



Acquisition of agreement in the Bàsàá numeral system

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Abstract

This paper seeks to investigate the acquisition of agreement in the Bàsàá numeral system, and account for why children could fail to use agreements in the numeral system. Eighteen children (18) aged from 3.1 -14.1 have participated to the study following a cross-sectional sampling approach. Data have been collected using spontaneous speech recording and elicited production methods. It is found that children do consistently use agreements at the age of 3.0 when it is only a question of simple singular / plural pairing. When extended to the numeral system, participants registered 81.41% correct responses in spontaneous speech production against 47.77% in elicited production task. Morphological agreement errors, overgeneralisation of class 7 and overgeneralisation of class 5 errors were observed. While morphological agreement errors are not given attention, overgeneralisations of class 7 are attributed to the lexicalisation of class 7 and assumed to precede the adult-like grammar stage of agreements in the numeral system. As far as the overgeneralisation of class 5 is concerned, it is assumed that children are trying to apply the leftmost agreement rule as described by Hyman, Jenks and Makasso (2013). Hence, it is concluded that agreements in the Bàsàá numeral system may become consistent with age.

Keywords: Acquisition, Agreement, numeral system, Bàsàá, overgeneralisation, noun class

1. Introduction

Morphological development is certainly one of the most challenging aspects in acquiring a language (Kelly et al. 2014). Studies on first language acquisition are consistent with the assumption that by about 5 years of age, children have mastered most of the constructions of their language, although their vocabulary is still growing (Courtney and Troïke, 2002; Guasti, 2004). On this line, Davies et al. (2017) assume that 24-month-old English speaking children demonstrate understanding of nominal plural morphology, though this seems to be restricted to voiceless plural allomorph /s/. It is equally assumed that the degree of morphological richness in child directed speech is positively related to the speed of development of noun and verb paradigm (Xantos et al., 2011). Those studies tend to establish that all aspects of language are acquired before the age of 7. However, it is not rare to notice that until the age of 10, children still have a lot to learn, especially as far as morphology is concerned. Following Kelly et al (2014:1), “In all cultures, children grow up learning a language. By the age of 5 years, they can

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communicate effectively in their native language or languages, although they still have a considerable amount to learn". This paper investigates the acquisition of noun class agreement in the Bāsàa numeral system in line with the age of morphological consolidation. This is an aspect of a grammatical development that has scarcely been touched upon in previous research works, especially as far as Cameroonian Bantu languages are concerned. Though a lot has been done in terms of acquisition on South African Bantu languages like IsiZulu Suzman (1980, 1982, 1985, 1987, 1991, 1996); IsiXhosa (Mowrer and Burger, 1991; Lewis 1994; Lewis and Roux, 1996), SeSotho (Connelly's (1984), Demuth (1984, 1987a, 1987b, 1989, 1990, 1992a, 1992b, 1993, 1995a, 1995b, 1998, 2000, 2003), and Siswati (Kunene, 1979), and some Eastern Bantu languages like Tswana, (Tsonope, 1987), ChiChewa (Chimombo, 1981; Chimombo and Mtenje, 1989), Kiswahili (Deen, 2006) ; and Swahili (Deen and Hyams, 2006), we would like to highlight that we have not come across with a work on a Cameroonian language as far as child language is concerned. The only acquisition study carried out on a Central African Bantu language is that of Idiata (1998) on Sangu, a language spoken in Gabon. This implies that a lot still needs to be done on Central and West African Bantu languages.

Reports from literature on the acquisition of cases and formal gender and agreement system in Icelandic and Indo-European languages reveal that agreement systems are acquired around the age of 3.0. (Smoczyn'ska, 1986); this view is in accordance with some Bantu languages studies. Szagun et al. (2007) argues that the use of gender marked articles occurs from 1;5, and error frequencies drops below 10% by 3;0. Following Karmiloff-smith (1981), up to the age of 10, French-speaking use phonological rather than semantic information in grammaticality judgement task on gender, while Mills (1986) points out that German-speaking children tend to overgeneralise the high frequency feminine nominative / accusative *die* when they are uncertain about the gender class to which the noun belongs.

Moreover, although many studies have focused on the acquisition of subject and object agreement in Bantu languages (Demuth, 1988; Deen, 2006; Kunene and Ahmed: 2016), the acquisition of nominal agreements still needs to be addressed. Acquisition studies on Bantu noun class morphology tend to establish that noun class agreement morphemes are consistently used by children at the age of 3.0 (Demuth, 2003; Gxilshi et al., 2007; Demuth & Weschler, 2012; Kunene & Ahmed, 2016). Following Kunene (1979) and Demuth (2003), noun class system is in place by the age of 3 and shows no semantic or other generalisations. For these authors, overgeneralisations are systematically phonological and morphological rather than semantic. In the same vein, Demuth, Machobane and Moloi (2009), argue that the conditions to licence null prefixes are learned before the age of three, suggesting early abilities for grammatical generalisation even at the intersection of different linguistic structures. In a study on the acquisition of Sesotho, Demuth (2022) highlights that appropriate marking of possessive and demonstrative agreement forms is well in place before nouns are consistently marked with



noun class prefixes. However, these studies focus on the acquisition of noun class prefixes which form a general system with subcategories such as possessives, demonstratives, numerals, etc. But not all noun class agreement subsystems stabilize at the same age: numerals constitute a particular subsystem that could be distinct from the general system, with a different way of selecting agreements. Furthermore, Demuth (2026) ascertains that noun class prefixes can be omitted even in adult grammar at the intersection of certain phonological, syntactic, and discourse constraints, raising many questions about how and when this system is learned. This study extends the latest Demuth's view by investigating the acquisition of noun class agreements in the Bāsàá numeral system. The above assumptions raise the following questions on the acquisition of noun class agreement: Would Bāsàá children show consistent use of noun class agreement? If yes, would their capacities in using noun class agreement be the same in the numeral system from above ten as in simple singular vs plural pairing? The study of Cameroonian Bantu languages and more especially that of Bāsàá will shed more light on our understanding of the cognitive development.

Bāsàá (A 43a) is a Narrow Bantu language spoken in Cameroon. This equatorial Bantu language, which is originally spoken in the Nyong and Kelle, and Sanaga Maritime Divisions, also spreads over the Nkam, Wouri and Ocean divisions. We can equally come across some small groups speaking Bāsàá in Mounjo, Mbam and Upper-Nkam divisions whereby the speakers, identify themselves with the Bāsàá group. Apart from French and English which are colonial languages (both official languages in Cameroon), it should be noted that only the Nyong and Kelle division is monolingual (the only local language spoken in this division is Bāsàá), whereas other divisions, are multilingual, since the Bāsàá language is spoken alongside other Cameroonian languages. It follows from Breton and Fohtung (1991:21) cited in Hyman (2003) that Bāsàá is spoken as a vehicular language in the Bakóko and Tunen areas. Bāsàá has not commanded any dialectological study yet. However, previous studies on the language (Bitja'a Kody, 1990; Binam bi koy et al., 2012) identify five (05) dialects of Bāsàá amongst which there is mutual intelligibility. These dialects include: a) the Mbenê dialect, spoken in the Nyong and Kelle, the Sanaga maritime Divisions, and in some villages of the Ocean Division; b) the Bāsàá bá Yabási variety, mainly spoken in the Nkam division; c) the Dibúm dialect which is equally spoken in the Nkam division, especially in the Nkondjock subdivision; d) the Bāsàá bá dúálá dialect which is based in the Wouri division and in some parts of the Mounjo Division; and e). Ikoo, a dialect of Bāsàá spoken in the Sanaga Maritime Division, precisely in some villages of the Ndom subdivision as indicated in map 1.

Statistics on the number of people who speak Bāsàá vary from one study to another. According to SIL (1982) cited in Hyman (2003), Bāsàá is spoken by an estimated 282,000 speakers. However, recent studies on this language

indicate some changes as far as the number of speakers is concerned. While Binam Bi Koï et al. (2012) identify an estimated number of 230,000 speakers of the language, Lewis, Simon & Fennig (2018) cited in Bassong (2020) assume that Bāsàá is spoken by around 300,000 speakers. These statistics are equally attested by Ethnologue.com (SIL). According to their last census, in 2005, Basaa is spoken by approximately 300.000 speakers.

This paper is organised as follows: section 1.1 provides groundings about class, agreement prefixes, and the numeral system in Bàsàá. In this section, I capitalise on previous research on Bantu languages noun class morphology (Welmers, 1973; Hyman, 1979; Bot ba Njock, 1970; and Tamanji, 2019) to describe the Bàsàá noun class system. Section 1.2 presents the noun

class and agreement markers within the gender system in Bàsàá; Section 1.3 attempts to describe the numeral system in Bàsàá. Section 2 deals with the methodology: section 2.1 provides information about research participants, whereas section 2.2 describes the procedure for data collection and data analysis. In section 3, I address the results of this research: I precisely discuss overgeneralisations of class 7 in section 3.1, overgeneralisation of class 5 in 3.2, and phonological errors in 3.3. Section 4 discusses the types of errors found in children's speech, presents a summary of findings and shows evidence why children fail to mark agreement in numerals above ten. Section 5 is the conclusion.

1.1. Noun class and Numeral systems in Bàsàá

One of the most widely attested linguistic parameters of Bantu languages noun morphology is certainly their noun class system. According to Achiri-Taboh (2014:1), Bantu nouns consist of a stem each with an overt or covert prefix arranged in class of singular and plural pairs referred to as genders (Asongwed & Hyman (1976); Hyman, 1979; Tamanji, 2014). As a Narrow Bantu language, Bàsàá [Bàsàá A43] equally falls into this category with a very rich and highly complex noun class system. While some noun roots may collocate with two of the class prefixes that function as members of a singular/plural opposition, others may just have either the singular prefix without any plural form or a plural prefix without a singular form (Bot ba Njock, 1970; Mbom 1990; Bassong 2010). The structure of noun prefixes in Bàsàá is generally CV. However, syllabic nasals and a zero (Ø-) morpheme also indicate noun prefixes. Following Bot ba Njock (1970) and Bitja'a Kody (2017), agreement morphemes (prefixes) are determined by the class prefix of the head noun in Bàsàá as in table 1 below.

Table 1

Noun class and agreement prefixes in the Bàsàá numerals

Class	Number	Class prefix	Agreement	Example	Glosses
1	SG	ma-mù-	w-	<i>m-ùt w-àdá</i>	'one man'
2	PL	bà-	bá	<i>b-òt bá-tân</i>	'five men'
3	SG	Ñ-/ ø-	w-	<i>ñ-kàñ w-àdá</i>	'one root'
4	PL	mì-	mí-	<i>mì-ñkàñ mí-tân</i>	"five roots"
5	SG	lì-	dɛ-	<i>lì-lǎñ dɛ-áda</i>	"one onion"
6	PL	mà-	má-	<i>mà-lǎñ má-tân</i>	"five onions"
7	SG	Ø-	j-	<i>Ø-kég j-ádā</i>	"one stick"
8	PL	bì-	bí-	<i>bì-kég bí-tân</i>	"five sticks"
9	SG	Ø-	Jó-	<i>Ø-tóg j-adā</i>	"one spoon"
10	PL	Ø-	Jó-	<i>Ø-tóg í tân</i>	"five spoons"



19	SG	hì-	hí-	hì-ló hí-ádá	“one day”
12	PL	dì-	dí-/tĩ-	dì-ló dí-tân	“five days”

Source: Bitja’a Kody (2017:68)

1.2. The gender system in Basaá

As can be observed in the table above, Bāsàá noun consist of stems each with an overt or covert prefix arranged in classes of singular and plural pairs called genders. The above noun classes can be classified into eight genders consistent with their singular /plural pairing as indicated in (1), and single genders in which the stem combines with only one class prefix (either singular or plural) as in (2). The following examples ((1) and (2)) show the difference between regular and irregular genders in Bāsàá.

(1) Regular genders

	class 1	/	class 2
(a)	m-ăn	/	ô-ăn “child / children”
(b)	m-ăn kóp	/	ô-ăn bá kóp “chick / chicks”
	class 3	/	class 4
(c)	ñ-kòyó	/	mì-ñkòyó “suger cane / suger canes”
(d)	ñ-tùỵ	/	mì-ntùỵ “game / games”
	class 5	/	class 6
(e)	lì-tĩ	/	mà-tĩ “egg / eggs”
(f)	lì-bám	/	mà-bám “board/ boards”
	class 7	/	class 8
(g)	ø- tòn	/	bi-tòn “palm not / palm nuts”
(h)	ø- nùgá	/	bi-nùgá “animal / animals”
	class 9	/	class 10
(i)	ø- nĩỵ	/	ø- nĩỵ “porcupine / porcupines”
(j)	ø- nĩ	/	ø- nĩ “snake / snakes”
	class 9	/	class 6
(k)	ø- ndáp	/	mà-ndáp “house/ houses”
(l)	ø- ñgèdà	/	mà-ñgèdà “time /times”
	class 14	/	class 6
(m)	ø- kòò	/	mà-kòò “leg / legs”
(n)	ø- lép	/	mà-lép “river / rivers”
	class 19	/	class 12
(o)	hì- lòbà	/	dì- lòbà “pepper / peppers”
(p)	hì- òndè	/	dì- òndè “peanut/peanuts”

Bāsàá also exhibits atypical genders which are characterised by only one class prefix. They consist of mass nouns generally used to designate emotions, uncountable and abstract nouns.

(2) Irregular genders

class 5

- (a) lì-pém “glory”
- (b) lì-ŋgwaŋ “wealth”

class 6

- (c) mà-lép “water”
- (d) mà-sée “joy”

class 7

- (e) ø-mbii6è “sweat”
- (f) ø-léy “heat”

class 8

- (g) bì-lámà “beauty”
- (h) bì-kéŋí “size”

class 9

- (i) ø-mbòŋ “poison”
- (j) ø-ŋgòŋ “desire”

class 14

- (k) ø-6é “ugliness”
- (l) ø-wɔŋí “fear”

Overall, Bàsàá is morphologically rich and very productive as far as noun class and morphosyntactic agreements are concerned as attested by recent works on nominal in Bàsàá (Makasso 2010; Hyman, Jenks & Makasso 2013; and Jenks, Makasso & Hyman 2017). However, how numbers are constructed in the language, how numbers agree within the noun class system needs to be addressed.

1.3. Numeral system in Bàsàá

The numeral system is used for count nouns (Hammarström, 2009). Using numbers in Bàsàá requires knowledge in counting, agreement prefixes, ellipse, syntax and arithmetic. Additionally, numbers can be used either as ordinals or cardinals (as in counting objects), and agreement is highly required in both cases. However, this study intends to look at cardinal (counting numbers).

1.3.1. Counting in Bàsàá

As far as the numeral system is concerned, the highly important characteristic is certainly its base or set of bases. According to Hammarström (2009) and his definition of the “bases or set of bases”, the set of bases in Bàsàá can be described as follows {10, 10², 10³, 10⁶, and 10⁹} as in Swedish. Thus, the number formation type in Bàsàá can be summarised as in table 2.

Table 2
Numeric system and number formation type in Bàsàá

Numbers	Formation type	Expressions
1	1	póy / yádá
2	2	íbâ
3	3	ââ
4	4	ínâ
5	5	ítâ
6	6	ísámàl
7	7	ísâmbók
8	8	dʒ ^w em
9	9	bö
10	10	dʒöm
11	10+1	dʒöm nì yádá
12	10+2	dʒöm nì íbâ
13	10+3	dʒöm nì ââ
14	10+4	dʒöm nì ínâ
15	10+5	dʒöm nì ítân
20	10 X 2	möm mîmâ
21	10 X 2 + 1	Möm mîmâ nì yádá
22	10 X 2 + 2	Möm mîmâ nì íbâ
100	100	mbógól

Three configurations are possible while counting in Bàsàá.

- (a) Cl-N Cl-Num (1-9).
- (b) 10 lí Cl-N nì Cl-Num (10+).
- (c) Cl-N 10 nì Cl Num (10+).

In the process of counting objects from two to nine, speakers use the plural form of the object being counted, and the noun class agreement is licensed by the head noun of the object being counted. For example, to count eggs, peppers, animals and sugar canes in Bàsàá, one proceeds as in (3).

(3) Agreement in cardinals below nine correspond to configuration (a) Cl-N Cl-Num = (1-9).

- | | |
|--|--|
| <p>(a) lì-tʃě dʒ-ádá</p> <p>5-egg AGR5-one</p> <p>“one egg”</p> <p>(b) hì-lòβà hì-ádá</p> <p>19-pepper AGR19-one</p> | <p>mà-tʃě m-mâ</p> <p>6- egg AGR6-two</p> <p>“two eggs”</p> <p>dì-lòβà dí-bâ</p> <p>2-pepper AGR12-two</p> |
|--|--|

One pepper		two peppers	
(c)	ḡ-kòyó w-ádá	mì-ḡkòyó	m-mâ
	3-sugar cane AGR3-one	4-sugar canes AGR4-two	
	“One sugar cane”	“two sugar canes”	
(d)	ø-nùgá y-ádá	bì-nùgá	bí-â
	7-animal AGR7-one	8-animal AGR8-two	
	“One animal”	“two animals”	

It is not possible in this language for the head noun to have a predicative position (to come after the numeral) while counting objects from zero to nine (0-9). The following examples indicate that there is only one way of using numerals below ten i.e., numerals must follow the noun (they occupy a predicative position). This unflexible structure is expected to facilitate the acquisition of agreements in numerals because children would have to use the singular / plural pairing depending on the noun class of the object being counted.

(e)	hì-lòḡà hì-ádá	(f)	*hì-ádá hì-lòḡà
	19-pepper AGR19-one		AGR19-one 19-pepper
	“One sugar cane”		
(g)	lì-kòndò ḡ-ádá	(h)	*ḡ-ádá lì-kòndò
	5- plantain 5-one		5-one 5-plantaine
	‘one plantain’		

The process is however very different while counting from ten (10). Units (from one to nine) are associated to “ten” by addition, and the agreement morpheme “hì-; w-; ḡ-, etc.” of unit one “-ádá” (or any other number from one to nine) is triggered by the noun class / gender feature of the item being counted as indicated in (4) for chicks, palm nuts, games and peanuts respectively.

(4) Agreement in numerals above ten. The following example represents configuration (b). 10 li Cl-N ni (Cl-N) Cl-Num = (10+).

- (a) **ḡ-òm** **lí** **ḡ-ón** **ḡá** **kóp** **nì** **w-ádá**
 5-ten 5 cl2-child AGR2 fowl CON AGR1-one
 “Eleven chicks”
- (b) **ḡ-òm** **lí** **bí-tòḡ** **nì** **y-ádá**
 5-ten 5 8-palm nut CON AGR7-one
 “Eleven palm nuts”
- (c) **ḡ-òm** **lí** **mí-ntùḡ** **nì** **m-ínâ**
 5-ten 5 4-game CON AGR4-four
 “Fourteen games”



- (d) **ɖʒ-õm** lí **dí-òndè** nì **dí-tân**
 5-ten 5 12-peanut CON Agr12-five
 ‘Fifteen peanuts’

The above examples respect the following rule: Cl-10 SM Cl-Noun Con Cl-Num. They show that count nouns do not display agreements in constructions where numbers occupy the head (initial) position. In (5) *ɖʒõm* ‘TEN’ is the leftmost numeral but cannot generate the agreement of the rest of the DP as indicated in the following ungrammatical constructions.

(5) **Head numerals**

- (a) **ɖʒ-õm** lí *lí/dí-kòndò nì **ɖʒ-ádá**
 5-ten 5 Agr5-plantaine CON Agr5-one
 ‘Eleven plantains’
 (b) **ɖʒ-õm** lí *hí-ɲgòndà nì ***ɖʒ-ádá**
 5-ten 5 Agr5-daughters con Agr5-one(daughter)
 ‘Eleven daughters’

However, numerals can also occupy the predicative positions (follow the noun) in Bàsàá as in configuration (c) Cl-N 10 nì (Cl-N) Cl Num = (10+). In this case, the agreement morpheme of the numeral is generated the by noun of the object being counted like in the examples below.

(6) **Predicative numerals**

- (a) **mì-mbòy** ø- mbógòl nì **w-ádá**
 4-concubine one hundred CON 3-one
 ‘One hundred and one concubines’
 (b) **bì-kààt** ɖʒ-õm nì **bí-6â**
 8-book 5-ten CON Arg8-two
 ‘Twelve books’
 (c) **dì-lùŋ** ɖʒõm nì **dí-sâmbóy**
 13-guitar ten CON Agr13-seven
 ‘Seventeen guitars’

To sum up, numerals above ten can occupy both head (initial) and predicative (final) positions in Bàsàá. Count nouns in this language fall under the eight regular genders described in (1). Therefore, only objects whose classes can be arranged in these genders draw our attention. Counting objects in Bàsàá requires not only knowledge of singular / plural noun class agreement, but also a genuine mastery of agreement in the numeral system which in turn underlies more complex syntactic constructions like ellipsis. For instance, the interpretation of (4b), which is the adult phrase structure can be understood as follows in (7a) and in (7b).

(7) Ellipsis in the Bàsàá numerals from above ten

(a) **ɖʒ-òm** lí **bí-tòn** nì (ø-tòn) y-ádá
 5-ten 5 8-palm nut CON 7-palm nut AGR7-one
 “eleven palm nuts”

(b) **ɖʒ-òm** lí má-kòndò nì (mà-kòndò) má-sámál
 5-ten 5 6-plantain CON (6-plantain) 6-six
 “Sixteen plantains”

But (c) is also possible, where the NP within the D' is raised without the Agr.

(c) **bí-tòn** **ɖʒ-òm** nì (ø-tòn) j-ádá
 8-palm nut 5-ten CON (palm nut)7-one
 Eleven palm nuts

(d) **mà-kòndò** **ɖʒ-òm** nì (mà-kòndò) má-sámál
 6-plantain 5-ten CON 6-plantain 6-six
 “Sixteen plantains”

The above examples show that count nouns must be repeated when it comes to numbers from above ten. The repeated noun triggers the agreement, which is carried by the numeral added to ten. However, the repeated noun is deleted in the adult speech, but its agreement marker is not. Therefore, instead of constructions like those in (7) where the count noun is used before and after the connective, Bàsàá adults mostly use constructions like those in (4) where the count noun after the connective is deleted. In sum, numerals in Bàsàá can occupy both predicative and head positions. However, numerals below ten can only occupy the predicative position, whereas numerals from ten occupy both the head and predicative positions as illustrated in (7b) and (7d).

1.4. Predictions

As argued earlier concerning the age at which morphological forms are completely in place in child language, research that have focussed on this question tend to establish that adultlike competences are in place at 5 years (Guasti, 2004). This assumption is equally supported by some Bantu language acquisition studies (Demuth, 2003; Gxilshi et al., 2007; Demuth & Weschler, 2012; Kunene & Ahmed, 2016). Since it is established that noun class agreements are in place at around the age of 3, I have decided to extend this investigation to the Bàsàá numeral system with a focus on those above ten. By so doing, I seek to know whether agreements in the Bàsàá numeral system are in place by the age of 5. The following predictions are therefore put forward: First of all, it is assumed that not all morphological aspects are in place at age 5. Due to their linguistic complexity, morphological structures such as noun-



class agreement in the number system are acquired at a slightly later age. Secondly, since it has been demonstrated in previous Bantu language acquisition studies that noun class agreements are in place by the age of 3 (Kunene, 1979; Demuth, 1988; Demuth, 2003; Deen, 2006; Gxilshi et al., 2007; Kunene and Ahmed, 2016), it is thus postulated that Bàsàá children would register good scores in Task 1 (elicited production of agreement in the Bàsàá noun class system) and in spontaneous speech productions (singular / plural marking in Bàsàá). Thirdly, given the fact that using agreements in numerals from above ten requires other cognitive and grammatical skills as highlighted earlier, it is predicted that participants to this study will perform poorly in Task 2, showing overgeneralisation errors as in spontaneous speech data.

1.5. Intermediary conclusion

The description of agreement constructions in the Bàsàá numeral system reveals very complex and highly constrained morphosyntactic structures. Firstly, numerals below ten cannot occupy the head position (they cannot come before the noun) whereas this is possible in numerals from above ten. Changes in the position of numerals automatically result in changes to agreements. In other words, when a numeral is in head position, it triggers the agreement carried by the predicate. Similarly, when the noun is in head position, it triggers the agreement carried by the number when it is in predicative position. Secondly, numerals can occupy both head (initial) and predicative (final) positions. Finally, they cannot generate agreements in both head and predicative positions and, even when this is possible, the generated agreement is restricted to the number phrase (NumP). In addition to the above description, numerals above ten make use of another complex syntactic construction like ellipses.

2. Methodology

Two linguistic phenomena are assessed in this study, namely the acquisition of noun class agreement and the development of agreement in the numeral system, especially numbers from above ten.

2.1. Participants

Eighteen (18) children having Bàsàá as their first language have participated at this study. They have all been met in Hègàà, a Bàsàá village within the Nyong and Kelle Division in the Centre Region of Cameroon. It is quite a homogeneous linguistic community where the selected participants are noted to have grown up. Most of the children in the study were attending the primary school where they used French as Second Language and as the language of instruction, and Bàsàá as a subject. Five children were secondary

school students who also had French as language of instruction and their mother tongue featuring as a subject. Children below the age of five were not going to school at all. Participants to the present study only spoke French in school within the context of their studies. Bàsàá was spoken both in school and at home. During breaks times, they could speak both languages. The estimated rate of exposure to Bàsàá was about 13 hours a day. Therefore, all participants were expected to have the necessary cognitive capacities to count in their mother tongue from one to at least twenty. Based on the general tendency from various literature on the acquisition of Bantu languages noun class agreement which states that children perfectly use noun class agreement morphemes at the age of 3, we decided to include children aged from 3 in the study. In total, we worked with 18 participants aged between 3; 11 (three years and eleven months) and 14; 1 (fourteen years and one month), giving an average age of 9;5 years. As far as gender is concerned, 12 participants were girls, whilst only six were boys.

Table 3
Participants

Children	age	Sex	First language	Second language	Level of education	Village
Child 1	3 ;11	F	Bàsàá	None	None	Hègbà
Child 2	5; 2	F	Bàsàá	None	None	Hègbà
Child 3	5; 9	F	Bàsàá	French	Primary school	Hègbà
Child 4	6; 3	F	Bàsàá	French	Primary school	Hègbà
Child 5	6; 3	M	Bàsàá	French	Primary school	Hègbà
Child 6	7; 2	M	Bàsàá	French	Primary school	Hègbà
Child 7	7; 9	M	Bàsàá	French	Primary school	Hègbà
Child 8	8; 3	F	Bàsàá	French	Primary school	Hègbà
Child 9	10; 2	F	Bàsàá	French	Primary school	Hègbà
Child 10	10; 8	F	Bàsàá	French	Primary school	Hègbà
Child 11	11; 0	F	Bàsàá	French	Primary school	Hègbà
Child 12	11; 11	F	Bàsàá	French	Primary school	Hègbà
Child 13	12 ;1	F	Bàsàá	French	Primary school	Hègbà
Child 14	12; 2	M	Bàsàá	French	Secondary school	Hègbà
Child 15	12; 8	M	Bàsàá	French	Secondary school	Hègbà
Child 16	13; 2	F	Bàsàá	French	Secondary school	Hègbà
Child 17	13; 4	F	Bàsàá	French	Secondary school	Hègbà
Child 18	14; 1	F	Bàsàá	French	Secondary school	Hègbà

A cross-sectional approach was used to understand children's ability to use agreement in numerals across ages. Participants were thus classified in 3 different age brackets, with the first age bracket having five (5) children aged from [3;11 – 6;3[, with a mean age average of 5,36; the second age bracket also



having five (5) children aged [7; 2 – 10; 8[, with a mean age average of 8,4; and the third group eight (8) children aged [11; 0 – 14;1], mean = 12,3. The above-mentioned age groups were determined based on the stages of language acquisition. It is argued that children generally use adultlike grammar latest at the age of 6. However, it follows from Kelly et al. (2014) and Ravid (2019) that some morphological aspects can be acquired later up to age 16.

Over eighteen children, only two were monolingual, while sixteen were bilingual. Since, this study does not seek to compare monolingual competence with that of bilingual children, but to investigate the learnability conditions of the Bàsàá numeral system by participants who had Bàsàá as their first language, both monolingual and bilingual were included in the same sample. Also, the age difference among participants and age groups is unbalanced. Language acquisition studies generally focus on children aged between 0 to 6 years, because this age span encompasses major developmental differences in linguistic, cognitive, and metalinguistic abilities. However, although children reach adult-like competence at around six years, some aspects of the above-mentioned capacities are reported to be acquired later (at around 12 years). Those later-developed capacities include morphology, vocabulary and complex syntactic structures like passive, binding, quantification, control, etc. as far as linguistic abilities are concerned (Kelly et al, 2014; Demuth, 2026). Added to this, agreement prefixes in numerals which involve more abstraction could equally be acquired later after the age of 7 years. Therefore, such grammatical structures need to be addressed, because they can bring more insight on the ontogenesis of language development and the nature of such abilities. Since using numbers in Bàsàá requires knowledge of counting, agreement, ellipses, and arithmetic, especially when it comes to numbers from ten onwards, participants aged from 7 to 14 were equally included in the sample, and the cross-sectional design was used to highlight the age-related implications of noun agreement in the Bàsàá numeral system. This explains why the sample was treated as a single group.

2.2. Procedure

Two data collection approaches have been used for this study; they include the recording of spontaneous speech and elicited production. The first approach aimed at recording naturally produced constructions of agreement in numerals in Bàsàá. As far as the second approach is concerned, it was used to stimulate specifically numeral-oriented speech productions.

All children were recorded in their homes. They were assisted by one of their parents. As a Bàsàá native speaker, I was taking contextual notes during interviews. Participants were met once a week for a thirty (30 minute) audio recording interview, and the fieldwork lasted two weeks. In a nutshell, each child was interviewed twice, which equated a total of 1h per participant.

Conversations with children focused on subjects immediately related to their environment (home, housework and school environments). For example, children were asked to talk about their friends and classmates (how many friends they had) at school, the kind of activities they are involved in at home, etc. The recorded tapes were phonetically transcribed after fieldwork sessions using the IPA system. The transcriptions were later crosschecked for accuracy by a phonetician who also happens to be a Bàsàá native speaker. Since Bàsàá has many varieties, the dialect investigated here is generally known as Mbènê, *a variety spoken* “the Nyong and Kelle and Sanaga Maritime Divisions”. To avoid effects of dialectal variations and for more reliability, the counting methods and agreement structures assessed in this paper were first checked using parents’ utterances and approved by the researcher prior to the interviews. Inappropriate agreement morphemes were identified and marked with an asterisk during transcription to indicate errors, then verified by cross-checking. Inappropriate agreement morphemes were identified and assigned an asterisk during transcription to indicate ungrammaticalities and later crosschecked by another linguist who is equally a native speaker of Bàsàá.

Elicited Production method was used to assess children’s linguistic competences in both exercises. Five (05) genders (ten noun classes) were considered for this study, namely class 1 & 2, noun classes 3 & 4; noun classes 5 & 6; noun classes 7 & 8, and noun classes 9 & 10. Following the description provided earlier, the above-mentioned genders were chosen based on their regularity in singular & plural pairing in Bàsàá. Images saved in Microsoft Power Point slides were presented to participants using a laptop computer. We had chicks for class 1 & 2; sugar canes for class 3 & 4; eggs for class 5 & 6; palm nuts for class 7 & 8, and red pepper for class 9 & 10. Compound words like *mañ kōp* did not add any complexity. Instead, they guaranteed semantic transparency in the sense that their images elicited exactly the target word. For example, the image of a chick selects the target word *mañ kōp* “chick” which is a compound word, whereas that of *màngé* “child” may select several meanings like a proper name, child, pupil, girl, boy, etc. Each image lasted 25-30 seconds on the computer screen, and the overall experience lasted about 8 minutes by child. As we intended to investigate two aspects of noun class agreement in Bàsàá, participants were involved in two Tasks. Because counting objects from two (02) to ten (10) just requires knowledge of the plural morpheme of the noun being counted, if a child can use the plural form of an object, he can equally count that object from two to ten. Thus, Task 1 consisted in using the singular and plural noun class agreements for each of the selected noun class. The next logical step after this would be to check that they can apply agreement in numerals up to 10. However, as indicated in table 2, counting object from two to ten simply requires the application of the plural morpheme of the noun class of the object being counted. In other words, while counting objects from two to ten in



Bàsàá, speaker use the plural form followed by the numeral (e.g. *ø-tòŋ* vs *bì-tòŋ* “palm nut”; “palm nuts”; *bì-tòŋ bí-bá* “two palm nuts”; *bì-tòŋ bí-sámboók* “seven palm nuts”, etc.). Since the process of applying agreement in numerals up to ten is similar to singular / plural pairing, it is assumed that children’s performance in Task 1 would automatically reflect their knowledge in counting to ten. Task 2 assessed the emergence of noun class agreement in numerals from above ten. Children were received one after another in a small room that served as an office. In Task 1, children were asked to complete sentences like: (this is (An egg /one egg); these are ----- eggs (two, three, seven or ten)). Each child was expected to provide one target response for each of the selected noun. Therefore, the total number of target responses expected for each child is 5, and the overall total for the 18 children is 90. As far as Task 2 is concerned, the experimenter had to count objects from one to ten (one egg, two eggs, ... to ten eggs), and the child was instructed to continue till fourteen (e.g., eleven eggs; twelve eggs, thirteen eggs, fourteen eggs). As indicated in table 2, the counting strategy differs from above ten because it includes addition. Each child was expected to produce 4 X 5 target responses. The overall number of responses for the 18 participants was 360.

2.3. Scoring

The scoring system was nearly the same for both Task 1 and Task 2. For Task one, when a child gave the exact plural form of the object, they automatically scored one mark, or a zero (0) when they gave the wrong answer, and the total number of marks for all the gender under investigation was five mark (5). As far as Task 2 is concerned, participants scored one (1) mark after providing at least one target answer from eleven to fourteen. When a participant provided four target responses i.e., when they gave the target plural form of the same object from eleven to fourteen, they cumulated 4 marks. For the five target plural forms, each participant was expected to score 20 marks. Therefore, the overall total score for all participants is N=360 targets responses.

Participants’ responses were classified in two categories as follows i.e., target responses and untargeted responses. Target responses included correct plural forms of each target noun class. Untargeted responses were subcategorised into four types (overgeneralisation of class 5, overgeneralisation of class 7, morphological errors and non-scorable). Overgeneralisation errors consisted of any plural form that serves as a general or prototypical rule or principle. Generalisations of class 5 describe any inappropriate use of noun class 5 prefix that leads to ungrammaticalities, whereas morphological errors indicate all errors whereby participants do not respect the phonological process involved in the articulation of certain words, e.g., when the articulation of two combined morphemes requires the deletion of one segment or the repetition of another. As far as nonscorable responses

are concerned, they included unintelligible answers, hesitations, and instances where the child did not say anything at all.

3. Results

Two types of results are presented in this section, namely quantitative results and qualitative results. Both types of data were obtained by recording spontaneous speech production and using elicited production tasks. Quantitative and qualitative data are presented for each task, i.e., spontaneous speech production, Task1 and Task 2.

3.1. Spontaneous speech productions

After listening to the recordings, I considered two types of data. On the one hand, I listed the number of occurrences for each noun class under investigation, whether their use was good or not. On the other hand, ungrammatical productions were transcribed to indicate error types in children's productions.

3.1.1. Occurrences of noun class in spontaneous speech production

The following table shows children's performances in singular-plural agreement use in spontaneous speech production. It can be observed that children produced 5319 occurrences of the five investigated genders. Their results are contained in table 5 below.



Table 4

Singular-plural agreements use in spontaneous speech production

Children	Age	Cl 1 & 2			Cl 3&4			Cl 5&6			Cl 7&8			Cl 19&12		
		correct	error	total	Correct	error	total	correct	error	total	correct	Error	total	correct	Error	total
Child 1	3; 11	13	0	13	10	03	13	14	01	15	20	0	20	19	0	19
Child 2	5; 2	16	0	16	21	0	21	30	0	30	20	0	20	14	0	14
Child 3	5; 9	18	0	18	24	0	24	10	0	10	26	0	26	32	0	32
Child 4	6; 3	10	0	10	26	0	26	16	0	16	17	0	17	10	0	10
Child 5	6; 3	16	0	16	34	0	34	62	0	62	49	0	49	103	0	103
Child 6	7; 2	16	0	16	12	0	12	18	0	18	29	0	29	24	0	24
Child 7	7; 9	41	0	41	33	0	33	26	0	26	25	0	25	16	0	16
Child 8	8; 3	31	0	31	22	0	22	24	0	24	18	0	18	19	0	19
Child 9	10; 2	28	0	28	29	0	29	18	0	18	24	0	24	31	0	31
Child 10	10; 8	21	0	21	24	0	24	50	0	50	36	0	36	23	0	23
Child 11	11; 0	54	0	54	41	0	41	14	0	14	43	0	43	26	0	26
Child 12	11 ;11	36	0	36	34	0	34	39	0	39	46	0	46	51	0	51
Child 13	12; 1	29	0	29	30	0	30	46	0	46	31	0	31	24	0	24
Child 14	12; 2	46	0	46	59	0	59	52	0	52	60	0	60	28	0	28
Child 15	12; 8	64	0	64	80	0	80	90	0	90	39	0	39	69	0	69
Child 16	13; 2	180	0	180	149	0	149	120	0	120	111	0	111	104	0	104
Child 17	13; 4	108	0	108	18	0	18	73	0	73	103	0	103	16	0	16
Child 18	14; 1	210	0	210	180	0	180	125	0	125	137	0	137	158	0	158
Total		937	0	937	826	3	829	827	1	828	834	0	834	767	0	767

Table 4 indicates that children can consistently use noun class agreements in numerals below ten regardless of the noun class in spontaneous speech production. The rate of correctness reveals that class 1 & 2 registered the highest rate of occurrences (N= 937), followed by class 7 &8 (N= 834), class 5 & 6 (N=827), then class 3 & 4 (N= 826) and class 19 &12 (N= 767). This implies that some noun class agreements appear earlier than the others. The rate of incorrectness involving the use of noun class agreement is very low (0 to 3). This implies that participants in this study can use noun class agreements in a singular / plural context without difficulties.

Table 5

Patterns of singular / plural agreements from spontaneous speech in the three age groups

Groups	Correct	Overgeneralizati on of class 5	Overgeneralizati on of class 7	morphologic al
Youngest t N=5 (3;11- 6;3)	N=1116 (99.64 %)	00 (0%)	00 (0%)	04 (0.35%)
Middle N=5 (7;2- 10;8)	N= 1276 (100%)	00 (0%)	00 (0%)	00 (0%)
Oldest N= 8 (11;0- 14)	N= 2923 (100%)	00 (0%)	00 (0%)	00 (0%)

Three main observations can be made from tables 4 and 5. Firstly, Participants show consistent use of singular-plural agreement in the Bàsàà numeral system: Out of 5319 occurrences of the five tested noun class, only four (04) were wrong. These wrong constructions are exclusively morphological agreement errors as can be observed in (8). Secondly, the rate of errors is limited to the youngest group. Participants from the middle and oldest groups seem to have mastered the singular-plural agreements, since no error is reported in their spontaneous speech productions. Finally, participants seem to be more productive with age as far as singular-plural agreements are concerned, and their rate of correctness increases with age. For instance, child 1 registered 80 occurrence of singular / plural agreement, with 76 correct form (99.64%) and 04 morphological agreement errors involving class 3&4 and class 5&6 as in (8); while child 18 produced 810 singular / plural agreement with 100% rate of correctness.

3.1.2. Morphological agreement errors from recordings

The following constructions exemplify the error type found in participants' spontaneous speech productions where children seem to use duplicate the class prefix of class 4 and class 6.

(8)

Adult utterances

(a) mì-ɲkòyó ín-mâ

cl4-suger cane cl4-two

child utterances

(b) mì- ɲkòyó *mí-bâ

cl4-suger cane cl4-two



“two suger canes”

(c) mà-kúβé m-mâ

cl6-banana cl6-two

(d) mà-kúβé *má-bâ

cl6-banana cl6-two

“two bananas”

(e) mà-tówà m-mâ

cl6-car cl6-two

(f) mà-tówà *má-bâ

cl6-car cl6-two

“two cars”

(g) bà-úrú b-â

cl2-students 2-two

(h) bà-úrú *bâ-bâ

cl2-student cl2-two

“two students”

The above data show that children in early age tend to produce the noun class agreement of the noun before adding it to a number. This seems to be done by analogy to the other genders wherein the noun class agreement is not fully realised before the number.

3.1.3. Agreements in numerals from above Ten in spontaneous speech production

Spontaneous speech productions indicate that participants are productive in agreements from above ten. The distribution of their productions is presented in table 6 below.

Table 6

Agreement use in numerals from above 10 in spontaneous speech production

Children	Age	Gender 1 & 2			Gender 3&4			Gender 5 & 6			Gender 7 & 8			Gender 19 & 12		
		correct	error	Total	Correct	error	total	correct	error	total	correct	error	total	correct	error	total
Child 1	3; 11	0	6	6	0	0	0	0	4	4	0	0	0	0	0	0
Child 2	5; 2	0	3	3	0	4	4	0	3	3	0	3	3	0	3	3
Child 3	5; 9	2	0	2	0	0	0	0	2	2	1	0	1	1	0	1
Child 4	6; 3	3	0	3	1	1	2	2	0	2	3	2	5	0	1	1
Child 5	6; 3	2	4	6	2	0	2	1	0	1	2	3	5	14	2	16
Child 6	7; 2	1	0	1	0	1	1	0	0	0	0	0	0	0	0	0
Child 7	7; 9	0	2	2	1	1	2	2	1	3	1	2	3	1	1	2
Child 8	8; 3	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0
Child 9	10; 2	3	2	5	0	1	1	3	0	3	0	2	2	4	0	4
Child 10	10; 8	3	0	3	4	0	4	2	1	3	6	1	7	4	2	6
Child 11	11; 0	8	0	8	10	0	10	11	3	14	9	2	11	0	0	0
Child 12	11;11	10	0	10	6	1	7	0	0	0	0	0	0	1	0	1
Child 13	12; 1	13	2	15	0	0	0	7	0	7	8	1	9	7	1	8
Child 14	12; 2	0	0	0	12	1	13	10	2	12	7	0	7	0	0	0
Child 15	12; 8	6	1	7	3	0	3	4	1	5	0	0	0	0	0	0
Child 16	13; 2	8	0	8	0	0	0	10	1	11	0	0	0	10	0	10
Child 17	13; 4	12	1	13	11	0	11	12	0	12	6	0	6	4	0	4
Child 18	14; 1	17	0	17	08	0	08	0	0	0	9	0	9	18	0	18
Total		89	22	111	58	10	68	64	18	82	52	16	68	64	10	74

Table 6 shows that children are more productive in class 1 & 2 (N= 111 occurrences). Class 5 & 6 immediately come after class 1 & 2 (N= 82 occurrences); the noun class that had the fewest number of occurrences are class 3 & 4 and 7 & 8 which registered N=68 occurrences each. The following table indicates the rate of correctness and incorrectness



produced by participants in the spontaneous speech production. The lowest rate of incorrectness concerns noun class 3&4 and 19 & 12 (N= 10 incorrectness each). The overall number of correctness is N=327 (81.14%, while the total number of occurrences is N= 403.

Table 7

Rate of correctness and incorrectness in numerals from above ten in spontaneous speech

Groups	Correct	Overgeneralization of class 5	Overgeneralization of class 7	morphological
Youngest N=5 (3;11-6;3)	N=34 (10,39%)	N= 24 (52,17%)	N=13 (50%)	N= 4 (100%)
Middle N=5 (7;2-10;8)	N= 36 (11,00%)	N= 13 (28,26%)	N= 5 (19,23%)	N= 0 (0%)
Oldest N= 8 (11;0- 14)	N= 257 (78,59%)	N= 09 (19,56 %)	N= 8 (30,76%)	N= 0 (0%)

Table 7 suggests three observations: firstly, participants from the tree age groups were able to use noun class agreements from above ten. However, the rate of correctness increases across age groups (youngest = 10%; middle = 11,00% and 78%). Secondly, participants made three types of errors i.e. generalisation of class 5, generalisation of class 7 and morphological agreement errors. Thirdly, the rate of incorrectness decreases as participants get older. For example, generalisation of class 5 (N=52%) for the youngest group, 28 % for the middle group and 19% for the oldest group. As far as generalisation of class 7 is concerned, participants registered 50% incorrectness for the youngest group, 19% for the middle group and 30% for the oldest group. Participants only made 04 morphologically agreements errors which collapsed within the youngest group.

3.1.4. Generalisation errors in spontaneous speech production of numerals from above ten

As indicated in the table above, three types of errors were observed in children spontaneous speech productions. These errors include generalisation of class 5, generalisation of class 7 and morphological agreement errors.

Generalisation of class 5

Children's generalisations of class 5 include errors like those in (9).

Adult utterances	child's productions
(9)	
(a) d̥ʒ-əm lí dí-pùmá nì hì-ádá cl5-ten cl5 cl12-orange CON cl19-one “Eleven oranges”	d̥ʒ-əm lí dí-pùmá nì *d̥ʒ-ádá cl5-ten cl5 cl12-orange CON cl5-one

- | | |
|---|--|
| (b) dʒ-ǝm lí má-ŋě nì m-mâ
cl5-ten cl5 cl6-egg CON cl6-two
“Twelve eggs” | dʒ-ǝm lí má-ŋě nì *lí-bâ
cl5-ten cl5 cl6-egg CON cl5-two |
| (c) dʒ-ǝm lí bí-kék nì y-ádá
cl5-ten cl5 cl7-sticks CON cl7-one
“Eleven sticks” | dʒ-ǝm lí bí-tòŋ nì *dʒ-ára
cl5-ten cl5 cl7-sticks CON cl5-one |

The above errors mostly appear in context where the child is involved in the production of complex sentences, i.e., a sentence with more than one clause. They hardly appear in short or simple sentences with SVO structure.

Generalisation of class 7

Children didn’t make a lot of class 7 generalisation in spontaneous speech productions. Their errors include instances like those in (10).

(10)

Adult utterances

- (a) bà-údú dʒ-ǝm nì bá-tân
 Cl2-student cl5-ten CON cl2-five
 “fiveteen students”
- (b) 6- ɔ̀ŋgé dʒ-ǝm nì bá-sámàl
 Cl2-children cl5-ten CON cl2-six
 “Sixteen children”
- (c) mà-kàlà dʒ-ǝm nì má-tân
 Cl6-doughnuts cl5-ten CON cl6-five
 “fiveteen doughnuts”
- (d) dʒ-ǝm lí má-kàlà nì má-ââ
 Cl5-ten cl5 cl6 doughnut CON cl6-three
 “Thirteen doughnuts”

child’s production

- * bà-údú dʒ-ǝm nì í-tân
 Cl2-student cl5-ten CON cl7-five
- * 6-ɔ̀ŋgé dʒ-ǝm nì í-sámàl
 Cl2-children cl5-ten CON cl7-six
- * mà-kàlà dʒ-ǝm nì í-tân
 Cl6-doughnuts cl5-ten CON cl7-five
- * dʒ-ǝm lí má-kàlà nì í-ââ
 Cl5-ten cl5 cl6 doughnut CON cl7-three

The above examples indicate that children deviate from the target noun class prefixes. They unexpectedly select class 7 prefix and generalize it to nouns that belong to class 2, class 5 and class 6.

3.2. Elicited production task

3.2.1. Patterns of the elicited production task

Results of the production tasks are presented for each task. Table 8 below presents children’s performances in task 1 where their competences in using noun class prefix are tested.



Table 8

Children's performances in Task 1

Children	Age	Sexe	1 & 2	3 & 4	5 & 6	7 & 8	19 & 12	Total
Child 1	3,11	F	1	1	1	1	1	5
Child 2	5,2	F	1	1	1	1	1	5
Child 3	5,9	F	1	1	1	1	1	5
Child 4	6,3	F	1	1	1	1	1	5
Child 5	6,3	M	1	1	1	1	1	5
Child 6	7,2	M	1	1	1	1	1	5
Child 7	7,9	M	1	1	1	1	1	5
Child 8	8,3	F	1	1	1	1	1	5
Child 9	10,2	F	1	1	1	1	1	5
Child 10	10,8	F	1	1	1	1	1	5
Child 11	11	F	1	1	1	1	1	5
Child 12	11,11	F	1	1	1	1	1	5
Child 13	12,1	F	1	1	1	1	1	5
Child 14	12,2	M	1	1	1	1	1	5
Child 15	12,8	M	1	1	1	1	1	5
Child 16	13,2	F	1	1	1	1	1	5
Child 17	13,4	F	1	1	1	1	1	5
Child 18	14,1	F	1	1	1	1	1	5

Table 8 indicates that each child produced all the target responses (N= 90). This implies that noun class agreements are in place in those children, so that they can use the singular / plural forms of all the noun class examined in this study. This would equally imply that participants at this study can count all objects tested in this study from one to nine, since the counting strategy does not change within the above-mentioned interval.

3.2.2. Children's performance in noun class agreements in numerals from above ten

As far as the use of noun class agreements is concerned, the following table indicates children's performances in Task 2.

Table 9

Children's rate of correctness in task 2

Children	Age	Gender 1 & 2			Gender 3&4			Gender 5 & 6			Gender 7 & 8			Gender 19 & 12		
		correct	error	total	Correct	error	total	correct	error	total	correct	Error	total	correct	Error	total
Child 1	3; 11	0	2	2	0	2	2	0	2	2	0	2	2	0	2	2
Child 2	5; 2	0	2	2	1	2	1	0	3	1	0	2	2	0	2	2
Child 3	5; 9	1	2	1	1	1	2	0	2	2	1	3	0	1	2	1
Child 4	6; 3	2	0	2	1	1	2	1	2	1	2	1	1	2	0	2
Child 5	6; 3	1	1	2	1	1	2	1	1	2	0	3	1	1	1	2
Child 6	7; 2	0	2	2	2	1	1	2	1	1	0	3	1	0	2	2
Child 7	7; 9	2	2	0	1	2	1	2	1	1	1	3	0	2	2	0
Child 8	8; 3	2	0	2	2	1	1	1	1	2	2	1	1	2	0	2
Child 9	10; 2	0	2	2	2	0	2	3	0	1	2	1	1	0	2	2
Child 10	10; 8	2	2	0	1	2	1	2	1	1	1	2	1	2	2	0
Child 11	11; 0	3	1	0	2	1	1	2	1	1	1	3	0	3	1	0
Child 12	11; 11	4	0	0	4	0	0	4	0	0	3	0	1	4	0	0
Child 13	12; 1	2	1	1	2	1	1	3	0	1	2	0	2	2	1	1
Child 14	12; 2	2	1	1	1	1	2	2	1	1	2	2	0	2	1	1
Child 15	12; 8	3	1	0	3	0	1	3	0	1	3	0	1	3	1	0
Child 16	13; 2	2	1	1	3	1	0	4	0	0	2	1	1	2	1	1
Child 17	13; 4	3	0	1	3	0	1	4	0	0	3	1	0	3	0	1
Child 18	14; 1	2	2	0	4	0	0	4	0	0	3	1	0	2	2	0
Total		31	22	19	34	17	21	38	16	18	28	29	15	31	22	19

Table 9 indicates that over 360 expected target responses in task 2, participants produced 172 correct responses (Mean = 9,55 on 20 and 47,77%). Participants equally produced 106 incorrect responses, i.e., 29.44% of incorrectness and mean = 5.88. As far as non-scorable responses are concerned, participants registered N= 82 non-scorable responses (including non-audible, hesitations, silence, etc.), i.e., 22.77% and a Mean = 8.63. The distribution of error types across age groups is reported in the table 10 below.

Table 10

Pattern of results of task 2 in the three age groups

Groups	Correct	Incorrect	Non-scorable	Generalization of class 5	Generalization of class 7	Morphological agreement errors
Youngest N=5 (3;11-6;3)	N= 18 (10.46%)	N=46 (43.39%)	N= 36 (43.90%)	N= 13 (48.14%)	N=27 (36.98%)	N= 6 (100 %)
Middle N=5 (7;2-10;8)	N= 40 (23.25%)	N=35 (33.01%)	N= 25 (30.48%)	N= 11 (40.74%)	N=24 (32.87%)	N=0 (0%) 0%
Oldest N= 8 (11;0- 14)	N=114 (66.27%)	N=25 (23.58%)	N= 21 (25.60%)	N= 03 (11.11%)	N=22 (30.13%)	N=00 (0%)

Table 10 shows that participants' rate of correctness increases across age groups (10.46% for the youngest group, 23.25% for the middle group and 66.27% for the oldest group), while their rate of incorrectness decreases with

age (43.39% for the youngest group, 33.01 for middle group and 23.58% for the oldest group). This would imply that children's use of noun class agreements in numerals from above ten is more accurate with age. Also, participants produced three types of errors, including generalization of class 5 (N=27 occurrences); generalization of class 7 (N= 73 occurrences) and morphological agreement errors (N=06 occurrences). Furthermore, the rate of incorrectness decreases across age groups in all types of errors, implying that older the child is, the better they use noun class agreements from above ten. Finally, while class 7 registered the highest rate of incorrectness (N= 73), morphological agreement errors registered the lowest rate of incorrectness (N= 06) uttered by child one.

3.2.2.1. Overgeneralisations of class 7

Though not all children aged above 12 exhibited good performances, all good performances in Task 2 come from that age bracket. This may necessarily have implications on the relationship between age and agreement development in early Bāsàá. We can therefore assume, based on the above observation, that agreement morphemes in the Bāsàá numeral system are completely in place with age and may not be perfectly used by the age of 12.0. It is globally observed in this paper that if children can perfectly use noun class agreement morphemes for numerals under eleven, this is not the case with numerals from above eleven (11) in the Bāsàá. Three types of errors have been observed: The first category of errors is characterised as noun class overgeneralisation, with the most encountered one being the overgeneralisation of noun class 7, and the overgeneralisation of class 5 as can be observed in the following example. The second category of errors include morphological agreement errors which are discussed in the following section.

(8) Overgeneralization of class 7

Adult utterances

- (a) mǐ-ŋkòyó dʒ-òm nǐ w-ádá
4-Sugar cane 5-ten CON 3-one
“eleven sugar canes”
- (c) dʒ-òm lí má-ŋǽ nǐ dʒ-ádá
5-ten AGR 6-eggs CON 5-one
“eleven eggs”
- (e) dʒ-òm lí ɓ-ón ɓá kóp nǐ w-àdá
5-ten AGR 2- child 2 hen CON 1-one
“eleven chicks”
- (g) dʒ-òm lí mǐ-ŋkòyó nǐ m-m-â
5-ten AGR 4-sugar cane CON 4-4-two
“twelve sugar canes”

children's utterances

- (b) mǐ-ŋkòyó dʒ-òm nǐ *j-ádá
4- Sugar cane 5-ten CON 7-one
“eleven sugar canes”
- (d) dʒ-òm lí má-ŋǽ nǐ *j-ádá
5-ten AGR 6-eggs CON 7-one
“eleven eggs”
- (f) dʒ-òm lí ɓ-ón ɓá kóp nǐ *j-ádá
5-ten AGR 2- child 2 hen CON 7-one
“eleve, chicks”
- (h) dʒ-òm lí mǐ-ŋkòyó nǐ *í-ɓâ
5-ten AGR 4-sugar cane CON 7-two
“twelve sugar canes”

Two observations can be drawn from the above examples: firstly, all children performed better in class 7 & 8; and secondly, class 7 prefix is used as general morpheme for every gender while counting above ten (10). Most of these utterances were produced during the spontaneous speech production paradigm. These findings tend to suggest that generalisation of class 7 is more frequent than the others, although class 7 & 8 seems to be perfectly used by children. However, this raises the question of why did children perform so well in class 7 & 8 than any other gender? Before bringing an answer to the question, I would highlight that although overgeneralisation of noun class 7 is correct as far as number eleven (11) is concerned (for examples 11 eggs), numbers 12, 13 and 14 are not correct since the plural prefix for class 7 which is class 8 (bi-) is not used as illustrated in (8h). Two hypotheses can thus be put forward: On the one hand, it can be conjectured that class 7 prefix is overgeneralised to other noun classes, serving as initial / universal prefix. In this case, generalisations like those in (8) might be due to a lexicalised form of 'one', thus causing children to use it for all forms, rather than participating in agreements. On the other hand, it can be suggested that, as indicated in table 2, class 7 is used without its plural form class 8 (bi-) in Bāsàá while naming simple numbers, i.e., not counting objects for 11. However, this does not apply to class 8, especially as far as numbers like 12, 13, 14, etc. are concerned. Class 8 can only be used for the preceding numbers only while counting objects. Therefore, if children don't fail to mark the plural forms of the noun class concerned as initial problem, this could be due to lexicalisation, because they fail to make the difference between counting simply and counting objects. The idea of lexicalization seems more plausible in this case. Following Lehmann (2002), a sign is lexicalized if it is withdrawn from the analytic access and inventorized. For this author, the difference between grammaticalization and lexicalization lies on that between the holistic and analytic approaches. The analytic approach consists in considering each part of the object and the contribution that it makes to assemblage by its nature and function, to arrive at the mental representation of the whole, by applying rules of composition of the parts. However, the holistic approach is to directly grasp the whole without consideration of the parts. This can be done if the object itself is already familiar or if, by its contours or its contextual setting and function, it bears an essential analogy to some familiar object (Lehmann, 2002: 2). Based on the above, it appears that instances of generalisations presented earlier are not in line with this approach because participants could have used the correct noun class agreement if they adopted the analytical approach. Instead, they seem to get their explanation from the holistic approach. i.e., class 7 is considered holistically by analogy to its use when counting simply without naming objects and generalised to the rest of the noun class. As argued by Lehmann (2002), we tend to make the holistic approach when confronted with a familiar object.



It is highlighted that class 7 frequently used by Bàsàá in the following contexts: firstly, class 7 is frequently used in its lexicalized form when counting simply (naming numbers without bringing in agreement), because 7 is the class of the word “things” ; secondly class 7, especially *j-ádá* “one” is mostly used in its lexicalized form in metaphoric context. E.g., when a speaker does not want the entire audience (but one or two persons from that audience because of the context he already shares with them) to know what he is talking about, he uses *j-ádá* “one”. In this case, *j-ádá* “one” can be used even in *11 d̥-òm ni j-ádá*. Therefore, it can be postulated that overgeneralizations in (8) are due to the lexicalization of *j-ádá* “one” by analogy to its use in the various pragmatic contexts.

3.2.2.2. Generalisation of class 5

In addition to overgeneralisation errors, generalisations of class 5 were equally observed. The noun class prefix for “ten” from an independent phrase spread to a following independent phrase by phonological assimilation. Such construction show children attempts to apply the leftmost agreement in numerals Hyman, Jenks and Makasso (2013). However, since this rule is not applicable in this context as indicated earlier, such constructions result in ungrammaticalities as exemplified in (9).

(9) generalisation of class 5

Adult utterances	children’s utterances
(a) <i>d̥-òm lí má-ŋě ni d̥-ádá</i> 5-ten AGRM 6-eggs CON 5-one “eleven eggs”	(b) <i>d̥-òm lí má-ŋě ni d̥-ádá</i> 5-ten AGRM 6-egg CON 5-one
(c) <i>d̥-òm lí dí-lòβà ni h-ádá</i> 5-ten AGRM 12-peppers CON 19-one “eleven peppers”	(d) <i>d̥-òm lí dí-loβa ni *d̥-ádá</i> 5-ten AGRM 12-pepper CON 5-one
(e) <i>d̥-òm lí ɓ-ón ɓá kóp ni w-adá</i> 5-ten AGRM 2- child 2 hen CON 1-one “eleven chicks”	(f) <i>d̥-òm lí ɓ-ón ɓá kóp ni *d̥-ádá</i> 5-ten AGRM 2- child 2 hen CON 5-one

As indicated in (8), most children exhibited an overgeneralization of classes 7. Example (9) indicates another type of developmental error wherein; the agreement is rather generated by the numeral *d̥-òm* ‘ten’ with class 5 prefix [d̥-]; instead of the object being counted as indicated in (9b and 9d). Based on the debate over the c-domain of noun-class prefixes in Bantu languages, as raised by Demuth, Machobane and Moloi (2010), a perspective on this states that the noun-class prefix and the noun are generated in N, raising to Number P to check features ((Carstens, 1991 & 1993; Myers 1987) respectively from

their analyses of Kiswahili and Chishona). Another point of view held by Bresnan and Mchombo (1995); Visser (2010) from their study on Xhosa, and Machobane (2003) point out that noun-class are bound morphemes or functional categories in the head DP. However, errors described in (9) are not in line with any of the above suggestions. Instead, they lead to misinterpretations where “eleven X” is interpreted as “ten X and about ten X”. In this case, “*d̥z-õm lí ɓòt ni d̥z-ádá*” would mean “ten persons and about ten other persons i.e., 20 to 29 persons”, instead of “ten X and one X, etc. This interpretation is certainly due to incorrect use of class 5 agreement “*d̥z-*” “instead of the agreement of class of class 1 *w-*. instead of “*d̥z-õm lí ɓòt ni (mut) w-adá*” (ten persons and (one) person); it is rather interpreted as “*d̥z-õm lí ɓòt ni (d̥z-õm) d̥z-ádá*” (ten persons and (about ten) persons). Although such cases were not frequently encountered in child speech, they suggest children at this stage try to apply the leftmost hypothesis (Hyman, Jenks and Makasso, 2013). However, they are confronted with the fact that this hypothesis cannot be applied when the leftmost word is a numeral. Failure to understand this leads to overgeneralisations like those in (9).

3.2.2.3. Morphological agreement errors

The third type of error observed in this corpus are mainly phonological, and thus not considered as semantic errors, they include utterance like those described in (10).

(10) Morphemic repetitions

These are instances of errors characterized by the repetition of the agreement morpheme bound to the numeral, thus leading to morphological breakdowns.

Adult utterances	child utterances
(a) <i>d̥z-õm lí mí-ŋkòyó ni m-â</i> 5-ten Agr 4-sugar cane CON 4-two “twelve sugar canes”	(b) <i>d̥z-õm lí mí-ŋkòyó ni (*mí) m-â</i> 5- ten Arg 4-sugar cane CON 4 4-two “twelve sugar canes”
(c) <i>d̥z-õm lí má-ŋǽ ni m-â</i> 5- ten Agr 6-eggs CON 6-two “twelve eggs”	(d) <i>d̥z-õm lí má-ŋǽ ni má (*6)-â</i> 5-ten Agr 6-eggs CON 6 2-â “twelve eggs”

The above examples indicate that children can already use noun class agreement without any semantic error or any type of overgeneralization. Morphological agreement errors seem to be obtained by analogy to the agreement of the numbers above twelve, where it is possible to separate the numeral from the noun class agreement as in fourteen eggs ‘*d̥z-õm lí má-ŋǽ ni má-na*’. Because morphological agreement errors were hardly encountered, they are not given proper attention in this study.



4. Discussion

As indicated earlier in this study, this paper seeks to understand whether agreements in the Bàsàá numeral system are completely in place at the age of 5 as attested by Demuth (2003), Gxilshi et al. (2007), Demuth & Weschler (2012) and Kunene & Ahmed (2016), or they are still developing until the age of 14 as ascertained by Demuth (2026). The above results meet our predictions, precisely that not all morphological aspects are in place at the age of 5 as assumed by Demuth (2003), Guasti (2004), Gxilshi et al. (2007), Demuth et al. (2012), Kunene and Ahmed (2016), and Demuth (2026). However, the fact that all participants registered good performances in spontaneous speech and in Task 1 comforted our second prediction, and the idea of the various Bantu languages acquisition studies that noun class agreements are in place by the age of 5. As far as our third prediction is concerned, it was found that most of our participants registered a high rate of correctness in spontaneous speech production (81.14%) while their results in task 2 reveal low rate of correctness (47.77%). These findings, since not really in accordance with one another (spontaneous speech production of agreements in numerals from above ten and Task 2), cannot lead to the conclusion that noun class agreement are not in place at year ten.

Two main findings are discussed in this piece of work. Spontaneous speech productions of noun class agreement (singular / plural pairing) and Task 1 which examined the use of noun class agreements in Bàsàá children are in accordance with previous research on Bantu language acquisition that noun class system is in place at around age 3 to 5 and showing no semantic or other generalisations (Kunene, 1979; Clahsen, Aveledo & Roca, 2002; Demuth, 2003; Gxilshi et al., 2007; Demuth, Machobane and Moloi, 2009; Kunene & Ahmed, 2016;). Since all the children were able to use noun class agreements in their singular / plural pairing (both in spontaneous speech production and elicited production), these results are, to some extent, relevant in making predictions on the morphological similarities that exist between Bàsàá and the previously studied Bantu languages. Therefore, these results comfort the idea that some morphological features are acquired as from year 3 as suggested in previous studies. In line with what precedes, participants were expected to use the same noun class agreements in the Bàsàá numeral system in Task 2 and in spontaneous speech production. Participants' results in spontaneous speech productions indicate low rate of productiveness (N=327). However, participant produced 81.14% target agreement, implying that they can use noun class agreements in numerals from above ten. Also, it was observed that their rate of correctness increases with age, which suggest that the use of noun class agreement in numerals from above ten becomes consistent with age. As far as results of task 2 are concerned, participants registered a low rate of correctness (47.77%), while the rate of incorrectness

was lower (29%). These results would suggest that participants cannot consistently use noun class agreements in numerals from above ten. However, when compared with children's scores in spontaneous speech production, it appears that results of task 2 do not strongly concord with those of spontaneous speech production. Meanwhile, because children's errors rates in both spontaneous speech production and elicited production paradigm are lower than their rate of correctness (respectively 18.85% and 29% < 47.77 % and 81.14%), it can be concluded that children have the necessary cognitive knowledge to use noun class agreements in numerals from ten onward, although their productions are not error free.

Participants exhibited three kinds of errors all observed in spontaneous speech production and Task 2. Those errors include overgeneralizations of class 7, overgeneralisation of class 5 and morphological agreement errors. As observed, children's rate of correctness increases with age, while their rate of incorrectness decreases with age. This would indicate that children's capacities to use noun class agreement from above ten develop gradually and may not completely be in place at year 5. If this idea holds, it would suggest that children do not have the necessary cognitive capacities to rich adult-like grammar competence as far as counting objects from above ten is concerned. This findings are not in accordance with Bloom (1970), Brown (1973), Ambridge & Lieven (2011) and Clahsen and Jassen (2021) who argue that children's early multiword productions hardly deviate from their target language with respect to the order of head and complement (Guasti, 2002), thus comforting Karmiloff-Smith (1981), Kelly et al. (2014), Westergaard (2019) and Ravid (2019) who hold that some morphological aspects might not be in place until about sixteen. The above discussed ideas equally contrast with the idea that children can uncover the appropriate interpretation of noun class agreement morphemes. This raises the question of "why do children fail to use agreement in the Bāsàá numeral system whereas they are able to use them in singular and plural pairing?" The acquisition of agreement in the Bantu languages numeral system has not commended any attention till date, and no explanation has been provided as for why children fail to fairly use agreement in numeral system. However, there are some points worth raising.

Firstly, children find no difficulties in using noun class agreement in their singular / plural pairing because of the simplicity of the internal structure of the Agreement phrase. The above analyses have indicated that children can use the singular morpheme for each noun class. Data form the spontaneous speech recording show that it is easier for participant to use the plural noun class morpheme as soon as age 3 where they can identify it. Therefore, I can assume that children are able to easily develop noun class agreement because the only challenge in such constructions is associating the suitable agreement with the appropriate noun class as in (11).



(11) Agreement in numerals below ten

(a) ø- tòŋ (j-ádá)
7-palm nut 7-one
“One palm nut”

(b) bì-tòŋ
8- palm nut
“Palm nuts”

Ravid (2019) assumes that there are three critical factors that platform the acquisition of morphology: Inputs patters and frequency; language typology, and development itself. The following discussions do not deviate from Ravid’s assumption. Two arguments could be put forward to account for overgeneralization of noun class 7: the openness and the high frequency arguments. The former argument assumes that class 7 could be an open class. As discussed above, maybe the fact that class 7 is used in counting simply, i.e., naming simple numbers without counting objects, makes it an open class, hence favouring its overgeneralisation. The latter argument, the high frequency morphological form held by Clahsen et al (2002) who suggest that high frequency morphological forms such as noun class 7 in Bàsàá are reinforced in the inputs, resulting in strong patterns with relatively high level of resting activation compared to other noun classes, making them more accessible than other noun classes, and hence to appear in overgeneralisations (Vaskez, 2016: 7). This point of view leads to the suggestion that children at the overgeneralisation stage might be aware of the existence of other noun class agreement, but they fail to mark them while counting objects because of their low frequency appearance in the numeral context-related inputs. Overgeneralization of class 7 would thus be due to its lexicalization, which in turn is favoured by the frequency of the same class. It is therefore suggested that lower frequency noun classes may not be fully encoded, giving rise to ambiguity as for which class they belong to. This idea is in line with Tsonope (2009) who argues that children's acquisition of noun class agreement takes place with little overgeneralisation of noun class prefix. If this explanation holds, the above arguments would be suggestive of the prediction that children cannot perfectly use agreements in the Bàsàá numeral system by the age of five, in as much as the second type of errors illustrates ambiguities in children’s production of noun class agreements.

As far as overgeneralisations of class 5 errors are concerned, it is assumed that children at this stage may not have access to the licencing procedure that governs agreement generating within the number phrase. Recall that agreements generated with numerals are restricted to the same phrase regardless of the length of the agreement phrase as shown in (8). Unlike the nominal head constructions in Bàsàá where post nominal modifiers agree

with the head noun as assumed by Makasso (2010), Hyman, Jenks & Makasso (2013); Jenks, Makasso & Hyman (2017), Bassong, (2020) and Makasso (2023), numerals, especially those from above ten do not modify predicative nouns. In addition to that, complex syntactic structures like ellipses do not favour the acquisition of agreements in the Bàsàá numeral system. As highlighted earlier, using noun class in the numeral system from above ten is a very complex task that requires perfect knowledge of highly complex syntactic constructions. This leads to the conclusion that children generalise class 5 because they have not yet developed the capacity to comprehend ellipsis in the Bàsàá numeral system. Therefore, they tend to apply the leftmost rule as assumed by Jenks & Makasso (2013). However, it should equally be noted that children have difficulties in using agreements in numerals from above ten because this requires perfect knowledge of more complex grammatical constructions like ellipse. In other words, the acquisition of noun class agreements in Bàsàá from ten onward involves moving from knowledge that is generally lexicalized to more abstract representations like ellipse, and these abstract representations stabilize with age. Once children have access to ellipses and all the grammatical constraints that govern agreement in the numeral system from above ten, they can use them perfectly.

5. Conclusion

In this paper, I have attempted to investigate Bàsàá children acquisition of nominal agreement in general, and in the numeral system more precisely; and to provide a well-motivated account of why children would fail to perfectly mark agreement in the above-mentioned context. The data analysed in this piece of work are in accordance with the long-held assumption from other Bantu language acquisition studies that children can perfectly use agreement at the age of 3.0 (Demuth, 2003; Gxilshi et al., 2007; Demuth & Weschler, 2012; Kunene & Ahmed, 2016). As far as the acquisition of agreement in the numeral system is concerned, it was revealed that children could use noun class agreement in numeral from above ten at 81.14 % in spontaneous speech production and 47.77% in Task 2. However, children exhibited three types of errors: overgeneralisation of class 7, generalisations of class 5 and morphological agreement errors. In attempt to accounting for the errors described in children speech' utterances, morphological agreement errors were not given attention. It was assumed that children's overgeneralisations of class 7 are due to the lexicalisation of *j-ádá* "one" by analogy to its use in the various grammatical and pragmatic contexts. Following this view, it is assumed that children at the overgeneralisation stage may be aware of the existence of the other agreement morphemes but could not consistently use them because of their low frequency in daily inputs. As far as overgeneralisations of class 5 are concerned, they were assumed to be related



to children's attempt to apply the leftmost agreement rule in numerals. The above analyses lead to the conclusion that some aspects of grammar like agreement in the Bāsàá numeral system from above ten could not be completely in place at year 5 because of linguistic complexity (agreements in the Bāsàá numeral system involve highly complex syntactic structures like ellipses and split continuous agreement). Because Bāsàá seems to have a typologically highly complex numeral system, further studies should consider a Cross linguistic study of agreement development in many Bantu language numeral systems.

Data availability statement

The author confirms that the data supporting the findings of this study are available within the article.

Most parents didn't want their children's data to be published, especially information or data containing their names, voice, etc. Since this research did not receive any funding, participants did not receive any gift or payment from the researcher, causing most parents to be reluctant to the idea of making the data open. Therefore, the only data available are those included in this article. With respect to the data publication agreement the author had with the parents, a copy of the published paper will be sent to the leader of the community as a guarantee of non-violation of the abovementioned agreement.

The usage of GenAI: The author confirms that no generative AI was used while designing this paper.

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Appendix 1

List of Gloss

Agr: Agreement

Ø: zero morpheme

Cl: class / noun class

CON: Connective

1- 19: class 1, class 2... class 19

N: Numeral

N: Noun

NP: Noun Phrase

DP: Determiner Phrase

Appendix 2 Additional data**Other instances of Class 7 generalizations****Adult utterances**

- a) m-àṅgà d̥z-õm nì má-tân
6- tarot 5-ten CON 6- five
“Fifteen tarots”
- c) bì-sèl d̥z-õm nì bí-nâ
8-basket 5-ten CON 8-four
“fouteen baskets”
- e) di- libà d̥z- õm nì ø-6õ
12-key 5-ten CON 9-nine
“Nineteen keys “
- g) mà-ndáp má ø-sūglù d̥z-õm nì j-ádá
6-house SM 9-school 5-ten CON 9-one
“Eleven class rooms”
- i) ʃ-òbí d̥z-õm nì dí-â
12-fish 5-ten CON 12-three
“Thirteen fishes”
- k) bì-kàat d̥z-õm nì bí-tàn
8-book 5-ten CON 8-five
“Fifteen books”
- m) d̥z-õm lí bí-sáo nì bí-6â
5-ten sm 8-pen CON 8-two
“ Twelve pens”

child speech

- b) ma b̥àṅgà d̥z-õm nì *í- tân
cl6-tarot 6-ten CON 7-five
- d) bì-sèl d̥z-õm nì * í-nâ
8-basket 5-ten CON 7-fours
- f) di-libà d̥z-õm nì ø-6õ
12-key 5-ten CON 9-nine
- h) mà-ndáp má ø-sūglù d̥z-õm nì *j-ádá
6-house SM 9-school 5-ten CON 7-one
- j) ʃ-òbí d̥z-õm nì *í-â
12-fish 5-ten CON 7-three
- l) bì-kàat d̥z-õm nì *í-tân
8-book 5-ten CON 7-five
- n) d̥z-õm lí bí-sáo nì *í-6â
5-ten 5- 8-pen con 7-two

Instances of the generalization of class 5

- a) d̥z-õm lí dí-pù má nì hì-ádá
5-ten SM 12-orange CON 9-one
“Eleven oranges”
- b) d̥z-õm lí mí-nsòwá nì w-ádá
5-ten SM 6-ripe plantain CON 3-one
“Eleven ripe plantains
- b) d̥z-õm lí dí-pù má nì *d̥z-ádá
5-ten SM 12-orange CON 5-one
- d) d̥z-õm lí mí-nsòwá nì *d̥z-ádá
5-ten SM 6-ripe plantain CON 5-one



- | | |
|---|--|
| d) ɖʒ-õm lí má-ndáp nì y-àdá
5-ten SM 6-house CON 9-one
“Eleven houses” | e) ɖʒ-õm lí má-ndáp nì *ɖʒ-àdá
5-ten SM 6-house CON 5-one |
| f) mà-tós ɖʒ-õm nì má-nâ
6-small fish 5- ten CON 6-four
“Fourteen small fishes” | g) mà-tós ɖʒ-õm nì *lí-nâ
6-small fish 5-ten CON 5-four |
| h). bì-bòt ɖʒ-õm nì bí-tân
8-bag 5-ten CON 7-five
“ Fifteen bags” | i) bì-bòt ɖʒ-õm nì *lí-tân
8-bag 5-ten CON 5-five |
| j) dì-lòßà ɖʒ-õm nì dí-â
12-pepper 5-ten CON 12-two
“Twelve peppers” | k) dì-lòßà ɖʒ-õm nì *lí-â
12-pepper 5-ten CON 5-two |