

Language Development of a Child from Rwandan Context between 16 and 24 Months: Syntactic Aspect

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East African Journal of Education and Social Sciences

Abstract: This study explored the language developed by Gavin, a child raised by Kinyarwanda speaking caregivers, focusing on syntactic aspect. Data collection tools employed in this study are direct observation, recording and diary to maintain the study subject utterances. The study revealed that Gavin's syntactic structure was limited to one word use from 16 months until 24 months; two or three words between 19 and 24 months, multi-words at the age of 24 months, using different parts of speech with emphasis on those belonging to open class like nouns, verbs, adverbs and adjectives. He was able to construct subject-verb structure but unable to produce subject-verb-object structure. The findings recommend further research in the area to see if other children can develop the same language as the study subject. Studies should be extended to children over two years until school age to ensure the proper mastery of the mother tongue before introducing other languages like French or English as medium of instruction in nursery and primary education.

Keywords: Language development; syntactic structure; acquisition stages; content words; function words; Gavin

How to cite: Sabiti, J., Ngoboka, J. P. and Anguru, P. U. (2022). Language Development of a Child from Rwandan Context between 16 and 24 Months: Syntactic Aspect. East African Journal of Education and Social Sciences 3(6)55-63. Doi: <https://doi.org/10.46606/eajess2022v03i06.0237>.

Introduction

Language development passes through different but common stages such as babbling, holophrastic speech, two-word stage and telegraphic stage (Salim & Mehawesh, 2014). Some studies have focused on babbling stage period only (Hutauruk, 2015; Locke, 1994; Morgan and Wren, 2018) while other studies focused on how new-borns develop a language from birth to two years (Wehberg et al., 2007; Hoff &

Naigles, 2002; Gayraud and Kern, 2007; Encyclopedia on Early Childhood Development, 2018). Other studies concentrated on how children acquire language until they are six years. Furthermore, language development among children has been tackled in different contexts such as English and French (Levitt & Wang, 1991), Italian and Spanish (Andruski, et al, 2014), Korean in Lee,

et al., 2010), French, Japanese, English and Swedish (De Boysson-Bardies & Vihman, 1991).

In African context, there have been some studies on children language acquisition. Examples are in Malawi on Chichewa language (Chimombo & Mtenje, 1989; Suzman, 1991), in Ghana on Ga language (Kirk, 1973) and in South Africa on Sesotho language (Demuth, 1995). Investigating on vocabulary acquisition in Ngas (a language spoken in Nigeria), Childers et al. (2007) realized that children master nouns before verbs. Similar findings were echoed in Alcock, et al.'s (2005) study on children learning Kiswahili in Kenya. On the other hand, Alcock et al. (2010) found that children ignore noun class markers when learning Bantu Languages. This was also confirmed by Demuth and Ellis (2009) on children learning Sesotho.

Zooming in on Rwandan context, there has been a number of studies on Kinyarwanda language. Some studies handled Kinyarwanda locatives (Ngoboka, 2016); computational analysis of Kinyarwanda morphology (Muhirwe, 2007), the variants of Kinyarwanda among its native speakers (Bazimaziki, 2018), and the place of Kinyarwanda in communication (Sibomana & Uwambayinema, 2016). In their study, Sibomana and Uwambayinema (2016) realised lack of emphasis on promoting communication of the Kinyarwanda mother tongue in school settings. Habyarimana (2012) asserts that not every Rwandan can communicate in Kinyarwanda though it is taken as the first language in the country of Rwanda. Maurice and Mukamazimpaka (2021) established the impact of English on proper communication in Kinyarwanda among school age children, evoking the stimuli triggering lack of Kinyarwanda mastery among students. The poor mastery of Kinyarwanda is caused by constant change in the language used as the medium of instructions in schools (Habyarimana, 2012; Maurice & Mukamazimpaka, 2021).

To the extent of researchers' knowledge in this study, there is no study in Rwanda on how children develop their mother tongue in their preschool age, especially children under two years before introducing to them trilingual policy when they start nursery and primary education (Niyibizi, 2010). Introducing this policy may result in poor mastery of the mother tongue (Maurice & Mukamazimpaka, 2021). Hence this study sought to describe the language developed by Gavin from Rwandan

context, placing emphasis on syntactic structure. Gavin is the first born of the first author in this study and is raised in Rwandan context, among parents and other care givers using Kinyarwanda for communication. If education policy promotes English as the language of communication in school settings at nursery and primary school level (Maurice & Mukamazimpaka, 2021; Niyibizi, 2010), have children of this age developed enough Kinyarwanda for communication before introducing them to foreign languages? This study sought to give a clue to the language developed by Gavin until two years, looking at how he combined the acquired vocabulary to construct a sentence-like idea. It aimed at answering the following question: How did Gavin arrange the acquired words into sentences in the language development between 16 and 24 months?

Literature Review

It is amazing to see a baby just born unable to talk turn up into a good communicator after few years, using the same language as adults and, as Ireri et al. (2012) put it, having the ability to learn a host of words and use them for communication amazes. Language acquisition and language structures start at a very early age (Onnis et al., 2018) and continues for the rest of human life.

Languages do not have common ways of structuring sentences besides word formation. The differences have been on record about how words are arranged in a sentence or phrase and how they are grouped to form nouns and clauses. When developing language, children from different linguistic environments can understand and make their own sentences accepted by language users and a sentence made is in accord with language development at each stage (Allott, 2005). During the holophrastic stage, children use one word but the word stand for a sentence-like meaning. This is a stage that is experienced by a child from 12 to 24 months and ends when the child turns 3 years old (Menggo, 2017). Syntactic development becomes significantly apparent when a child enters a two-word stage. For example, in *See boy* and *all gone* (Dubinsky, 2000), it is obvious that a notion of syntactic development is emerging. That is why Tomasello (2003) concurs that the two-word stage lays the basis for development of sentence construction.

In many languages, children produce particular grammar structures and the word order is free to

form a sentence as they can opt for SOV and VSO, taking into account subject verb agreement, marking and gender marking (Allott (2005).

The age of 24 months is believed to be the age when a child starts producing utterances with more than two words. However, the age when acquisition of syntax clearly comes into existence is experienced even before 24 months when a child produces a one-word utterance. When producing two or multi-word utterances, mostly adjectives, verbs and nouns (content words) are used (Orfitelli, 2017; McQuiston and Kloczko, 2011; Dubinsky, 2000; Brown, 1973). Content-words belonging to open class are more used than function words that belong to closed class like articles, prepositions, among others. Brown (1973) stated that the syntax in which some open class (lexical elements) are dropped is called telegraphic speech and children tend to even drop subjects in this early stage of sentence construction attempt. McQuiston and Kloczko (2011) point out that this telegraphic speech occurs between 18 and 24 months. A child under two years finds it hard to use complex markers like tenses, number marking, person marking with 'he' or 'she', prepositions and clitics. As Clark (2017) notes, the proper use of these paradigms, in some languages, often comes later.

Methodology

Research Design

This study used the qualitative descriptive design which helped to obtain straight description of the language developed by the study subject. The qualitative data were gained from the baby's free utterances.

Data Collection Tools

Direct observation was used to watch and listen to study subject language production. Data was also collected by maintaining a diary and recording the utterances.

Validity and Reliability

The researchers involved other raters in extracting data from the voice recorder. The voice recorder was replayed to ensure that all the utterances were treated properly. Four raters helped check spelling.

Statistical Treatment of Data

Data involved a series of utterances of one to three or more words. Data was transcribed using Kinyarwanda orthography. To mark high tone, acute accent was used leaving low tone unmarked. Data was grouped into three levels: the first level about one word use; the second about two words use and the third about three or more words use. Data was presented using tables.

Ethical Considerations

The study subject was under the researcher care and the nature of the research did not do any harm to Gavin as it was about monitoring his language development, inflicting no pain on him. His dignity was respected throughout the study. Academic integrity was maintained and other scholars' contribution to the study area was acknowledged.

Results and Discussion

As the findings will describe, syntactic structure passed through three stages: One word, two words and multiword stage.

Table1: One-word to express a sentence-like idea

Child's Utterances	Meaning
<i>Nyóonyo</i> 'onomatopoeic word for <i>konka ibere</i> 'breastfeeding' (from 16 months)	I need breastfeeding.
<i>Nyaánya</i> 'onomatopoeic word for <i>kurya ibiryo</i> 'eating food' (from 16 months)	I need food.
<i>Daati</i> for <i>umugaati</i> 'bread' (from 17 months)	I need bread.
<i>Keéke</i> 'cake' (from 17 months)	I need cake.
<i>Teeto</i> for <i>inkweeto</i> 'shoes' (from 22months)	I need shoes to wear.
<i>Áazi</i> for <i>amáazi</i> 'water' (from 22 months)	I need water.
<i>Siige!</i> for <i>ngusiige</i> (from 23 months)	Let me apply cream on you. Apply cream on me.
<i>Do!</i> a simplified way of saying <i>dore</i> 'look'! (from 23 months)	Look!
<i>Wagwa!</i> for <i>uragwa</i> 'you're going to fall' (from 23 months)	You're going to fall.
<i>Kóoga</i> 'have a bath' (from 23 months)	I want to have a bath.
<i>Eke!</i> for <i>ndeka</i> 'leave me alone' (24 months)	Leave me alone.
<i>Neenda!</i> for <i>geenda!</i> 'go away' (24 months)	Go away!

One Word Stage (16-24 Months)

The first stage towards sentence construction started with one word use. Table 1 lists words that Gavin uttered to express a sentence-like idea, what they meant to caregivers and their translation into English.

Table 1 presents different words that were used by Gavin to express a complete idea. One-word stage started by 16 months as he would utter *Nyóonyo* 'breast' when he needed breastfeeding. After *Nyóonyo*, a series of other words followed. For example, when he wanted to eat, he would simply use *nyaánya* (*myaámya*) 'food'. *Daati* was used when he wanted *umugaati* 'bread,' and *-áazi* when he wanted *amáazi* 'water.' The word *teeto* (*inkweeto*) 'shoes' was used when he wanted to wear shoes or when he wanted to show he was wearing them. He also used verbs like *Siíge* 'Let me apply cream on you' and *kóoga* 'have a bath' as a pure infinitive (from 23 months), *Do!* 'Look!' *Eke!* 'Leave me alone!' (from 24 months); *Wagwa!* for *uragwa* 'you're going to fall', *Neenda!* for *geenda!* 'go away' (24 months).

As the table shows, common words were obviously nouns and verbs. Some verbs were used in the form of imperative. For example, he used *Do!* the short form of *dore* 'Look!' *Siíge* 'I can apply cream on you or you can apply cream on me' in place of *ngusiige* or *nsiiga*; *waagwa* 'you're going to fall or you can fall.' Instead of *Ndeka*, he used *Eke* to mean 'leave me alone'; instead of *nyoza* or *mama/papa ari kóoga*, he used *kóoga* to mean 'wash me'. One word was also used to express a declarative form like – *áazi* (*amáazi*) 'water' or *Nyóonyo* (*ibere*) 'breast' and *daati* (*umugati*). These findings are replicated in the study of Dubinsky (2000), Menggo (2017) and Orfitelli (2017) where they realised words belonging to open class being frequent.

Two Words Stage (19-24 Months)

The second stage towards sentence construction continued with the use of two words, and this stage emerged when the child turned 19 months. The list of pairs in the following table elucidates this scenario.

Table2: Two Words to Express a Sentence-like Idea

Child's Utterances	Meaning
<i>Mama Nyóonyo</i> Lit: Mummy breast	Mum, I need breastfeeding.
<i>Papa keéke</i> Lit: Daddy cake	Dad will bring Cake.
<i>Papa yé? (Papa hé)</i> Lit: Daddy where	Where is dad?
<i>Kóokó yé? (Igikóokó hé?)</i> Lit: animal or beast where	Where is the beast/animal?
<i>Mama pepé pe! (Mama yagiiye)</i> Lit: Mama gone <i>Papa pepé pe! (Papa yagiiye)</i> Lit: Papa gone	Mum has left. Dad is not around.
<i>Náana pepé pe!</i> Lit: Movie gone	There is no movie.
<i>Po mama</i> Lit: Pot Mummy	Mum is defecating. Or Mummy, I want to defecate.
<i>Pepé pe keéke.</i> Lit: Finished cake	There is no more cake.

After one word use, the child was then on the threshold of using two words as seen in table 2. This scenario was very common when the child was 19 months old. For example, the child used two words like *Mama nyóonyo* 'Mum, breastfeed me' (two nouns), *papa keéke* 'Dad will bring cake,' (two nouns), *po mama* 'Mum is defecating / Mummy, I want to defecate,' (two nouns) *mama/papa pepé pe* 'Mum or Dad is not around' or *pepé pe keéke* 'the cake is finished.' (In Kinyarwanda, the interjection

Pe! is added to an action for emphasis to mean completely (*Igikoma cyashize pe!*). 'The porridge is completely finished. In these examples, 'pepé pe' was used to emphasize 'there was no more.' These two words were in a declarative form. Also, at the age of 23-24 months, he used two words- noun and adverb of place- for interrogative form like *kóokó yé?* 'Where is the beast/animal?' *Papa yé?* (for *Papa hé?* 'Papa where') 'Where is my father?'

Table 3 embraces two-word stage, but with improvement in combining nouns and verbs. The sentence is complete even though the child used two words and he produced this syntactic structure at the age of 23 to 24 months.

As the table illustrates, the child used two words to construct a complete sentence. For example, *bibi daadiye* (imodoka yagiiye) 'the car has left' (noun and verb) is a complete sentence as the child used an intransitive verb. The same for *Náana agúuye* (umwána yaguuye) 'The child has fallen', *Náana aga* (umwána aragwa) 'The child is going to fall', *Papa impa* 'Dad! Give me', *Impa nyaanya* 'Give me food', *Kóokó dadiye* (igikóokó cyagiiye) 'The beast/animal has gone', *Papa kóoga* 'Dad is having a bath.' *Dadiye papa* 'Lit: went Dad' (yagiiye papa), however, does not follow the same rule. The child used *Dadiye papa* (VS) instead of *Papa dadiye* (papa yagiiye). It is important to note that all the

verbs are used intransitively (SV) and this suggests that the child had not reached the stage of using verbs transitively (SVO). This is echoed in the study of Bunker and Lidz (2004) and Fisher (2002) who found that children were unable to produce SVO before 25 months. Two words use marked the beginning of a full syntactic structure. By combining nouns and verbs, the child managed to construct a complete sentence formed by a subject and intransitive verb at the age of 23 to 24 months. Syntactic structure improved towards the end of the study. The child was able to construct a more complex sentence structure like *impa nyaanya* 'give me food' and *Papa impa* 'Dad, give me.' With this two-word stage, the child's syntactic structure became clearer to the caregiver than at one-word stage. The clarity of syntactic structure with two words use is shared with other studies like the one of Menggo (2017) and Dubinsky (2000).

Table3: Two Words to Construct a Complete Sentence

Child's utterance	
<i>Bibi daadiye.</i>	Lit: Car went
<i>Náana agúuye.</i>	Lit: Child fell
<i>Náana aga.</i>	Lit: Child fall
<i>Papa impa.</i>	Lit: Daddy give me
<i>Impa nyaanya.</i>	Lit: Give me food
<i>Kóokó daadiye.</i>	Lit: Animal/beast went
<i>Papa kóoga.</i>	Lit: Daddy wash
<i>Dadiye papa.</i>	Lit: Went Daddy

Table 4: Multi-Word Use in Syntactic Structure

Child's utterance	Meaning
<i>Papa, keéke, jí, gaati.</i> Lit: 'Daddy, cake, juice, bread'	Dad will bring cake, juice and bread.
<i>Papa daadiye. Papa hayiíya Nizeeye.</i> Lit: Dad has left. Dad there Nizeeye.	Dad is not here. He is over there with Nizeeye.

Multi-Word Stage (24 Months)

From two-word stage, a multi-word stage waxed at the age of 24 months. The following table illustrates this scenario.

Case One: The first researcher was on a mission and had spent one week away from home. The child reached the telephone and handed it over to his mum and said, '*Papa, Keéke, jus, gati,*' which implied 'call Dad and tell him to bring cake, juice and bread.' Giving the telephone to Mum combined with *papa* utterance meant *call papa*. Then he uttered three word *keéke* 'cake', *jí* 'juice' and *gaati* (umugaati) 'bread.' The child listed the different snacks and his mum had to guess the child's idea with these snacks and Papa.

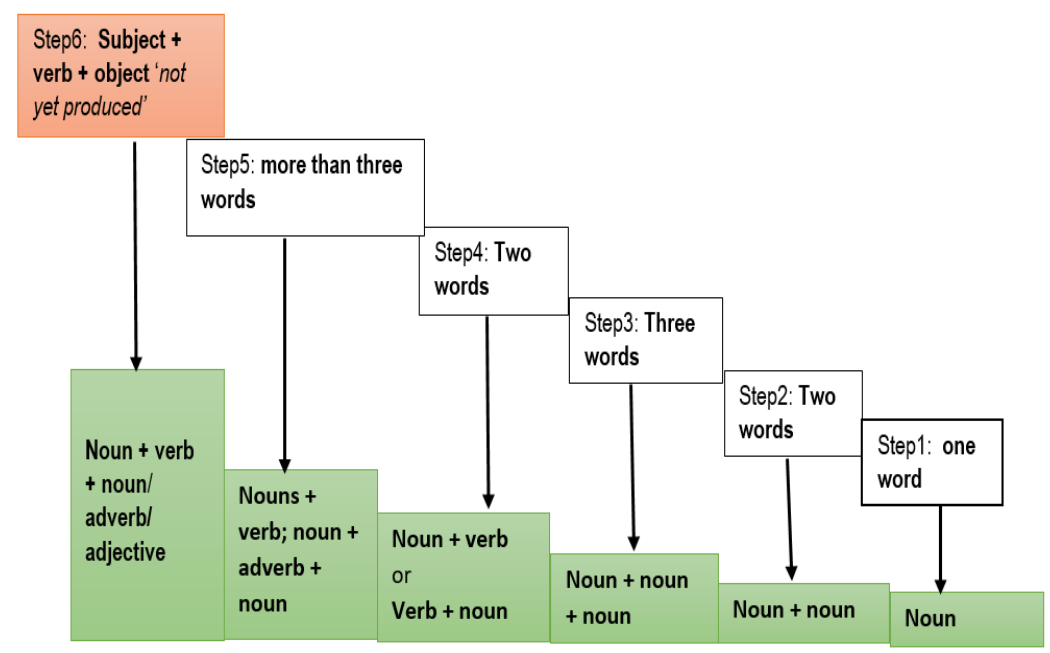
Case Two: The first researcher was in the garden trimming the grass. He was with Nizeeye (house worker) and the child was within shouting distance. When the mum called the father, the child said, '*Papa daadiye. Papa hayiíya Nizeeye*' (Papa yagiiye. Papa hariíya Nizeye) 'Dad is not here. He is over there with Nizeeye.' He first talked about my absence and then communicated to his mother where the father was. This is a combination of two-word stage where the child uttered *Papa daadiye* 'Dad is not here' and three words, *Papa hayiíya Nizeeye*. With these three words, he implied two sentences. The first is *Papa hayiíya* 'papa is over there' and by adding one word *Nizeeye*, he meant *he is with Nizeeye*. This multi-word stage embraced one word, two words and three words.

With more than two words, a complex syntactic structure became apparent. These different steps from one word use to multi-words use for syntactic structure are common for many children (Tomasello, 2003; Dubinsky, 2000; Dubinsky, 2000; Menggo, 2017). While dealing with syntactic structure, the child omitted some lexical words, mainly verbs. In *Papa hayiia*, the verb is missing which is possibly *ari* 'is'. In *Papa, keéke, jí, gaati*, the verb is also dropped as the child did not say *Papa azazane, arazana* or *azazana keéke, jí, gaati* 'Dad will bring cake, juice and bread'. In *Mama nyóonyo* 'Mum breast', *Papa keéke* 'Dad cake', *Kóókó yé?* 'the beast/animal where?' the same lexical word was ignored as the child dropped *mpa* 'give me' in *Mama nyóonyo* or in *Papa keéke* and *iri* 'is' in *Kóókó yé?* Lexical words are mostly used in the study of McQuiston and Kloczko, 2011; Brown, 1973; Orfitelli, 2017) but in this study, with two words use, verbs as lexical words were mostly dropped when

using two words. And in this study, with two-word use he expressed positive and interrogative form.

Some words belonging to closed class were also dropped. In *papa mama* for example, the coordinating conjunction *na* 'and' was omitted, hence unable to produce a phrase like *papa na mama* 'Dad and Mum.' In the same way, it was dropped in *Papa, keéke, jí, gaati*. Between *jí* and *gaati*, a functional word *na* 'and' is dropped, hence not producing *jí na gaati*. Content words are mostly missing in the syntactic structure of children under two years (Clark, 2017; Brusini et al., 2016; Shi, 2014; Gerken et al., 1990). On the whole, words belonging to open class like nouns and adverbs were found to be mostly used by children under 24 months (Orfitelli, 2017; McQuiston and Kloczko, 2011). However, it has been common for the child to drop an important open class word (verb) when constructing two and multi-word syntactic structure in this study.

Figure 1: Steps in Gavin's syntactic structure journey



Findings show that Gavin had a clear notion of syntactic structure in his language development. This notion was obvious when he used one word, two words and more than two words to express a sentence-like thought. He was able to use nouns, verbs, adverbs and adjectives when attempting to construct a sentence.

Furthermore, step four represents a correct and complete sentence. The child used a subject and intransitive verb to construct a full sentence, the

step that is more complex than step three where he merely listed nouns. Despite using all these different parts of speech in his attempt to create sentences, the child had not reached the level of constructing full SVO sentence yet. In the study of Huttenlocher et al. (2004) and Lidz and Musolino (2002), such complex syntactic structures were used by children between 4 and 5 years old.

Conclusions and Recommendations

Conclusions

The study concludes that syntactic structure developed as the child passed through different development stages. Particularly, the child under investigation reached a multiword stage (telegraphic stage) before reaching 24 months as he had already used more than two words. The theory of language acquisition suggests one word use (holophrastic stage) between 9 and 18 months and two words stage between 18 months and 24 months and multiword stage emerges from 24 months onward (Matthews, 1996; Dubinsky 2000; Hutaaruk, 2015; Tomasello, 2003). However, the study subject was more advanced than what is predicted in the theory as he reached the multiword stage before 24 months. In fact, language develops with ages, and children language development will vary from one child to another and possibly from one language to another.

Recommendations

The study recommends that linguists and education stakeholders should collaborate to have enough data on language developed by preschool children, especially Kinyarwanda before introducing other foreign language that may hinder proper mastery of the mother tongue. This study gives a good reason for conducting similar studies on more than one child to confirm whether children from Rwandan context, raised by Kinyarwanda speaking caregivers can develop similar syntactic structure. Similar studies should be conducted on children over two years, for having ample data on how Rwandan toddlers develop language until school age can open doors for proper language planning.

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