and [meso]. Lastly, /tʃ/, a post-alveolar voiceless sound was deleted in the last utterance. This is in line with Rauch (2003) where it was stated that the experimental children deleted the initial sound in most of their utterances.

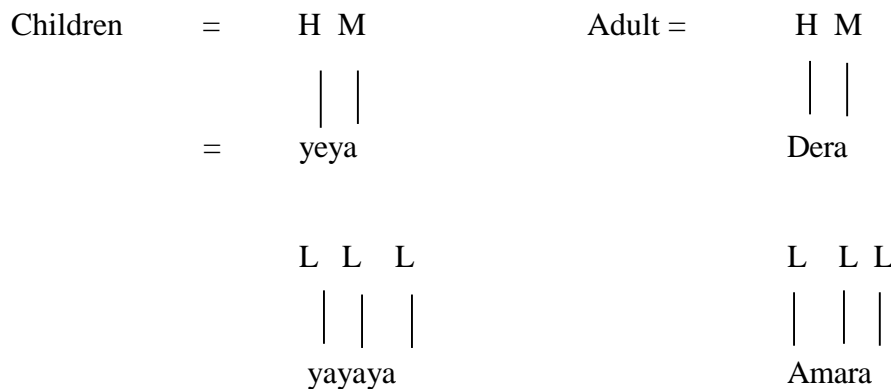
However, while the children used by Rauch deleted the first sound / syllables, in nouns, the two children used in the present study deleted the initial sounds in both nouns and verbs. The deletion or change in the utterances did not however change the meaning of the utterance as they either used the words (nouns) to call on people or use the verbs to command:

B. Substitution of Sounds

Child utterance	Adult Utterance	Gloss
i) Ye _ɔ ya _ɔ [jejæ]	De _ɔ ra _ɔ [deræ]	Name of a person
ii) Ya _ɔ ya _ɔ ya _ɔ [jæjæ]	A _ɔ ma _ɔ ra _ɔ [æmæɾæ]	Name of a person
iii) Ye _ɔ ye _ɔ [jeje]	Ne _ɔ nye _ɔ [neɾe]	Name of a person
iv) A _ɔ pɔ _ɔ [æpɔ]	A _ɔ kpu _ɔ [akpɔ]	Cassave

In the data presented above, the palatal approximant /j/ were used to substitute the sounds, /d/ an alveolar plosive and /m/ a bilabial nasal in example B (i) and (ii) respectively. Furthermore, the same sound /j/ a voiced palatal approximant was used to substitute both the voiced alveolar nasal /n/ and the voiced palatal nasal sound /ɲ/ . The voiceless bilabial plosive /p/ was used to substitute the sound /kp/, a labiovelar plosive in example (B) iv.

In the data analyzed already, it could be observed that there seemed to be no difference in the prosodic structure as there is no difference in the tone pattern of the children and that of the adult. As such the tone bearing units has no clear differences between the two forms (children and adult languages) despite the substitution as demonstrated below:



Despite the substitution noticed in the utterances above, there seems to be no change in the tonal/prosodic structure. The substitution did not also bring about a change in meaning as even the researchers and people who were called knew that they were called and answered. Fikkert (2015) seems to agree with this study when Fikkert observed that over the years, many studies have provided insight into the acquisition of phonology. Children’s phonological system and

phonological representation differ from their adult counterparts. But even at that, these differences based on the data presented so far in this study do not bring a change in the meaning of the utterances.

C. Truncation

Child utterance	Adult utterance	Gloss
i) Apupu [æpʰpʰ]	Akpukpọ ukwu [ækpʰkpʰ ʰkwʰ]	- shoe
ii) Okọ [k̩k̩]	Okukọ [k̩k̩k̩]	– fowl
iii) Uku [uku]	Chukwu [ʃukwu]	– God
v) Opu [p̩p̩]	Okpukpu [k̩kp̩kp̩]	– bone

The data above indicate that the utterances of the children and that of the adults differ greatly as substantial chunk of sound/syllables in adult utterance are not found in the children’s utterances. In the first example *akpukpọ ukwu* (foot wear) apart from the first word being phonologically different from that of adult, the second part of the word was left out entirely (truncation). *Ukwu* (foot) was heard in the children’s utterance. Also, substantial part of the sound “Okukọ” “Chukwu” and “Okpukpu,” were left out in the children’s utterance.

In *okukọ*, the middle syllable “ku” was left out while “chu” was left out in “Chukwu”. In the last utterance, “okpukpu”, apart from the substitution of the sound /kp/ with /p/, the utterance, “kpu” was left out in the children’s speech. However, these truncation did not bring any change in meaning.

D) Variation in English language (L1)

The two children used in this study are bilingual and it should be stated that phonological variations were also noticed in the pronunciation of some English words. Examples:

Child utterance	Adult utterance
Chori [ʃk̩ri]	Sorry
bədə [bədə]	Bread
api [æpi]	Happy
edey [edee]	Birthday
guu [gu]	Good morning
oni [ni]	Morning

The data shown above indicate that there are variations in the utterances produced by children compared with their adult counterparts. Again the variations did not produce a change in meaning as there was mutual intelligibility among the children and those they spoke to.

E. Innovative utterances

In the course of this study, it was found out that the two children who live in the same yard used what the present researcher termed, “innovative utterances”. It was noticed that the children manufactured vocabularies which were different from that of adults. Example;

Puu – to ease him or herself

Vuu – move away

These words were purely manufactured by the children or learnt by them from their peers and they continued to use them despite the fact that no adult members of their family used these words. They are both onomatopoeic words.

CONCLUSION

Variation studies especially phonological variation should not be left to sociolinguist alone or restricted to adult speakers of different languages. Phonological variation in children’s language should be pursued since, according to Fikkert (2015), child language / pronunciations is essential to phonology.

In this study it could be seen that though the sounds (pronunciations) from adults may seem to be different from those of children, the meaning inherent in the utterances remain the same. The study suggests that further studies in related areas should focus even at the sentential levels. Conclusively, based on the findings of this study, phonological variations in children and adult languages have no semantic significance as the differences seen in the utterances did not affect the meaning of what were said. Thus children language can not be said to be inferior to their adult counterparts or a grammatical as convey the needed meaning inherent in the utterances.

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