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NOUN-NOUN COMPOUNDS IN DAGAARE

Felicia Babakyirenaa
Clement Kwamina Insaidoo Appah

Abstract
This paper presents a Construction Morphology account of Noun-Noun compounds in Dagaare, a Mabia language spoken in parts of northern Ghana, Burkina Faso and the Ivory Coast. Based on primary and secondary data drawn from a variety of sources, the formal structure of Dagaare noun-noun compounds is discussed, showing that Dagaare noun-noun compounds can be made up of simplex or complex nouns, including derived nouns and other compound nouns. Turning to the implicit relations holding between the constituents of noun-noun compounds, it is shown that the underpinning semantic relations may include PART-OF, MEANT-FOR, LOCATION-OF, INGREDIENT-FOR, and MADE-OF/FROM. The study also classifies compounds based on the presence and position of a head element within the compound, yielding both right-headed and left-headed endocentric noun-noun compounds as well as exocentric compounds. It is shown, however, that exocentric compounds are quite few in the dataset used for the present study, and possibly the whole language, and they are normally interpreted metaphorically since they tend to be non-compositional.

Keywords: Dagaare, endocentric/exocentric compound, Construction Morphology, Mabia

1. Introduction

The purpose of this paper is to discuss the formal and semantic properties of Dagaare Noun-Noun compounds, exemplified in Table 1, and to present a theoretical modelling of their properties, using formalism from Construction Morphology, a word-based theory of linguistic morphology that builds on insights from Constructions Grammar (Booij 2010b).

Table 1: Examples of Dagaare Noun-Noun compounds

	Base 1	**Gloss**	**Base 2**	**Gloss**	**Compound**	**Gloss**
1	**bìé**	child	**dɔ́ɔ́**	man	**bì-dɔ́ɔ́**	son
2	**nóɔ̀**	fowl	**nɛ́nè**	meat	**nɔ́-nɛ́nè**	chicken
3	**nímírì**	eye	**gánè**	skin	**nímí-gánè**	eyelid
4	**bɛ́ngɛ̀**	beans	**zɔ́ǹg**	flour	**bɛ́n-zɔ́ǹg**	beans flour
5	**bóɔ́**	goat	**dáá**	male	**bò-dáá**	male goat

Compounding has been extensively researched in many languages. However, for the Mabia language Dagaare, compounding is relatively under-researched. We find compounds mentioned and exemplified in various studies, including grammatical sketches (Bodomo 1997; Ali et al. 2021) and graduate dissertations/theses (e.g., Mwinlaaru 2017; Angsongna 2023). However, aside from Babakyirenaa (2024) which is solely dedicated to the discussion of compounding in Dagaare, the appearance of compounding in the literature on Dagaare tends to be incidental. For example, while the word compound features quite prominently in his PhD thesis, Angsongna (2023) was mainly interested in compound words as the domain for the application of phonological rules like downstep, vowel harmony etc. Nevertheless, he provides very useful information. For example, Angsongna (2023) makes an important observation that Dagaare compounds are built out of roots, even though it is unclear whether that is to be interpreted as saying that the constituents of Dagaare compounds may not be inflected words. Focusing on tongue root harmony in Dagaare compounds, he observes that two roots in a compound may be harmonic, where the roots agree in tongue root value, or disharmonic, where the roots have distinct tongue root values. He argues ultimately that any observed harmony in compounds is accidental "because there is no alternation in tongue root values in the roots that form the compounds" (Angsongna 2023: 143). However, this is not a unique feature of Dagaare as disharmony in compounds is reported in other Mabia languages or their dialects, including, Buli, Dagbani, and kusaal (cf. Akanlig-Pare 1994, 2002; Dundaa 2013; Abdul Moomin 2015; Kuubezelle & Akanlig-Pare 2017; Abubakari & Appah 2024).

Clearly, there is some specific work on Dagaare compounds as well as others that explore issues for which the properties of compounds become incidental. The purpose of this paper is to contribute to the study of compounding in Dagaare. We discuss and present a Construction Morphology account of the form and semantic relations among the constituents of Dagaare noun-noun compounds, based on both primary and secondary data drawn from a variety of sources. Primary data was elicited from ten native Dagaare consultants who were selected randomly. They narrated folktales which were recorded and transcribed. The compounds collected from these stories were checked for accuracy with the consultants after transcription. Some data were obtained from the first author's native speaker's intuition. Secondary data was retrieved from Ali, et al. (2021)'s Dictionary and Grammatical Sketch of Dagaare, and other Dagaare books, including a book titled YE Gorogoro Yaa: Dagaare Folktales in Parallel Texts.

Our discussion of the structure and semantic properties of Dagaare noun-noun compounds shows that the constituents are either simplex or complex nouns, including derived nouns and compound words and that they tend to be binary-branching. The various semantic relations that occur among the compound constituents include LOCATION-OF, MEANT-FOR, USED-FOR, PART-OF, and INGREDIENT-OF. We observe that exocentric compounds, those whose meanings do not emanate wholly from their constituents, must be interpreted figuratively using metaphor or metonymy. However, exocentric noun-noun compounds are not common in the dataset for this study and, possibly, the whole Dagaare language.

In the rest of the paper, we briefly discuss some major cross-linguistic issues in the study of compounding in Section 2. The background of the language is presented in Section 3, and the framework of Construction Morphology is presented in Section 4. The Dagaare noun-noun compounds are discussed in Section 5, and the paper concluded in Section 6.

2. Crosslinguistic issues in compounding

Compounding, the process by which two or more lexemes are combined to form new lexemes, is a major word formation process across languages. It is a very productive word formation process and a prominent means of adding new words to the lexicon of various languages (Downing 1977; Scalise 1992; Aikhenvald 2007; Štekauer et al. 2012; Appah 2016b; Lawer 2017; Agbadah 2018; Appah 2019b; Lawer & Appah 2020; Nee-Okpey 2020; Owusu-Ansah & Appah 2024; Abubakari & Appah 2024; Abunya et al. 2025; Appah et al. 2026). In the study of compounding, many issues of cross-linguistic interest come up, including the definition of compounds, how to distinguish compounds from other construction types like phrases and derived words, the classification of compounds, and headedness in compounds which ultimately is about which constituent determines the meaning and other grammatical properties of the compound. These issues have been widely researched. However, they remain mostly unresolved due to cross-linguistic variations (cf. Appah 2013a, 2016a, 2016c, 2016b, 2017b, 2017a, 2019a; Bauer 2010; Booij 2010a; Scalise 1992; Scalise & Fábregas 2010; Scalise & Vogel 2010; Scalise & Bisetto 2009; Bauer 2017). We briefly discuss these issues below.

There are many definitions of a compound. For example, Harley (2009: 130) defines a compound as a "word-sized unit that contains two or more roots", while Katamba and Stonham (2006: 55) define it as a word that "contains at least two bases which are both words, or at any rate, root morphemes". These definitions show that a compound can have two or more constituents. However, the cross-linguistic nature of compounding and the wide variation in the structure of languages make it almost impossible to give a definition of compounding that works for all languages, especially regarding the nature of compound constituents. Notwithstanding the challenges, however, it remains a fact that the two or more items that are combined in compounding to form new words could be roots, stems, or even compounds, and they are expected to be lexemes at any rate (Booij 2012b; Katamba & Stonham 2006; Spencer 2011).

The meaning of a compound is determined by various factors which include the presence of a head constituent in the compound. The head plays a key role in determining several properties of the compound such as marking number in the compound, indicating the gender of the compound in Indo-European languages like Dutch, German, Greek and Italian as well as the word class of the compound. Thus, the head of the compound is described as the most important member because it assigns to the compound its relevant semantic, syntactic, and morphological properties (Dressler 2006; Booij 2007; Katamba & Stonham 2006). For example, in the compound **blackboard**, '**board'** is the head because it carries the core meaning of the compound. In the late 1970s and early 1980's, it was assumed that the head of the compound occurred consistently on the right, leading to the positing of the Right-hand Head Rule by Williams (1981). However, it has been shown that, while right-headedness seems to be the dominant pattern especially in Germanic languages like English, it is by no means the only pattern cross-linguistically. Most Ghanaian languages such as Dagaare, Akan, Ewe, and Ga have recorded left-headed compounds and even dual headed compounds.

Compounds may be classified in different ways. First, as noted above, they may be classified based on the presence of a head constituent in the compound or absence thereof, yielding a distinction between headed (endocentric) compounds and non-

headed (exocentric) compounds respectively (Bloomfield 1933; Bauer 2008; Appah 2017a, 2019b; Appah & Ansah 2020; Appah et al. 2017; Scalise & Guevara 2006). Secondly, they may be classified based on the position of the head constituent, yielding left-headed compounds, right-headed compounds or dual-headed compounds which are sometimes referred to as appositive compounds (Haspelmath & Sims 2010). Thirdly, compounds may be classified based on the grammatical relation between the compound constituents, yielding three main types of compounds – attributive, subordinative, and coordinative (Scalise & Bisetto 2009). Fourthly, compounds may be classified based on the output syntactic category of the whole compound, yielding nominal compounds, verbal compounds, adjectival compounds, etc. (Appah 2015). Finally, compounds may be classified by the syntactic category of the constituents, yielding compound types like noun-noun, noun-adjective, noun-verb, verb-noun, and verb-verb (Dressler 2006; Scalise & Bisetto 2009; Appah 2013a, 2013b, 2015, 2016a, 2016b, 2017b; Lawer 2017; Agbadah 2018; Lawer & Appah 2020; Nee-Okpey 2020). Indeed, the last approach has been one of the most common because it is quite straightforward, given that every lexeme must belong to a word class, and it allows for insightful and productive study of compounding. We find this approach adopted in the study of compounds in various languages, including Akan (Dolphyne 1988; Abakah 2006; Appah 2013a, 2015, 2017b, 2016b, 2016a, 2019a; Appah, et al. 2017; Appah, et al. 2026), Ewe (Agbadah 2018; Appah et al. 2025), Ga (Nee-Okpey 2020), and Dangme (Lawer 2017; Caesar 2018; Lawer & Appah 2020).

This paper discusses Dagaare Noun-Noun compounds, the commonest and most productive class of compounds in the language and cross-linguistically. We discuss the form and semantic relations between the constituents as well as the presence of a head constituent and the distinction between endocentric and exocentric compounds.

3. Background of Dagaare

Dagaare is one of the major languages spoken in the North-Western part of Ghana, some parts of Burkina Faso and the Ivory Coast. It is a Mabia language of the Niger-Congo family with four dialects – Southern dialect, Northern dialect, Central dialect, and the Western dialect. The data for this paper comes from the Central Dagaare dialect. The language is the main medium of communication in the Upper West region of Ghana. It is taught in schools and used in radio broadcasting, on stations such as Jirapa FM, Progress FM in Wa, Lawra FM in Lawra and Home Radio in Wa.

The Central Dagaare dialect has twenty-five (25) consonants and two glides according to Bodomo (1997). However, Angsongna and Akinbo (2022) reports twenty-three (23) consonants and two (2) glides for the Central dialect. The number of consonants may vary in the other dialects of Dagaare. The consonants that end words in Dagaare are the velar nasal /ŋ/ and the coronals [r, l], according to Angsongna (2023: 59). Regarding vowels, Bodomo (1997) notes that Dagaare has nine oral vowels with hardly any dialectal variations (i, ɪ, e, o, ɛ, u, a, ʊ, ɔ).

Dagaare is a tonal language just like many other Ghanaian and West African languages where tone variation causes meaning changes within words and across words in syntactic constructions. According to Anttila and Bodomo (2022), Dagaare is a two-tone language, but there is also a downstepped high tone in the language which occurs as the second of two contiguous high tones with a relatively lower pitch than the first. Downstep is usually marked with the exclamation mark (!) as in **sóɔ̀ŋ-!áá** ‘rabbit-SG’ and **bóm-!á** ‘thing-PL (Angsongna 2023: 38, 207).

In terms of the word order in syntactic constructions, Dagaare is an SVO language where the subject is followed by a verb and a direct object. Bodomo (1997) observes that, there are other word order patterns, but SVO is the most common one.

To fully appreciate the structure of Dagaare N-N compounds, we need to understand the nature of Dagaare nominal morphology. Dagaare has a functional noun class system (Bodomo 1997; Bodomo & Marfo 2002; Ali, et al. 2021). In the brief grammatical sketch that opens their Dictionary of Dagaare, Ali, et al. (2021: 10) observe that "Dagaare has an intricate system of number suffixes that divide its nouns into about ten classes." This suggests that one can predict the singular and plural forms of nouns, and the presence of suffixes such as **-daa**, **-saraa**, and **nyangaa** shows that the referents are living things.[1] However, the language lacks case marking so it does not distinguish between feminine and masculine forms of words overtly by their morphology (Bodomo 1997). Thus, it should be possible to determine the nature of the compound constituents, the classes they belong to and the properties that characterise the class. This then will make it possible to determine which properties of the constituent nouns find expression in the compounds.

4. Construction Morphology

For this study, we use formalisms from Construction Morphology (henceforth, CxM), a word-based theory of linguistic morphology that builds on insights from Construction Grammar (Michaelis & Lambrecht 1996; Goldberg 2006) and is meant to provide a framework within which the close connection between morphology, syntax, and the lexicon can be accounted for seamlessly, capturing the differences and commonalities of word-level and phrase-level constructs (Booij 2010a, 2010b, 2012a).

The foundational tenets of CxM are a theory of the notion *construction*, a theory of *word structure* and a theory of the *lexicon*. The minimal unit of analysis in CxM is the construction, characterised as a pairing of form and meaning, which is formed by means of a schema that abstracts over sets of existing complex words and also serve as a pattern for forming other constructs of comparable levels of complexity (Booij 2010b). In (1) is a schema which generalises over all right-headed compounds.

(1) $\langle\ [[a]_{Xi}\ [b]_{Yj}]_{Yk} \leftrightarrow [SEM_j \text{ with relation R to } SEM_i]_k\ \rangle$ (Booij 2010b)

The upper-case variables X and Y stand for the major lexical categories (N, V & A). The lower-case variable *a* and *b* stand for arbitrary strings of sound segments, while lowercase *i*, *j* and *k* are indexes for the matching properties of the compound and its constituents. The double arrows ↔ links the two parts of the construction, the formal pole to the left and the semantic pole on the right.

Within CxM, the lexicon is not seen as a mere collection of irregular or idiosyncratic entries. Rather, it is considered a highly organised component of grammar resembling a map, with listed items related through a hierarchical structure, rather than a simple list (Michaelis & Lambrecht 1996). The items in the hierarchically structured lexicon share two main types of relationships – "instantiation" and "part-of." The instantiation relation exists between a schema and the specific word formed by it, while the part-of relation links a complex word to its individual constituents (Appah 2013b).

[1] The relevant facts about Dagaare noun classes are presented in Babakyirenaa (2024: 130-134). However, we do not comment further on it because in this paper, we do not address the question of the nature of number marking in Dagaare compounds for which the relevant facts would have been needed.

A more specific schema may instantiate and inherit features from a more abstract dominating one, provided there is no conflict with its distinct properties. Appah (2015: 363) illustrates these relationships with the Akan compound **àsòm̀dwòèɛ́kúó** 'peace and security council' in (2). This compound instantiates the Akan Noun-Noun schema, and its constituents **àsòm̀dwòèɛ́** 'peace' and **èkúó** 'organization' have a part-of relationship with the compound.

(2) ⟨[[a]$_{Xi}$ [b]$_{Y\ j}$]$_{Nk}$ ↔ [SEM$_j$ with relation R to SEM$_i$]$_k$ ⟩

⟨[[N]$_i$ [N]$_j$]$_{Nk}$ ↔ [SEM$_j$ meant for SEM$_i$]$_k$⟩

[[**àsòm̀dwòèɛ́**]$_{Ni}$ [**kúó**]$_{Nj}$]$_{Nk}$ 'The Peace and Security Council (UN)'

[**àsòm̀dwòèɛ́**] 'peace' [**èkúó**] 'organization'

The hierarchical structure of the lexicon highlights how words are interconnected. As Appah (2013b: 95) notes, complex words are linked to other words, forming a network rather than existing in isolation. For example, **àsòm̀dwòèɛ́** 'peace' connects to related words like **wíásé àsòm̀dwòèɛ́** 'world peace', and **èkúó** 'organization' connects to terms like **èkúó ḿbá** 'group members' (Appah & Amfo 2011; Amfo & Appah 2019). This network illustrates the lexicon's hierarchical structure, and the interrelatedness of listemes.

Finally, it is generally accepted that "[c]onstructions are not expected to be compositional; they only must be predictable. Thus, constructions may have properties that do not emanate from their constituents" (Appah et al. 2023: 55). However, both the compositional and the extra-compositional properties of constructions can be accounted for straightforwardly in CxM without the need to posit abstract categories to serve as the source of observed non-compositional properties. Therefore, the properties of Dagaare Noun-Noun compounds can be accounted for fully using the CxM framework, as properties of the compounds that do not emanate from their constituents may be attributed to the compounding constructions per se as constructional properties. This is possible because of the view that constructions can have holistic properties, those properties that do not emanate from their constituents which would otherwise be difficult, if not impossible, to account for (cf. Jackendoff 1997; Booij 2010b; Appah 2015, 2017a, 2017b; Appah & Broohm 2023).

5. Dagaare Noun-Noun compound formation

Noun-Noun (Henceforth, N-N) compounds are common in most languages where compounding is a productive word formation process, as indicated above, and Dagaare is no exception. Indeed, N-N compounding is acknowledged as the most productive type in the language (Ali, et al. 2021; Angsongna 2023; Babakyirenaa 2024). We discuss the structure of Dagaare N-N compounds in section 5.1, noting that they are usually made up of two constituents which could be simplex or complex, either derived words or compounds. In section 5.2, we group and discuss the compounds based on the presence of a head constituents, yielding endocentric N-N compounds and exocentric N-N compounds which are not common in Dagaare, as noted above. We then turn to the semantics of the compounds in section 5.3, dealing with various groups that share common semantic relations among their constituents, PART-OF, INGREDIENT-FOR, etc.

5.1 The structure of Dagaare N-N compounds

Two questions need addressing in relation to the structure of Dagaare compounds. They are the orthographic question and the morphological question. The orthographic questions may be framed this way: How are Dagaare compounds written? This question is not relevant to just Dagaare. It has been asked in the general literature on compounding for a long time, and the answer has been that compounds may be written in one of three ways. First, the constituents are written together as "one word", one unbroken unit (e.g., *wordformation*). Second, they may be written as a hyphenated unit (e.g., *word-formation*). Third, they may be written as two separate forms that are juxtaposed (e.g., *word formation*). Thus, we see that a compound with the same meaning may be written in all three different ways. Katamba and Stonham (2006: 306-307) observe that this is the case even among linguists, referring to the titles of articles and books written by prominent morphologists, including: *Some Problems of Wordformation* (Rohrer 1974), *Word formation in Generative Grammar* (Aronoff 1976), *English Word-formation* (Bauer 1983) and *Word-formation in English* (Plag 2003).

There seems not to be a generally accepted orthographic convention for Dagaare compounds. Thus, given the compound constituents **zû** 'head' and **pílí** 'mat', the resulting compound could be written as **zú pílí**, **zú-pílí** or **zúpílí**, although Bodomo (1997) argues that **zúpílí** is preferred.

The morphological question may be framed as follows: What is the morphological structure of the constituents of Dagaare N-N Compounds? It a generally accepted fact that the constituents of compounds can be simple or complex, or varied combinations of simple and complex constituents. The simple constituents tend to be roots, defined as "the irreducible core of the word, with absolutely nothing else attached to it" (Katamba & Stonham 2006: 42). The complex constituents can be derived words, as in **truckdriver** [[**truck**]$_N$ [[**driv**]$_V$ **-er**]$_N$]$_N$, where the second constituent is a derived word (a noun, **driver**, derived from a verb, **drive**), or compounds, as in **investigative committee report** [[[**investigat**]$_V$ **-ive**]$_A$ [**committee**]$_N$]$_N$ [**report**]$_N$]$_N$. This compound refers to a **report**, and has two constituents (**investigative committee** and **report**), the first of which is a compound that has an Adjective-Noun structure (**investigative committee**), and the adjective constituent itself is also derived from a verb ([[**investigat**]$_V$**-ive**]$_A$). Thus, this compound exemplifies the situation where the constituents of a compound are either derived words or compounds.

Table 2: Dagaare N-N compounds with simplex bases

	Base 1	Gloss	Base 2	Gloss	Compound	Gloss
1	**nóɔ̀**	fowl	**dáá**	male	**nɔ́-dáá**	cockerel
2	**bìé**	child	**dɔ́ɔ́**	man	**bì-dɔ́ɔ́**	son
3	**bɛ́ngɛ̀**	beans	**dá!á**	stick	**bɛ́n-dá!á**	beanstalk
4	**báá**	dog	**zɛ̀ɛ́**	blood	**bà-zɛ̀ɛ́**	blood of a dog
5	**bɛ́ngɛ̀**	beans	**zɔ́ǹg**	flour	**bɛ́n-zɔ́ǹg**	beans flour
6	**bóɔ́**	goat	**dáá**	male	**bò-dáá**	male goat
7	**bónè**	thing	**nyáà**	chest	**bón-nyáà**	chest of something
8	**dɑ́ɑ̀**	drink	**dìé**	room	**dɑ́ɑ̀-dìé**	pito house
9	**dɑ́ɑ̀**	drink	**dógè**	pot	**dɑ́ɑ́-dógè**	pito pot
10	**dàá**	tree	**pɛ́gɛ́**	peels	**dà-pɛ́gɛ́**	bark of tree
11	**nɑ̀ɑ́**	chief	**bíé**	child	**nà-bíé**	a prince

	Base 1	Gloss	Base 2	Gloss	Compound	Gloss
12	**nóɔ̀**	fowl	**nɛ́nè**	meat	**nɔ́-nɛ́nè**	chicken
13	**nû**	hand	**pùòrí**	back	**nú- pùòrí**	back of hand
14	**nímírì**	eye	**láá**	bowl	**nímí-láá**	eye socket
15	**nímírì**	eye	**bírì**	seed	**nímí-bírì**	pupil of eye
16	**nímírì**	eye	**gánè**	skin	**nímí-gánè**	eyelid
17	**nímírì**	eye	**kɔ́ɔ̀lóng**	hair	**nímí-kɔ́ɔ̀lóng**	eyelash
18	**sàkúúrì**	school	**bìé**	child	**sàkú-bìé**	student
19	**zû**	head	**pílí**	mat	**zú-pílí**	hat

As expected, the constituents of Dagaare N-N compounds can be simplex. This is the case with the constituents of the compounds in Table 2 like **nɔ́-dáá** 'cockerel' (row 1) which are simplex nouns. Some lefthand constituents of compounds may lose a syllable or a vowel. We reserve a detailed account of this for future work. However, it is worth pointing out that in example 1 of Table 2, the second syllable of the first constituent gets lost, and the vowel in the remainder changes to match the ATR status of the closest vowel in the righthand constituent.

Dagaare compounds can also have derived complex nouns as constituents, as exemplified by the compounds in Table 3 where at least one of the constituents is a derived complex noun, including **líbí-dírè** 'one who spends money', (lit. 'money eater') in which the righthand constituent is a deverbal noun.

Table 3: Dagaare compound with derived nouns as constituents

	Base 1	Gloss	Base 2	Gloss	Compound	Gloss
1	**bóndìrîì**	food	**sɑ́ɑ́nà**	waster	**bóndì-sɑ́ɑ́nà**	one who wastes food
2	**líbí**	money	**dírè**	spender	**líbí-dírè**	one who spends money
3	**nímírì**	eye	**yúòrò**	opener	**nímí-yúòrò**	one who is smart
4	**kɔ̀ɔ̀**	water	**sɑ̀ɑ̀**	waste	**kɔ̀n-sɑ́ɑ́nà**	one who wastes water
5	**lìbírì**	money	**bɔ́**	look	**líbí-bòɔ́rò**	one who looks for money
6	**bóndìrîì**	food	**dì**	eat	**bóndí-dírè**	one who eats food
7	**pɔ́gé**	woman	**dê**	take	**pɔ̀g-dérè**	one who gets married
8	**sánè**	debt	**yɔ́ɔ́rɔ̀**	payer	**sán-yɔ́ɔ́rɔ̀**	one who pays debts
9	**kɔ̀ɔ̀**	water	**dúrò**	swimmer	**kɔ̀ɔ̀-dúrò**	one who swims
10	**dɑ́ɑ̀**	drink	**nyúúrò**	one who drinks	**dɑ́ɑ́-nyúúrò**	an alcoholic
11	**pɔ́gé**	woman	**dérɛ́**	one who takes	**pɔ̀gè-dérɛ́**	bride-groom
12	**pɔ́gé**	woman	**dɔ̀gèrɔ́**	one who has given birth	**pɔ̀gè-dɔ̀gèrɔ́**	woman who has just given birth

Finally, in Table 4, we find Dagaare N-N compounds in which at least one of the constituents is itself a compound. For example, the compound **bóndì-zíé** 'restaurant' is formed from **bóndìrîì** 'food' which is a compound and the noun **zíé** 'place' which is a simple noun.

Table 4: Dagaare compounds with compounds as constituents

	Base 1	Gloss	Base 2	Gloss	Compound	Gloss
1	**bóndìrîì**	food	**zíé**	place	**bóndì-zíé**	restaurant
2	**kɔ̃ɔ̃́-dú**	water-swim	**zíé**	place	**kɔ̃ndú-zíé**	swimming pool
3	**sébírì**	bee	**bògí**	hole	**sé-bògí**	beehive
4	**bóndìrîì**	food	**sɑ̃́ɑ̃́nà**	waster	**bóndì-sɑ̃́ɑ̃́nà**	one who wastes food
5	**bóndìrîì-mààl**	food-cook	**zíé**	place	**bóndímáál-zíé**	cooking place/kitchen
6	**zû-kyɛ́**	head-cut	**zíé**	place	**zúkyɛ̀zíé**	barbering salon
7	**zû-mààl**	hair-make	**zíé**	place	**zúmààlzíé**	hair making salon
8	**dɑ̃ɑ̃̀-dóg**	pito-cook	**zíé**	place	**dɑ̃ɑ̃́dógzíé**	where pito is prepared
9	**bónè-sɛ̀**	thing-sew	**zíé**	place	**bónsɛ̀ zíé**	where clothes are sewn
10	**nɔ́ɔ́tìɛ́-mààl**	footwear-make	**zíé**	place	**nɔ́ɔ́tìmààlzíé**	place where footwears are made

5.2 Headedness in Dagaare N-N compounds

As mentioned above, the head of a compound is the constituent that determines the properties of the compound. In the literature, a distinction is made between a semantic head and a formal head (Scalise & Guevara 2006; Guevara & Scalise 2009; Scalise & Fábregas 2010; Andreou 2014), which may further be divided into a syntactic head and a morphological head (Dressler 2006). The semantic head shares its lexical conceptual information with the compound. That is why, according to Scalise and Guevara (2006), the compound will be a hyponym of the semantic head. This way, the set of elements denoted by the whole compound will be a subset of the class of elements denoted by the semantic head. The compound **doorknob**, for example, is a type of *knob* which is, the head. The formal head, on the other hand, refers to the constituent which shares its formal features like (e.g., word class, subcategorisation frame, etc.) with the compound, ensuring that the compound will have the same distribution as the formal head. For this reason, where the whole compound **doorknob** can occur, the head constituent *knob* can occur alone "without a drastic change in the meaning of the construction" (Appah 2017a: 144-145). The non-head constituent, however, cannot do so (cf. Scalise & Guevara 2006),.

Clearly, the head of a compound plays a key role in determining its meaning and grammatical properties. It is so important that its presence or absence becomes the basis for classifying compounds. Thus, compounds can be endocentric when there is a head present in the compound or exocentric when there is no head in the compound, so that the compound is not a hyponym of either constituent, as described above. Endocentric compounds can be either left-headed, where the head constituent occurs on the left or the right-headed, where the head constituent occurs on the right. The literature shows that right-headedness is the dominant pattern cross-linguistically to the extent that it is even suggested to be language universal (Williams 1981). However, as noted above, it has been proven not to be the case, as there are languages with predominantly left-headed compounds, like the Romance languages (Scalise 1984, 1992; Scalise & Fábregas 2010), as well as languages with almost even distribution of left-headedness and right-headedness like the Cameroonian language Nizaa (Pepper 2010).

Dagaare has both right-headed and left-headed endocentric compounds, as shown below in Tables 5 and 6 respectively.

Table 5: Right-headed endocentric N-N compounds in Dagaare

	Base 1	Gloss	Base 2	Gloss	Compound	Gloss
1	**báá**	dog	**zɛ̃́ɛ̃́**	blood	**bà-zɛ̃́ɛ̃́**	blood of a dog
2	**bɛ́ngɛ̀**	beans	**zɔ́ǹg**	flour	**bɛ́n-zɔ́ǹg**	beans flour
3	**bóndìrîì**	food	**zíé**	place	**bóndì-zíé**	restaurant
4	**bónè**	thing	**nyáà**	chest	**bón-nyáà**	chest of something
5	**dɑ̃́ɑ̃̀**	drink	**dìé**	room	**dɑ̃́ɑ̃̀-dìé**	pito house
6	**dɑ̃́ɑ̃̀**	drink	**dógè**	pot	**dɑ̃́ɑ̃̀-dógè**	pito pot
7	**dàá**	tree	**pɛ́gé**	peels	**dà-pɛ́gé**	bark of tree
8	**dúórùng**	urine	**láá**	bowl	**dúórùng-láá**	a chamberpot
9	**góɔ̀**	thorn	**tèɛ́**	tree	**gɔ̂-tèɛ́**	a tree with thorns
10	**màléfà**	gun	**bírì**	seed	**màléfà-bírì**	bullet
11	**nɑ̃́ɑ̃́**	chief	**bíé**	child	**nà-bíé**	a prince
12	**nímírì**	eye	**láá**	bowl	**nímí-láá**	eye socket
13	**nóɔ̀**	fowl	**nɛ́nè**	meat	**nɔ̀-nɛ́nè**	chicken
14	**nû**	hand	**póɔ́**	in	**nú-póɔ́**	palm
15	**ngméǹ**	god	**dìé**	house	**ngmén-dìé**	church
16	**tèɛ̀né**	chin	**kɔ́ɔ́lóng**	hair	**tɛ̃̀ɛ̀-kɔ́ɔ́lóng**	beard
17	**nángè**	poverty	**dááná**	person	**náng-dááná**	poor person
18	**sàkúúrì**	school	**bìé**	child	**sàkú-bìé**	student
19	**kálì**	dawadawa	**bírì**	seed	**kál-bírì**	dawadawa seed
20	**kámááné**	corn	**bírì**	seed	**kámáá-bírì**	corn seed
21	**kámááné**	corn	**dàá**	stick/stalk	**kámáá-dàá**	corn stalk
22	**kɔ̃̀ɔ̃́**	water	**dógè**	pot	**kɔ̃n-dógè**	water pot

We realise from Table 5 above that all the righthand constituents (Base 2) are the heads of the compounds because each compound is a hyponym of the righthand constituent. For example, **bà-zɛ̃́ɛ̃́** 'dog blood' is a type of **zɛ̃́ɛ̃́** 'blood' and not a type of **bà** 'dog'. In the same way, **bɛ́n-zɔ́ǹg** 'beans flour' is a type of **zɔ́ǹg** 'flour' and not a type of **bɛ́n** 'bean'. Thus, consistent with observed crosslinguistic patterns, the right-headed N-N compound is the commonest type, as noted above. The CxM representation of their properties is shown in (3), exemplified by the compound **bɛ́n-zɔ́ǹg** 'beans flour', a type of '**zɔ́ǹg** 'flour' with the lefthand constituent providing what kind of flour – **bɛ́n** 'beans'.

(3) $<[[\textbf{bɛ́ng}]_{Ni}\ [\textbf{zɔ́ǹg}]_{Nj}]_{NK} \leftrightarrow [SEM_j \text{ that is made from } SEM_i]_k>$

béng 'beans' **zɔ́ǹg** 'flour' > 'beans flour'

Table 6 contains examples of left-headed endocentric N-N compounds. However, this type of compounds is less common in the language than the right-headed type.

Table 6: Left-headed N-N endocentric compounds in Dagaare

	Base 1	Gloss	Base 2	Gloss	Compound	Gloss
1	**bìé**	offspring	**dɔ́ɔ́**	man	**bì-dɔ́ɔ́**	son
2	**bóɔ́**	goat	**dáá**	male	**bò-dáá**	male goat
3	**nóɔ̀**	fowl	**dáá**	male	**nɔ̀-dáá**	a roaster
4	**kɔ̃̀ɔ̃́**	water	**nyúúrì**	drinking(n)	**kɔ̃n-nyúúrì**	drinking water

	Base 1	Gloss	Base 2	Gloss	Compound	Gloss
5	**kúsírì**	stone	**bírì**	seed	**kúsí-bírì**	pebble
6	**náá!bó**	cow	**nyánggáà**	female	**náá-nyánggáà**	cow
7	**nɛ́nè**	meat	**kɑ́ɑ̀**	oil/fat	**nɛ́ng-kɑ́ɑ̀**	fatty meat
8	**tɛ̀ɛ́**	medicine	**kɔ̀ɔ́**	water	**tɛ̀ɛ́kɔ̀ɔ́**	liquid medicine
9	**bónè**	thing	**dìrîì**	that which is edible	**bón-dìrîì**	food

We capture their properties in the constructional schema in 4, illustrating it with the left-headed N-N compound **bì-dɔ́ɔ́** 'son'. That is, **bì-dɔ́ɔ́** 'son' is a **bì** 'offspring' that is **dɔ́ɔ́** 'male'.

(4) $< [[N]_i\ [N]_j]_{Nk} \leftrightarrow [SEM_i \text{ who is of the type } SEM_j]_k >$

$[[\textbf{bìé}]_{Ni}\quad [\textbf{dɔ́ɔ́}]_{Nj}]_{Nk} \leftrightarrow [\text{offspring}_i \text{ who is Male}_j]_k$ 'son'

bì 'offspring' **dɔ́ɔ́** 'male'

The last group of compounds to be discussed are the exocentric compounds. Cross-linguistically, exocentric compounds are not as common as endocentric compounds and Dagaare appears not to be an exception. Of the total of 79 Dagaare N-N compounds in our dataset, only the three listed in Table 7 can be classified as exocentric, and their exocentricity may be questionable, being so judged based purely on the fact they have to be interpreted metaphorically, making them fit into the class of metaphorical exocentric compounds (Appah 2016c, 2017a, 2019b; Bauer 2010).

Table 7: N-N exocentric compounds in Dagaare

No	Base 1	Gloss	Base 2	Gloss	Compound	Gloss
1	**kúrí**	metal	**wìrí**	horse	**kúrí-wìrí**	bicycle
2	**kɔ̀ɔ́**	water	**nóɔ́rè**	mouth	**kɔ̀n-nóɔ́rè**	coastline or beach
3	**nímírì**	eye	**kyáánɛ́**	mirrors	**nímí-kyáánɛ́**	spectacles

We observe from the data in Table 7 that none of the compounds is a hyponym of either of their constituents in the literal sense in which, for example, ***mango tree*** is a type of ***tree***. Rather, in the compound, say **kúrí-wìrí** 'bicycle' the right-hand constituent **wìrí** 'horse' which is supposed to be the head, is metaphorical in the sense that the bicycle looks like **wìrí** 'a horse' that is made of **kúrí** 'metal'. That is why we note that their exocentricity stems from their metaphorical use. The matter is not settled, though, because one view of such compounds is that they "should probably be considered to be endocentric compounds used metaphorically, rather than exocentric compounds" (Bauer 2008: 65). It would be safe to say that we do not have enough data to make any strong judgement on the status of exocentric N-N compounds in Dagaare. We will take up the vexed issues in a separate study.

5.3 Semantic relations between the constituents of Dagaare N-N compounds

One way of approaching the semantics of compounding is to consider the semantic relations among the constituents. We adopt this approach in our exploration of the semantics of Dagaare N-N compounds, seeking to shed light on the semantic

connections that underlie their formation. As obtains in languages such as Dangme (Lawer 2017; Lawer & Appah 2020), Ewe (Appah, et al. 2025), Ga (Nee-Okpey 2020) and Akan (Appah, et al. 2026), Dagaare N-N compounds exhibit diverse semantic relations that are crucial for their formation and interpretation. Each constituent typically contributes to the compound and is essential for computing the overall meaning of the compound.

As Lawer and Appah (2020: 11) observe, the constituents of N-N compounds tend to be from different semantic classes, and there is usually a relation between them which forms the basis for their interpretation. However, sometimes, a full interpretation of N-N compounds requires an appeal to pragmatics, in addition to identifying the morphosyntactic structure in which they occur and the semantic information that is available in the individual constituents. It is for this reason that when it comes to working out the meanings of compounds, it is suggested that "the morphosyntactic structure provides minimal semantic information" and that "most information on interpretation comes from the context of use" (Bauer & Tarasova 2013: 3). Guevara and Scalise (2009) capture the relation between compound constituents in the schema [X ℜ Y]$_Z$, where X, Y, and Z represent syntactic categories, and ℜ signifies an implicit semantic relation between the constituents of the compounds. This unspecified relation has to be spelt out for each compound taking into account the pragmatic context (cf. Bauer 1979).

Again, it is a fact, as indicated above, that the head of a compound plays a pivotal role in determining both its syntactic category and overall meaning, such that usually the whole compound tends to be a hyponym of the referent of the Head. The non-head constituent usually expresses an aspect of the meaning of the head, making the meaning of the head more specific. Thus, given an N-N compound in which the righthand constituent is the head, [N_1 ℜ N_2], the compound will be said to be a type of N_2 with a relation ℜ to N_1 with the relation spelt out depending on the pragmatic context and the encyclopedic information available to the speaker. For example, given a meal, a competent speaker will know that a meal must be prepared out of some ingredient, a meal must be served in some container, a meal is to be eaten by some entity, a meal must be eaten in some place, etc. Therefore, while the head constituent names the meal, the non-head may designate the ingredient for preparing the meal, the typical container for the meal, the entity the meal is meant for, the place where the meal is typically prepared or eaten, etc.

We will see below that the head and non-head constituents of Dagaare endocentric N-N compounds exhibit varied semantic relations including LOCATION-OF, as in **mɔ̀ náábó**, 'bush cow', where **mɔ́ɔ́** denotes the location of **náábó**. Other relations include MADE-OF/FROM, MEANT-FOR, PART-OF, and INGREDIENT-FOR/OF. Exocentric N-N compounds, by contrast, often rely on metaphorical or constrained relations between constituents. These semantic relations highlight the roles of the N-N compound constituents in computing the meaning of the compound. This is captured in the semantic pole to the right of the double arrow in the CxM modelling of the properties of the relevant compounds below.

5.3.1 MADE-OF/FROM RELATION

The first spelling out of the abstract relation ℜ in the N-N compounds is MADE-FROM/OF. For the compounds that are underpinned by this relation, the referent of the non-head constituent is the only ingredient for preparing the referent of the head constituent. For example, in **bɛ́ng zɔ́ǹg** 'beans flour' and **kámáá zɔ́ǹg** 'maize flour',

bɛ́ng 'beans' and **kámáánáá** 'maize' are the only ingredients used in preparing the referent of the head constituents.

The properties of the N-N compounds in this group are captured in the constructional schema in (5), which shows that **bɛ́ng zɔ̀ng** 'beans flour' is a type of **zɔ̀ng** 'flour' that is made from **bɛ́ng** 'beans'.

(5) < $[[N]_i\ [N]_j]_{Nk}$ ↔ $[SEM_j$ that is made-from/of $SEM_i]_k$ >

$[[$**bɛ́ngɛ̀**$]_{Ni}$ $[$**zɔ̀ng**$]_{Nj}]_{Nk}$ ↔ $[$**zɔ̀ng**$_j$ that is made from **bɛ́ngɛ̀**$_i]_k$

bɛ́ngɛ̀ 'beans' **zɔ̀ng** 'flour'

Further examples of Dagaare N-N compounds that are built on this relation are provided in Table 8 below.

Table 8: Compounds with MADE-OF/FROM relation

No	Base	Gloss	Relation	Base	Gloss	Compound	Gloss
1	**zɔ̀ng**	flour	MADE-OF/FROM	**bɛ́ng**	beans	**bɛ́ng zɔ̀ng**	beans flour
2	**zɔ̀ng**	flour	MADE-OF/FROM	**kámáá**	corn	**kámáá zɔ̀ng**	corn flour
3	**zɔ̀ng**	flour	MADE-OF/FROM	**kál**	dawadawa	**kál zɔ̀ng**	dawadawa powder
4	**zɔ̀ng**	flour	MADE-OF/FROM	**lìbí**	money	**lìbí zɔ́ng**	gold dust
5	**zɔ̀ng**	flour	MADE-OF/FROM	**tɔ̀ɔ̀**	tobacco	**tɔ̀ɔ̀ zɔ̀ng**	tobacco powder

As noted above, for this class of compounds, the referent of the first constituent is the only ingredient that is expected to be used in preparing the referent of the second constituent. In deed, in appropriate context, the presence of any additional substance may be construed as rendering the referent of the compound impure. Thus, we distinguish between this class of compound and the next class where the referent of the non-head constituent is only one of the ingredients in the referent of the righthand head constituent.

5.3.2 INGREDIENT-IN/OF/FOR

The compounds that share what we designate as INGREDIENT FOR/IN/OF relation are the kinds of compounds for which the non-head constituent designates a major ingredient, but not the only one needed for the preparation of the referent of the head constituent. An example in English is **cabbage stew**. Whilst **cabbage** must be a major ingredient for any stew to be appropriately qualified to be so designated, the **cabbage** alone cannot make a **cabbage stew**. This is what makes this class of compounds different from the one discussed in the previous section. Dagaare examples of such compounds are in Table 9, and the CxM representation is shown in (6).

(6) < $[[N]_i\ [N]_j]_{Nk}$ ↔ $[SEM_i$ is an ingredient-in $SEM_j]_k$ >

$[[$**bɛ́ngɛ̀**$]_{Ni}$ $[$**sáábɔ́**$]_{Nj}]_{Nk}$ ↔ $[$**bɛ́ngɛ̀**$_i$ is an ingredient in **sáábɔ́**$_j]_k$

bɛ́ngɛ̀ 'beans' **sáábɔ́** 'TZ'. 'beans TZ'

Table 9: Compounds with INGREDIENT-IN/OF/FOR relation

Base	Gloss	Relation	Base	Gloss	Compound	Gloss
sáábó	TZ	INGREDIENT-FOR/OF	**bɛ́ngɛ̀**	beans	**bɛ́ng sáábó**	beans TZ
sáábó	TZ	INGREDIENT-FOR/OF	**kámáánáá**	corn	**kámáá sáábó**	corn TZ
zìɛ̀rí	soup	INGREDIENT-FOR/OF	**nɔ́-nɛ́nè**	chicken	**nɔ́-nɛ́nè-zìɛ̀rí**	chicken soup
kál	dawadawa	INGREDIENT-FOR/OF	**zìɛ̀rí**	soup	**kál-zìɛ̀rí**	dawadawa soup
sìng kɑ́ɑ́	groundnut	INGREDIENT-FOR/OF	**zìɛ̀rí**	soup	**sìngkɑ́ɑ́ zìɛ̀rí**	groundnut soup

5.3.3 CONTAINER-FOR relation

The next set of compounds shares a CONTAINER-FOR relation where the referent of the head constituent is the typical container for the referent of the non-head constituent. For example, in the compound **nímí-láá** 'eye socket', the referent of the head constituent **láá** 'socket' is the holder/container for the referent of the non-head constituent **nímí** 'eye'. In the same way, **sàà** 'TZ'[2] is typically to be found in a **dógè** 'pot'. Thus, the compound **sàà dógè** 'TZ pot' names a pot which is the container for the non-head constituent **sàà**. Similarly, for **dúórùng láá** 'chamber pot' (lit. urine pot), **láá** 'bowl' serves as a receptacle for **dúórùng** 'urine'. The CxM representation of the relation is in (7), and additional examples given in Table 10.

(7) $< [[N]_i\ [N]_j]_{Nk} \leftrightarrow [SEM_j$ container-for $SEM_i]_k >$

$[[\textbf{nímí}]_{Ni}\ [\textbf{láá}]_{Nj}]_{Nk} \leftrightarrow [\textbf{láá}_j$ that contains $\textbf{nímí}_i]_k >$

nímí 'eye' **láá** 'socket'

Table 10: Compounds with CONTAINER-FOR relation

Base	Gloss	Relation	Base	Gloss	Compound	Gloss
láá	bowl	CONTAINER-FOR	**nímírì**	eye	**nímí-láá**	eye socket
láá	bowl	CONTAINER-FOR	**dúórùng**	urine	**dúórùng-láá**	chamber pot
dógè	pot	CONTAINER-FOR	**sàà**	TZ	**sàà dógè**	TZ pot
dógè	pot	CONTAINER-FOR	**dɑ́ɑ̀**	drink	**dɑ́ɑ̀-dógè**	pito pot
dógè	pot	CONTAINER-FOR	**kɔ̆n**	water	**kɔ̆n-dógè**	water pot
dògè	pot	CONTAINER-FOR	**sàlèng**	gold	**sàlèng-dògè**	traditional treasury

5.3.4 LOCATION-OF relation

For compounds whose constituents share a LOCATION-OF relation, the head typically names an entity whose location is expressed by the non-head. For example, in **mɔ̀ náábó** 'bush cow', **mɔ̀** 'bush' specifies the typical location or dwelling of **náábó** 'cow', the bush. The CxM representation is in (8), while Table 11 provides additional Dagaare compounds with the LOCATION-OF relation

[2] The full form of TZ is the Hausa expression Tuo Zaafi [lit. tuo hot] which refers to a staple food for indigenes of Northern Ghana.

Table 11: Compounds with the LOCATION-OF relation

Base	Gloss	Relation	Base	Gloss	Compound	Gloss
mɔ̀	bush	LOCATION-OF	**náábó**	cow	**mɔ̀-náábó**	bush cow
mɔ̀	bush	LOCATION-OF	**néɛ́**	person	**mɔ̀-néɛ́**	bush perso
téngɛ́	land	LOCATION-OF	**nààsààl**	white person	**nààsààl-téngɛ́**	abroad
yírì	house	LOCATION-OF	**nɜ̃́ɜ̃́**	chief	**nàà-yírì**	palace
zàgé	pen	LOCATION-OF	**nááb!ó**	cow	**náá-zàgé**	cow pen

(8) < $[[N]_i\ [N]_j]_{Nk}$ ↔ $[SEM_j$ is located in $SEM_i]_k$ >

|

$[[\textbf{móɔ́}]_{Ni}\ [\ \textbf{náábó}]_{Nj}]_{Nk}$ ↔ [**náábó*ⱼ*** is located in **móɔ́*ᵢ***$]_k$

/ \

móɔ̀ ‘bush’ **náábó** ‘cow’ ‘bush cow’

5.3.5 MEANT-FOR/USED-FOR relation

The MEANT-FOR relation exists between a head constituent that names an entity and a non-head constituent which is meant to serve a certain function, relative to the referent of the head constituent. Thus, the referent of the non-head constituent is MEANT-FOR the referent of the head constituent. For example, the compound **náá zàgé** ‘cow pen’, names a **zàgé** ‘pen’ which is to serve a certain purpose, for the benefit of the entity named by the non-head constituent **náábó** ‘cow’. Thus, the compound names a **zàgé** ‘pen’ that is MEANT-FOR **náábó** ‘cow’. It is in this light that the compound can be contrasted with a pen that is meant for sheep, for instance. Similarly, in **kűű dàgá** ‘coffin’, **dàgá** ‘box’ is designed specifically for **kűű** ‘corpse’. That is why, even though a coffin is a box, it would be considered strange if a person kept one in her house to store jewellery. The properties of this class of compounds are captured in the constructional schema in (9) with further examples provided in Table 12.

(9) <$[[N]_i\ [[N]_{Nj}]_{NK}$ ↔ [SEM_j with relation ℜ $SEM_i]_k$ >

|

< $[[\textbf{náábó}]_{Ni}\ [\textbf{zàgé}]_{Nj}]_{Nk}$ ↔ $[SEM_j$ meant for $SEM_i]_k$ >

/ \

náá ‘cow **zàgé** ‘pen’ ‘cow pen’ (pen made for cow)

Table 12: Compounds with the MEANT-FOR relation

Base	Gloss	Relation	Base		Compound	Gloss
zàgé	pen	MEANT-FOR	**nááb!ó**	cow	**náá-zàgé**	cow pen
yírì	house	MEANT-FOR	**nɜ̃́ɜ̃́**	chief	**nàà-yírì**	palace
kógí	chair	MEANT-FOR	**wìrì**	horse	**wìrì-kógí**	horse saddle
nyúúrì	drinking	MEANT-FOR	**kɔ́n**	water	**kɔ́n-nyúúrì**	drinking water
láá	bowl	MEANT-FOR	**dúórùng**	urine	**dúórùng-láá**	chamberpot

From (9) above, we notice that the relation between **náábó** ‘cow’ and **zàgé** ‘pen’ can also be construed as a LOCATION-OF type. This is because the cow pen is the LOCATION-OF the cow. Thus, compound constituents can share multiples relations, depending on the context. We comment on this a bit more below.

5.3.6 PART-OF relation

Another implicit relation that can be seen among N-N compounds is the PART-OF relation. With this type of relation, one constituent forms part of the other. Usually, the referent of the head constituent forms part of the whole which is named by the non-head constituent. For example, in **kámáá bírì** 'maize seed', **bírì** 'seed' is a component of **kámáánà** 'maize'. Likewise, in **nímí-gánè** 'eyelid', **gánè** 'skin' is part of **nímírì** 'eye'.

The CxM rendering of this relation is in (10) below, exemplified by the compound **kámáá bírì**, with further examples of Dagaare N-N compounds with the PART-OF relation in Table 13.

(10) $< [[N]_i\ [N]_j]_{Nk} \leftrightarrow [SEM_j \text{ is part of } SEM_i]_k >$

$< [[\textbf{kámáánà}]_{Ni}\ [\textbf{bírì}]_{Nj}]_{Nk} \leftrightarrow [\textbf{bírì}_j \text{ is part of } \textbf{kámáánà}_i]_k >$

kámáánà 'maize' **bírì** 'seed' ***kámáá bírì*** 'maize seed'

Table 13: Compounds with the PART-OF relation

Base	Gloss	Relation	Base	Gloss	Compound	Gloss
dá!á	stick	PART-OF	**bɛ́n**	beans	**bɛ́n-dá!á**	bean stalk
pɛ́gɛ́	peels	PART-OF	**dà**	tree	**dà-pɛ́gɛ́**	tree bark
bírì	seed	PART-OF	**kámáánɛ́**	corn	**kámáá-bírì**	maize seed
dàá	stalk	PART-OF	**kámáánɛ́**	corn	**kámáá-dàá**	maize stalk
bírì	seed	PART-OF	**nímírì**	eye	**nímí-bírì**	eye pupil

5.3.7 NATURE-OF relation

Another relation that is seen between Dagaare N-N compound constituents is the NATURE-OF relation. This relation involves the non-head constituent providing a descriptive attribute that characterises the nature of the head constituent. Consider the compound **nɛ́ng kɑ́ɑ̀** 'fatty meat' [lit. meat oil]. In **nɛ́ng kɑ́ɑ̀**, **kɑ́ɑ̀** 'oil' describes the nature of the head constituent **nɛ́nɛ́** 'meat'. This signifies that the meat is fatty or oily, thus making the meaning of the head constituent clearer.

Table 14 provides further examples of Dagaare N-N compounds with the NATURE-OF relation, while the constructional schema in (11) below captures the properties of such compounds.

Table 14: Compounds with the NATURE-OF relation

Base	Gloss	Relation	Base	Gloss	Compound	Gloss
kɑ́ɑ̀	oil/fat	NATURE-OF	**nɛ́nè**	meat	**nɛ́ng kɑ́ɑ̀**	fatty meat
gɔ́ɔ̀	thorn	NATURE-OF	**tèɛ́**	tree	**gɔ̂-tèɛ́**	thorn tree
zɔ́ng	flour	NATURE-OF	**lìbírì**	money	**lìbí-zɔ́ng**	gold dust
kɔ̀ɔ̃́	water	NATURE-OF	**tɛ̀ɛ̃́**	medicine	**tɛ̀ɛ̃́-kɔ̀ɔ̃́**	liquid medicine

(11) $<[[N]_i\ [\ [N]_j]_{Nk} \leftrightarrow [\ SEM_j \text{ with relation } \Re\ SEM_i]_k >$

$< [[\textbf{nɛ́nɛ́}]_{Ni}\ [\textbf{kɑ́ɑ̀}]_{Nj}]_{Nk} \leftrightarrow [SEM_j \text{ nature of } SEM_i]_k >$

nɛ́nɛ́ 'meat' **kɑ́ɑ̀** 'oil' => **nɛ́ng kɑ́ɑ̀** 'fatty meat'

The relations discussed above are among the implicit semantic relations that occur between the constituents of various N-N compounds in Dagaare. These relations allow speakers to effectively convey specific attributes of objects within the language. Table 15 contains a summary of these semantic relations.

Table 15: Semantic relations between Dagaare N-N compounds

Base	Relation	Base	Compound	Gloss
N1	INGREDIENT-FOR/IN	N2	**bɛ́ng sáábó**	beans TZ
N1	LOCATION-OF	N2	**mɔ̀ náábó**	bush cow
N2	MEANT-FOR/USED-FOR	N1	**náá zàgé/sàà dógè**	cow pen/TZ pot
N2	PART-OF	N1	**kámáá bírì**	maize seed
N2	NATURE-OF	N1	**nɛ́ng kɑ̃̀ɑ̃̀**	fatty meat
N2	CONTAINER-FOR	N1	**nímí-láá**	eye socket

One of the most interesting aspects of the semantics of N-N compounds is the fact that they tend to be amenable to multiple interpretations depending on the pragmatic context, as noted above. English N-N compounds are notoriously amenable to multiple interpretations (cf. Downing 1977; Gagné 2002; Gagné & Spalding 2006, 2010; Guevara et al. 2009; Guevara & Pirrelli 2011; Scalise & Vogel 2010). Commenting on what he calls "Downing's solution" to the semantics of compounding, so named after Downing (1977), Spencer (2011: 490) points out, for example, that the compound **bike girl** "denotes a girl with some relation to the notion '**bike'** (e.g. she rides to work on a bike, she mends them for a hobby, she has just left hers in the driveway or whatever)". This way, "on a given occasion of use, the hearer is expected to construct some plausible (though not necessarily unique or determinate) relation between the modifier and the head" (Spencer 2011: 490). It is for this reason that Bauer (1979) advocated for the inclusion of pragmatic considerations in the interpretation of compounds.

The careful observer would have noted from the foregoing that there could be cases where the same compound could be construed as having more than one of the above relations holding between the constituents. For instance, for the compound **náá zàgé** 'cow pen' in example (6) above, we noted that the relation between the constituents is MEANT-FOR, where the lefthand constituent designates the entity that the referent of the righthand constituent is meant for. However, it goes without saying that we can also see a LOCATION-OF relation, where the righthand constituent is the typical location/dwelling for the referent of the lefthand constituent. Therefore, the relations among the constituents will depend on how people construe or read the compound.

Per this understanding, the Dagaare compound **mɔ̀-néɛ́** 'bush person' could conceivably refer to, among others:

a. a person from the bush
b. a person located in the bush/a person who lives in the bush
c. a person who owns the/a bush
d. a person who behaves like one from the bush
e. a person who likes talking about the bush (as against one who talks about something else)

This dimension of the semantics of N-N compounds bears investigating but cannot be explored in the present paper for want of space. It will, therefore, be the subject of a separate study.

6. Conclusion

In this paper we have discussed various properties of Dagaare N-N compounds. We discussed the structure of Dagaare N-N compounds where we saw that they can be formed from simplex nouns as well as complex nouns which could be derived nouns or compounds, and that the preferred way of writing Dagaare compounds is as one unbroken unit with the constituents fused. We also discussed headedness in Dagaare N-N compounds, noting that N-N compounds can be either exocentric or endocentric (left-headed or right-headed). It is also observed that most N-N compounds are predominantly right-headed and that only a few putative exocentric N-N compounds occur in our dataset. The final part of the paper discussed the various semantic relations that can occur between the constituents of Dagaare N-N compounds. We identified semantic relations like PART-OF, NATURE-OF, USED-FOR, MEANT-FOR etc. It is hoped that this study counts as a useful contribution to the study of Dagaare compounds.

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Appendix

Table 16: Dataset of Dagaare N-N compounds

	Base 1	Gloss	Base 2	Gloss	Compound	Gloss
1	**báá**	dog	**zɛ̃ɛ̃**	blood	**bà-zɛ̃ɛ̃**	blood of a dog
2	**bɛ́ngɛ̀**	beans	**dá!á**	stick	**bɛ́n-dá!á**	beanstalk
3	**bɛ́ngɛ̀**	beans	**zɔ̀ŋ**	flour	**bɛ́n-zɔ̀ŋ**	beans flour
4	**bɛ́ngɛ̀**	beans	**sáábʊ́**	TZ	**bɛ́ng sáábʊ́**	beans TZ
5	**bìé**	child	**dɔ́ɔ́**	man	**bì-dɔ́ɔ́**	son
6	**bóndìrîì**	food	**zíé**	place	**bóndì-zíé**	restaurant
7	**bóndìrîì**	food	**sɑ̃ɑ̃nà**	waster	**bóndì-sɑ̃ɑ̃nà**	one who wastes food
8	**bóndìrîì**	food	**dì**	eat	**bóndí-dírè**	one who eats food
9	**bóndìrîì**	food	**zíé**	place	**bóndì-zíé**	restaurant
10	**bóndìrîì**	food	**sɑ̃ɑ̃nà**	waster	**bóndì-sɑ̃ɑ̃nà**	one who wastes food
11	**bóndìrîì-máál**	food+cook	**zíé**	place	**bóndímáál-zíé**	the act of cooking
12	**bónè**	thing	**nyáà**	chest	**bón-nyáà**	chest of something
13	**bónè-sɛ̀**	thing-sew	**zíé**	place	**bónsɛ̀ zíé**	place where clothes are sewn
14	**bóɔ́**	goat	**dáá**	male	**bò-dáá**	male goat
15	**bóɔ́**	goat	**dáá**	male	**bò-dáá**	male goat
16	**dàá**	tree	**pɛ́gɛ́**	peels	**dà-pɛ́gɛ́**	bark of tree
17	**dɑ́ɑ̃**	drink	**dìé**	room	**dɑ́ɑ̃-dìé**	pito house
18	**dɑ́ɑ̃**	drink	**dógè**	pot	**dɑ́ɑ́-dógè**	pito pot
19	**dɑ́ɑ̃**	drink	**nyúúrò**	one who drinks	**dɑ́ɑ́-nyúúrò**	an alcoholic
20	**dɑ̀ɑ̃-dóg**	pito-cook	**zíé**	place	**dɑ̃ɑ̀dóg zíé**	place for brewing pito
21	**dɔ́ɔ́**	man	**dɑ́ɑ̃**	drink	**dɔ̀ɔ̀-dɑ́ɑ̃**	male child born on the day pito is brewed in the house
22	**dúórùng**	urine	**láá**	bowl	**dúórùn-láá**	chamber pot
23	**gánè**	book	**bɔ̀ng**	know	**gán-bɔ́gnɔ́**	literate
24	**góɔ̀**	thorn	**tèɛ́**	tree	**gɔ̂-tèɛ́**	a tree with thorns
25	**kálì**	dawadawa	**zɔ̀ŋ**	flour	**kál-zɔ̀ŋ**	dawadawa powder
26	**kálì**	dawadawa	**zìɛ̀rí**	soup	**kál- zìɛ̀rí**	dawadawa soup
27	**kámáánáá**	corn	**zɔ̀ŋ**	flour	**kámáá zɔ̀ŋ**	corn flour
28	**kámáánáá**	corn	**sáábʊ́**	TZ	**kámáá sáábʊ́**	corn TZ
29	**kámáánéé**	corn	**bírì**	seed	**kámáá-bírì**	maize seed
30	**kámáánéé**	corn	**dàá**	stalk	**kámáá-dàá**	maize stalk
31	**kɔ̃ɔ̃́**	water	**sɑ̃ɑ̃**	waste	**kɔ̀n-sɑ̃ɑ̃nà**	one who wastes water
32	**kɔ̃ɔ̃́**	water	**dú**	swim	**kɔ̃ɔ̃́-dúrò**	one who swims
33	**kɔ̃ɔ̃́**	water	**nyúúrì**	drinking(n)	**kɔ̀n-nyúúrì**	drinking water
34	**kɔ̃ɔ̃́**	water	**nóɔ́rè**	mouth	**kɔ̀n-nóɔ́rè**	coastline, beach
35	**kɔ̃ɔ̃́**	water	**dógè**	pot	**kɔ̀n-dógè**	water pot
36	**kɔ̃ɔ̃́-dú**	water-swim	**zíé**	place	**kɔ̀ndú-zíé**	swimming pool
37	**kpàrúú-nû**	shirt-hand	**wógrì**	long pl	**kpárnúwógrì**	long sleeved shirt
38	**kùrèè**	shorts	**gbɛ́ɛ́**	legs	**kúrgbɛ́ngmáárá**	shorts
39	**kùrèè**	---	**gbɛ́ɛ́**	legs	**kúrígbɛwógrì**	trousers
40	**kúrí**	metal	**wìrí**	horse	**kúrí-wìrí**	bicycle
41	**lìbírì**	money	**bɔ́**	look	**líbí-bòɔ́rò**	one who looks for money
42	**lìbírì**	money	**dì**	spend/eat	**líbí-dírè**	one who spends money

	Base 1	Gloss	Base 2	Gloss	Compound	Gloss
43	**lìbírì**	money	**zɔ́ng**	flour	**lìbí-zɔ́ng**	gold dust
44	**màléfà**	gun	**bírì**	seed	**màléfà-bírì**	bullet
45	**móɔ́**	bush	**néɛ́**	person	**mɔ̀-néɛ́**	bush person
46	**nã̀ã́**	chief	**bíé**	child	**nà-bíé**	a prince
47	**nááb!ó**	cow	**zàgé**	pen	**náá-zàgé**	cow pen
48	**nààsààlá**	white perso	**téngɛ́**	land	**nààsààl-téngɛ́**	abroad
49	**nángè**	poverty	**dáánà**	person	**náng-dáánà**	poor person
50	**nɛ́nè**	meat	**kã́ã̀**	oil/fat	**nɛ́ng-kã́ã̀**	fatty meat
51	**ngménɔ̀**	god	**dìé**	house	**ngmén-dìé**	church
52	**nímírì**	eye	**láá**	bowl	**nímí-láá**	eye socket
53	**nímírì**	eye	**bírì**	seed	**nímí-bírì**	pupil of eye
54	**nímírì**	eye	**gánè**	skin	**nímí-gánè**	eyelid
55	**nímírì**	eye	**kɔ́ɔ́lón g**	hair	**nímí-kɔ́ɔ́lóng**	eyelash
56	**nímírì**	eye	**yúò**	open	**nímí-yúòrò**	one who is smart
57	**nímírì**	eye	**kyáán é**	mirrors	**nímí-kyáánɛ́**	spectacles
58	**nóɔ̀**	fowl	**nɛ́nè**	meat	**nɔ́-nɛ́nè**	chicken
59	**nóɔ̀-nɛ́nè**	fowl meat	**zìɛ̀rí**	soup	**nɔ́-nɛ́nè-zìɛ̀rí**	chicken soup
60	**nɔ́**	fowl	**dáá**	male	**nɔ́-dáá**	rooster
61	**nɔ́ɔ́tìɛ́-mààl**	footwear-make	**zíé**	place	**nɔ́ɔ́tìmáálzíé**	place where they make footwear
62	**nû**	hand	**pùòrí**	back	**nú- pùòrí**	back of hand
63	**nû**	hand	**póɔ́**	in	**nú-póɔ́**	palm
64	**pɔ́gé**	woman	**dê**	take	**pɔ̀g-dérè**	one who gets married
65	**pɔ́gé**	woman	**dérɛ́**	one who takes	**pɔ̀gè-dérɛ́**	bridegroom
66	**pɔ́gé**	woman	**dɔ̀gèrɔ́**	one who has given birth	**pɔ̀gè-dɔ̀gèrɔ́**	a woman who has just given birth
67	**sáábɔ́**	TZ	**dógè**	pot	**sàà dógè**	TZ pot
68	**sàkúúrì**	school	**bìé**	child	**sàkú-bìé**	student
69	**sàlèmá**	gold	**dógè**	pot	**sàlèng-dògè**	traditional treasury
70	**sánè**	debt	**yɔ́ɔ́**	pay	**sán-yɔ́ɔ́rɔ̀**	one who pays debts
71	**sébírì**	bee	**bògí**	hole	**sé-bògí**	beehive
72	**sìngkã́ã́**	groundnut	**zìɛ̀rí**	soup	**sìngkã́ã́ zìɛ̀rí**	groundnut soup
73	**tɛ̃̀ɛ̃́**	medicine	**kɔ̃̀ɔ̃́**	water	**tɛ̃̀ɛ̃́kɔ̃̀ɔ̃́**	liquid medicine
74	**tèɛ̀né**	chin	**kɔ́ɔ́lóng**	hair	**tɛ̃̀ɛ̀-kɔ́ɔ́lóng**	beard
75	**tɔ̀bɔ̀**	tobacco	**zɔ̀ng**	flour	**tɔ̀ɔ̀-zɔ̀ng**	tobacco powder
76	**wìrí**	horse	**kógí**	chair	**wìrì-kógí**	horse saddle
77	**zû**	head	**pílí**	mat	**zú-pílí**	hat
78	**zû-kyɛ́**	head-cut	**zíé**	place	**zúkyɛ́ zíé**	barbering salon
79	**zû-máál**	Hair-make	**zíé**	place	**zúmáál zíé**	hair making salon

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EVALUATING PHONOLOGICAL AWARENESS STANDARDS IN GHANA'S NATIONAL CURRICULUM

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Abstract

Phonemic awareness is a reliable predictor of later reading achievement and an essential component of early reading and language instruction. The evidence suggests that students who do not develop an understanding of the alphabetic principle, the relationship between phonological and orthographic units of language, are at increased risk for difficulties in word reading, fluency, and reading comprehension. While a substantial body of research has examined phonemic awareness through experimental and intervention-based studies, relatively little attention has been given to the extent to which national curriculum standards align with evidence-based practices in phonological awareness instruction. This study addresses this gap through a content analysis of Ghana's national language and literacy curriculum standards. Using the stages of the Phonological Awareness Screening Test (PAST) as an analytical framework, the study examined the presence and frequency of phonological awareness skills across the early, basic, and advanced developmental stages. Findings indicate that Ghana's curriculum standards are predominantly focused on the early and basic stages of phonological awareness development, with comparatively limited emphasis on advanced phonemic awareness skills. The results suggest a need to strengthen curriculum standards to better reflect the full developmental continuum of phonological awareness and evidence-based literacy instruction, particularly for early grade learners.

Keywords

Phonological awareness, phonemic awareness, curriculum standards, language instruction, reading instruction, alphabetic principle

1.0 Introduction

Phonological awareness is critical for learning to read in languages with alphabetic writing systems (NICHD, 2000). In some African countries, including Ghana, where multiple languages have alphabetic writing systems, the language-literacy issue remains a dominant concern for educators (Owu-Ewie, 2006). Given Ghana's linguistic diversity, national-level language and literacy instruction policies and interventions have largely been informed by multilingual and mother-tongue-based education approaches. The historical analyses of these language-in-education policies have been extensively documented by Ansah (2014) and Owu-Ewie (2006). Students in the public school system

start school learning in their first language; however, by grade 4, which is around age 10, children are taught to learn and read in English, as English is the official national language. This transition is mandated by the existing language policy in the Ghana Education Service. Several factors, including linguistic diversity and orthographical and pedagogical challenges, impede the acquisition and development of reading and literacy skills among multilingual learners in Africa (Share, 2023).

Phonological awareness is strongly related to word reading. The lack of phonological awareness abilities can be an underlying cause of reading difficulties (Hulme et al., 2012; Melby-Lervåg et al., 2012). The human brain automatically processes phonological codes during language learning; however, reading and writing in alphabetic languages require conscious awareness of the phonological processing aspect of speech (Moats, 2020). The explicit teaching of systems of language, including phonological awareness instruction, is beneficial for enhancing decoding and word-reading skills. Therefore, it is important to address gaps in the curriculum and learning materials that overlook subskills that contribute to reading development. Like many alphabetic coding skills, phonological awareness must be taught explicitly, and even when taught explicitly, some students still have difficulty acquiring it. In this study, we evaluate the phonological awareness standards and indicators in the national language and literacy curriculum for kindergarten and elementary school learners in Ghana's public school system.

Currently, Ghana's Language in Education Policy mandates the use of eleven (11) local languages as the language of instruction from kindergarten to primary 3, with English as a subject of instruction. Transitioning to English as the language of instruction after primary 3 presents many challenges for students. Learning to read in any of the 11 languages of instruction, including English, continues to be a struggle for learners in the early years of schooling. The Multiple Indicator Cluster Survey (Arthur et al., 2020) found that only 7% of children in grade 3 in Ghana exhibit grade-level reading skills (See the Education Analysis for Global Learning and Equity – EAGLE), and a significant number of public school students in Ghana do not develop foundational literacy skills after completing six years of primary education (Ghana Education Fact Sheet, USAID, 2023). Generally, deciphering the alphabetic principle and learning to decode words is challenging for some students (Byrne et al., 2005; Moats, 2020); thus, there is a need to teach all foundational reading skills, including phonological awareness, to all children using the most effective strategies.

Similar to English, the writing systems for the 11 languages of instruction used from kindergarten to grade 3 are alphabetic, consisting of vowels and consonants. Asante et al. (2022) identified distinct differences in the phonology of "Ghanaian English," particularly in consonant sounds. For students to learn to read, it is important to teach children the relationship between orthographic units (letters and spelling) and phonological units (sounds) in their first language during the learning-to-read phase.

In the recent past, efforts to improve early literacy achievement in Ghana's public school system led to the introduction of the Early Grade Reading Assessment (EGRA) and the Early Grade Mathematics Assessment (EGMA). The National Education Assessment Unit (NEA) of the Ministry of Education conducted the EGRA in 2013 and 2015. The EGRA assessments were intended to provide information on the state of reading achievement among primary two students in Ghana in both English Language and the 11

languages of instruction (Kochetkova & Brombacher, 2014). The EGRA reading tool included subtasks measuring comprehension elements such as listening comprehension, letter-sound identification, non-word reading, oral passage reading, and reading comprehension. The EGRA assessment was administered to a random sample of Primary 2 pupils from 738 schools in English and the 11 languages of instruction across Ghana. The EGRA report concluded that across all 11 languages of instruction, at least half—and often more—of the pupils assessed were unable to read a single word correctly in their native language or English. Some pupils recognized a few words, but not enough to comprehend what they read (Ghana Education Service, 2016). The Early Grade Reading Assessment and the Early Grade Mathematics Assessment reported that out of the pupils assessed in each language, 2 percent or less could read with fluency and comprehension. Most children could not identify the sounds or phonemes of letters in the English language and the 11 languages of instruction. To date, Ghana's education system has not effectively addressed the challenges many students face in learning to read in the 11 local languages from grades K-3 and then in English.

Since the EGRA assessments, efforts have increased to align curriculum standards and learning materials with evidence-based practices in early literacy education. In this study, we evaluate the content of the National Council for Curriculum and Assessment (NaCCA) language and literacy standards with a specific focus on reading standards related to phonological awareness and their alignment with evidence-based practices for teaching phonemic awareness. NaCCA is a centralized national education agency responsible for developing national curriculum and assessment standards for Ghana's first and second-cycle schools in the public school system. To frame and contextualize this study, and evaluate the standards in the current curriculum, we reference the theoretical models of reading development that have shaped curriculum standards and the content of beginning reading instruction, highlighting how phonological awareness contributes to reading development.

1.1 Theoretical Models Informing Foundational Reading Standards

In English-speaking countries, the standards for foundational reading that are considered evidence-based draw on several theories and models of reading development, including the Simple View of Reading (Gough & Tunmer,1986), the National Reading Panel (2000), Scarborough (2001), the Cognitive Foundations for Reading and its Acquisition (Hoover & Tunmer, 2020), and the Active View of Reading (Duke & Cartwright, 2021).

As a framework for reading development, Gough and Tunmer's Simple View of Reading (SVR) posits that reading is a product of two sets of skills: word recognition and language comprehension. SVR emphasizes that successful readers have the knowledge and skills to identify words and comprehend text. Thus, the causes of reading difficulties may stem from problems with word reading, language comprehension, or both. SVR is used to identify different types of reading problems. According to the SVR conceptualization of reading development, the three varieties of reading difficulties have different causes. Word reading is the foundation for reading comprehension, and comprehension depends on the ability to decode (Snowling & Hulme, 2011). Word reading allows readers to focus their attention on comprehension. Scarborough (2001) illustrated the subskills for word recognition in a visual representation that includes sight words, alphabetic principle, phonological awareness, and phonemic awareness. As word reading becomes increasingly

automatic, successful readers also draw on higher-level language skills, including language comprehension, syntactic parsing, lexical access, semantic skills, background knowledge, and inferencing to extract meaning from connected text. The Cognitive Foundation for Reading Skills Acquisition (Hoover & Tunmer,2020) emphasizes the subskills for reading development. In the Active View of Reading, Duke and Cartwright (2021) argue that reading difficulties arise from causes beyond decoding and listening comprehension. Also, they contend that decoding and language comprehension overlap significantly, rather than functioning entirely independently. Other factors, including active self-regulatory processes, play a critical role in reading. Subsequent models of reading development expand on SVR by highlighting the complex, multidimensional nature of skilled reading and the many factors that account for reading comprehension, including general, contextual and cultural knowledge. All the models of reading development discussed recognize the pivotal role of phonemic awareness in word reading.

Deficiencies in phonemic awareness directly cause word-reading difficulties in beginning and struggling readers (NICHID, 2000). Bishop and Snowling (2004) found that challenges in learning to read may stem from impairments in phonological sensitivity and other oral language skills. Reading development heavily relies on early exposure to oral language skills. Therefore, we assert that language and literacy curriculum standards for foundational reading skills at the national, state, district, or school level must prioritize explicit instruction in phonemic awareness due to the reciprocal relationship between phonemic awareness and word reading. Also, phonemic awareness instruction is sometimes confused with phonics instruction. It is important to emphasize the difference to educators. Phonics instruction emphasizes the direct relationship between written language and spoken language. Phonics instruction teaches the correspondence between phonemes and graphemes. Phonemic awareness and phonics instruction teach students how to blend or segment the sounds in words using graphemes or letters.

In this study, we sought to evaluate the extent to which the components of phonological awareness instruction have been integrated into Ghana's national language and literacy standards for K-3, as outlined in the NaCCA's new syllabus for language and literacy. To do this, we pivot from the discussion of theoretical models that have influenced the content and methods of beginning reading instruction to the role of phonological awareness instruction in supporting reading development. We define the phonological and phonemic awareness concepts and discuss their contributions to reading development. We examine the relationship among phonemic awareness, word reading, and text comprehension. Additionally, we provide an overview of the role of standards in reading education and then present the argument for integrating and aligning a logical, well-sequenced phonological awareness framework with the national reading instruction curriculum standards for all beginning readers.

1.2 Phonological Awareness Instruction

Phonological awareness is a broad term that refers to the awareness of sounds in spoken words, including syllables, onset-rime, and phonemes. Phonemic awareness is a subset of phonological awareness and refers to the ability to notice, identify, and manipulate the individual sounds in spoken words. For example, the word "sat" has three phonemes: /s/, /a/ /t/, while "shot" also has three phonemes: /sh/, /o/, and /t/. Phonological

processing encompasses the automatic mental processing of speech codes during speaking, listening, reading, and spelling. When students cannot fully process individual sounds or phonemes they find it challenging to store spoken words with the level of specificity required for mapping the orthographic units (letters) to the phonological units (individual sounds) for reading and spelling (Perfetti, 2007). Although speaking does not require accurate spoken word memory, having a precise mental image of phonemes is essential for reading and spelling. So, phoneme awareness is a stronger predictor of reading than phonological sensitivity awareness, or the awareness of larger units of language, including syllables, onset, and rime (Brady, 2020).

Phonemic awareness does not seem to be the final stage in the natural development of phonological awareness. Studies have shown that in cultures with different literacy standards, individuals demonstrate phonological sensitivity but do not achieve full awareness of phonemes, even into adulthood (Morais et al., 1979). Thus, phonemic awareness instruction is the key goal of any phonological awareness instruction. The relationship between phonemic awareness and reading is likely reciprocal causation (Hogan et al., 2005; Perfetti et al., 1987) or mutual facilitation (Shaywitz, 2003; Liberman et al., 1974), so phonemic awareness instruction reinforces reading ability while reading also enhances phonemic awareness. Phonemic awareness is a key predictor of reading success (Al Otaiba et al., 2012; Blachman et al., 2000). Students learning to read may benefit from phonemic awareness instruction when taught within a structured literacy program delivered by capable and knowledgeable reading teachers (NICHD, 2000). Exposing children to phonological awareness instruction as early as preschool and continuing through second grade helps them focus on the sounds at the beginning, middle, and end of words over time. Beginning readers and those with weak phonemic awareness skills often struggle with word recognition and exhibit weaknesses in phonological processing. Therefore, phonemic awareness knowledge of preschool children is the best predictor of their future reading ability, better than either socio-economic status or intelligence (Bowey 2005; Melby-Lervåg et al., 2012). Goswami (2000) and Shaywitz (2003) suggest that learners struggling with basic alphabetic coding skills in decoding predictable consonant-vowel-consonant (CVC) and vowel-consonant (VC) words have difficulty perceiving sounds in spoken words that are unclear or inaccurate. Struggling readers often perform poorly on various phonological tasks. Phonological awareness tasks prescribed in reading curricula may include rhyming, repeating a short vowel sound, blending sounds (for example, combining /b/, /ɪ/, and /t/ to form the word "bit"), and separating the first sound in a three-sound word as in "mat," which breaks down to /m/ a/t/. Students who struggle to read and spell isolated words may benefit from explicit instruction in phonemic awareness, which can improve their ability to perceive speech sounds.

1.3 The Role of Phonemic Awareness in Second Language Reading

Phonemic awareness skills enhance word reading and other language abilities, including vocabulary, grammar, and reading comprehension (Muter et al., 2004; Al Otaiba et al., 2012). Research in many languages demonstrates that phonemic awareness skills developed in one language transfer to other known languages (Farrall, 2012). Koda (2007) explored the effects of first-language transfer on second-language word reading. Transfer is drawing on previously acquired skills to learn new skills (Gass & Selinker,1983). Phonological processing in the first language influences word reading in the second language (Chow et al., 2005). Educators may identify dual language learners with

difficulties learning to read through phonemic awareness and alphabetic coding assessments (Cárdenas-Hagan, 2020). While children in bilingual programs in non-native countries learning English as a second language may be familiar with the sound system of their mother tongue, not all children will be familiar with the phonemes in English. We argue that teaching early phonological awareness, basic phonemic awareness and advanced phonemic awareness should be at the core of any reading standards, and/or Language Arts curriculum standards for beginning readers.

1.4 Curriculum Standards and Phonological Awareness Instruction

With evidence-based reading instruction practices, curriculum standards for foundational reading skills serve as a roadmap for educators when selecting and designing reading programs and lesson plans. Generally, curriculum standards help teachers identify the key skills and knowledge students need to develop in any domain of learning. Curriculum standards provide guidance to users on how to sequence instruction in various areas of study. The positive effects of phonemic awareness instruction on decoding and language comprehension outcomes (Ehri et al., 2001) have led several states and districts to include phonemic awareness standards as part of foundational reading standards in their Language Arts curriculum standards. Additionally, curriculum standards for foundational reading skills serve as both an assessment and accountability measure, providing educators with tools to evaluate performance and track students' progress. By aligning assessments with standards, educators are better positioned to evaluate whether students are meeting grade-level expectations.

The curriculum standards for phonological awareness reflect the progression of phonological awareness development. Kilpatrick (2015) categorized the progression of phonological awareness into three stages: early phonological sensitivity, basic phonemic awareness, and advanced phonemic awareness. Early phonological sensitivity skills include awareness of larger speech sounds in spoken words, onset-rime, and syllables. Basic phonemic awareness encompasses awareness of individual sounds in spoken words with simple syllable patterns, as in CV, VC, and CVC words. Advanced phonemic awareness covers spoken words with advanced syllables and consonant blends (CCVC, CVCC, CCVCC). A consensus has been reached on the importance of teaching phonemic awareness in the early years. What is not so clear is how to teach phonological awareness logically and sequentially under different learning conditions. Blachman et al. (1991) argued that where there are time constraints, phonological awareness instruction may initially focus on teaching phoneme awareness and transition to phonics instruction without emphasizing phonological sensitivity. Also, Clemen et al. (2021) have questioned the benefits of teaching advanced phonemic proficiency in isolation without connecting it to letter knowledge. In the United States, the standards for foundational reading skills form part of the *Common Core Standards for English Language Arts and Literacy*, also referred to as the Common Core, which was developed by the National Governors Association and the Council of Chief State School Officers and launched in 2009 (National Governors Association Center for Best Practices, Council of Chief School Officer, 2010). The Common Core Standards for phonological awareness in the Common Core Standards for English Language Arts are captured in LA -Literacy. R.F.K2 and CSS.ELA-Literacy.RF.1.2 as shown in Table 1 and Table 2 below.

Table 1

Standard CSS. ELA- RFK2 indicates that students are expected to demonstrate an understanding of spoken words, syllables, and phonemes.

Standard	Indicator
CSS.ELA-Literacy.RF.K.2	Demonstrate understanding of spoken words, syllables, and sounds (phonemes).
CCSS.ELA-Literacy.RF.K.2a	Recognize and produce rhyming words.
CCSS.ELA-Literacy.RF.K.2b	Count, pronounce, blend, and segment syllables in spoken words.
CCSS.ELA-Literacy.RF.K.2c	Blend and segment onsets and rimes of single-syllable spoken words.
CCSS.ELA-Literacy.RF.K.2d	Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words. (This does not include CVCs ending with /l/, /r/, or /x/.)
CCSS.ELA-Literacy.RF.K.2e	Add or substitute individual sounds (phonemes) in simple, one-syllable words to make new words.

Table 2

CSS.ELA-Literacy.RF.1.2 indicates that students are expected to demonstrate understanding of spoken words, syllables, and phonemes

Standard	Indicator
CSS.ELA-Literacy.RF.1.2	Demonstrate understanding of spoken words, syllables, and sounds (phonemes).
CCSS.ELA-Literacy.RF.1.2a	Distinguish long from short vowel sounds in spoken single-syllable words.
CCSS.ELA-Literacy.RF.1.2b	Orally produce single-syllable words by blending sounds (phonemes), including consonant blends.
CCSS.ELA-Literacy.RF.1.2c	Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words.

CCSS.ELA-Literacy.RF.1.2d	Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes)

As indicated in Table 2, the scope and sequence of phonological awareness in the Common Core Standard for English Language Arts and Literacy reflect the full continuum of phonological awareness development. Most language and literacy standards documents will specify content, performance, and assessment standards for the strands. While content standards specify the knowledge and skills that students should be able to know and do at a particular grade level in a content area, performance standards describe the levels of achievement that students must demonstrate to show mastery of the content standards. Curriculum standards are accompanied by guidelines that help teachers assess student progress in the strands or subject domains for an area of study. Assessment standards often specify the methods for evaluating students' reading abilities. Most assessment standards utilize valid and reliable assessments that are aligned with content and performance standards. Effective teaching requires alignment and coherence among the curriculum standards and instructional and assessment practices.

In practice, the scope and sequence for phonological awareness instruction reflect the tasks captured in the three stages of phonological awareness development, which shows the continuum of phonological awareness development abilities by difficulty level. Carefully planned phonological awareness instruction has a significant influence on students' reading and spelling achievement (Ball & Blachman, 1991). For instance, because smaller linguistic units are more difficult to manipulate, most children may find it easier to identify the word *boy* than the consonant phoneme /b/ and vowel phoneme /oy/ that make up the word *boy*. Integrating phonological awareness tasks across difficulty levels is critical for maximizing the benefits of phonological awareness instruction for all students, particularly for children with deficits in this domain.

Having discussed the elements of standards and the content of phonological awareness instruction as specified by the Common Core standards, we will now examine the features of some popular tools used for assessing phonological awareness skills in early-grade classrooms. First, we discuss these tools because they provide background information on our approach and methods. Secondly, we also intend to clarify and explain our rationale and justification for using the Phonological Awareness Screening Test (PAST) as an analytical tool for evaluating the NaCCA standards in this study.

1.5 Instruments for Assessing Phonological Awareness and Phonemic Awareness

In improving reading achievement in early learners, assessing phonological awareness skills serves two purposes: early screening and progress monitoring. Early screening assessment tools are used to identify students who are at risk of reading difficulties. Screening assessment leads to the early identification of learners with specific language impairments and phonologically based speech impairments, and those at a heightened risk of encountering difficulties in reading. The predictive power of phonological awareness screeners may be attributed to their utility for measuring word reading skills and other semantic, syntactic, and morphological abilities that impede

reading comprehension (Gillon, 2004, 2018; Kamhi & Catts, 2012). Progress monitoring assessments are used to track learners' progress over time. The data gathered is used for instructional decisions. Common phonological awareness screeners include *Dynamic Indicators of Basic Early Literacy Skills* -DIBELS (Good and Kaminski, 2002), *Phonological Awareness Literacy Screening* – Kindergarten PALS-K (Invernizzi et al., 2003), and *Phonological Awareness Screening Test* -PAST (Kilpatrick, 2015). DIBELS has been described as a research-based method for designing and validating curriculum-based measures of reading. The items on the DIBELS measure various language abilities, including phonological processing and other reading comprehension skills. The evaluation of the validity and effectiveness of DIBELS indicates that its measures are mostly accurate at predicting and identifying students who will later experience reading difficulties and need intervention (Good et al., 2001). Critics of DIBELS argue that it is not an adequate indicator of reading comprehension (Goodman, 2006; Manzo, 2005), the overall purpose of reading. On the other hand, PALS-K has been described as a criterion-referenced screening, diagnostic, and progress-monitoring tool. PALS-K and DIBELS have subtests that measure the foundational skills and abilities necessary for word reading. PA Screening tests usually assess rhyme detection, sound identification, phoneme blending and segmentation (Catts et al., 1997). Examples of tasks that screeners assess are captured in Table 3. Similarly, PAST is recognized as a valid and reliable tool for assessing phonological awareness. It takes 5-8 minutes to administer. It correlates strongly with word-level reading and other phonological awareness tests (Perfetti et al., 1987; Vellutino, 2004; Wagner et al., 1994). Also, the PAST is a readily available public domain resource. The PAST is a third-generation version of Rosner and Simon's Auditory Analysis Test developed five decades ago (Rosner and Simon, 1971). Kilpatrick revised it based on three decades of research and clinical experience. It is validated because it has been tested on diverse groups of users with samples comprising of kindergarten through college students.

We utilized the three stages in the PAST instrument as the measures for evaluating the standards in the NaCCA curriculum. To evaluate the extent to which c the components of phonological awareness instruction have been integrated into the NaCCA's current syllabi for K-3.

2.0 Methodological Approach

The evaluation of the scope and sequence of the NaCCA curriculum standards against the scope and sequence recommended by the stages and levels prescribed by PAST was intended to highlight the contrast between the scope and sequence of standards in the NaCCA curriculum and the research-based measures for scope and sequence of PA instruction. The measures captured in PAST were appropriate for use in the study because we sought to establish the extent to which the phonological awareness standards in kindergarten and grades 1-3 align with widely accepted research-based measures for phonological sensitivity, basic phonemic awareness, and advanced phonemic awareness development. The categorization of the standards and indicators in the national curriculum documents into the three stages made it possible to determine the extent to which elements of phonological awareness instruction in the NaCCA language and literacy standards align with the tasks on the PAST. Table 3 indicates examples of phonological awareness tasks that are specified in curriculum standards.

Also, we used content analysis as a methodology (Krippendorff, 2004, 2018) because content analysis is especially valuable for identifying trends and patterns in documents that capture institutional or public policy. This makes content analysis suitable for analyzing educational standards, which convey priorities and values to both the public and educators (Krippendorff, 2018; Stemler, 2000). We drew on the comparative analytical approach to explore our research question: How do the phonological awareness standards and indicators outlined in NaCCA's standards-based language and literacy curriculum for English Language align with the stages of phonological awareness development outlined in the PAST? Using an evidence-based theoretical lens, we analyzed all standards and indicators in the national language and literacy curricula for kindergarten and primary 1-3 reading standards to determine the extent to which these standards converge or deviate from the measures specified by the PAST.

2.1 Defining the Units for Coding and Analysis

A key challenge faced while designing the study was identifying and defining the units for coding, analyzing, and interpreting the data. Thus, we coded all the standards and indicators in the national curriculum for both kindergarten and grades 1-3 documents using the codes captured in the qualitative content analysis codebook for evaluating language and literacy standards (Hammond & Kelley, 2024). After coding all standards and indicators using the codes for the subskills in the meaning emphasis, alphabetic-coding emphasis, and sociocultural clusters of codes, we conducted an in-depth, second-level analysis of all the codes that were related to phonological awareness instruction using the levels and stages in the Phonological Awareness Screening Test (Kilpatrick, 2015) as an evaluation tool to establish how the phonological awareness standards in each stage converge or deviate from the measures in the PAST elements as captured in Table 4.

2.2 Procedures for Coding PA Standards and Indicators

As indicated, the data analyzed comprises all standards and indicators from the entire kindergarten and primary 1, 2, and 3 curricula, as captured in syllabi published by the National Council for Curriculum and Assessment in 2019. We coded all standards and indicators related to phonological awareness in the kindergarten and grades 1-3 curriculum documents. Using the difficulty stages in the PAST as the measures, we recategorized the standards into early phonological sensitivity, basic phonemic awareness, and advanced phonemic awareness tasks. We conducted an in-depth analysis of the standards, categorizing each by the nature of the task (Table 3) and the stages (Table 4 below). Table 4 shows the stages of phonological development and examples of tasks in the early phonological sensitivity, basic, and advanced stages of phonemic awareness development. To evaluate and ascertain the alignment, or deviation, of national language and literacy curriculum standards for phonological awareness with evidence-based measures of phonological awareness instruction, we selected an evaluation instrument that is well-validated and reliable, and aligns with the scientific study of phonological awareness development. The measures on the PAST tests have been categorized to reflect the continuum of phonological awareness development.

Table 3
Progression of Early Phonological Awareness and Phoneme Awareness Development

Name of Task	Description of Task
Rhyming	Matching (Which words rhyme? Goat, say, boat) Production (Tell me a word that rhymes with sock.)
Alliteration	Matching (Which picture starts with the same sound as the zoo?) Categorization (Find all the things that start with /m/.)
Blending	Syllables (Put this word together: kan – ga – roo) Onset/rime units (Put this word together: s – ink) Phonemes (Put this word together: sh – ee – p)
Segmenting	Syllables (Say the syllables in Melanie.) Onset/rime units (Break van into two parts.) Phonemes (Say three sounds in mouse; move a chip into a box as you say each sound).

Adapted from Speech to Print: Language Essentials for Teachers (Louisa Cook Moats, 2020)

Table 4
Early to Advanced Progression of Phonological Awareness (based on Kilpatrick's Phonological Awareness Screening Test, 2015)

Stage	Task Focus	Task	Example
Early Phonological Sensitivity Tasks	Deletion of Syllable	Delete a syllable from two-syllable word	Say "bookcase" Now say "bookcase" but don't say "case."
	Deletion of syllable	Delete a syllable from three-syllable word	Say "December." Now say "December," but don't say "de."
	Deletion of Onset	Delete a syllable from a single syllable	Say "feet." Now say "feet," but don't say /f/.

	Change the Onset	Change the onset, keeping the rime	Say "done." Now say "done," However, instead of /d/, say /r/. (run)
Basic Phoneme Awareness Tasks	Deletion of Phoneme	Delete a beginning phoneme from a word that begins with a blend.	"Say, sleep. Now say sleep but do not say /s/."
	Substitution of Phoneme	Substitute an initial phoneme in a word beginning with a blend.	"Say, sleep. Now say sleep but do not say /s/."
	Deletion of the final phoneme	Delete a final phoneme	Say wheat. Now say wheat, but do not say /t/."
Advanced Phoneme Awareness Tasks	Substitution of vowel in one syllable	Substitute a medial vowel in a one-syllable word.	"Say ran. Now, say ran, but instead of /a/, say /u/."
	Deletion of a second phoneme	Delete the second phoneme in an initial blend.	Say bread. Now say bread but don't say /r/."
	Substitution of a second phoneme	Substitute the second phoneme in a blend.	Say, crew. Now, say crew, but instead of /r/ say /l/."
	Substitution of a final phoneme	Substitute a final phoneme.	Say some. Now say some, but instead of /m/, say /n/."
	Deletion of internal phoneme	Delete the internal phoneme in a final blend.	Say ghost. Now say ghost, but do not say /s/."
	Substitution of internal phoneme	Substitute the internal phoneme in a final blend.	Say west. Now, say west, but instead of /s/, say /n/."

Adapted from Speech to Print: Language Essentials for Teachers (Louisa Cook Moats, 2020

2.3 Analytical Approach

We used frequency measures to determine the occurrence of standards and indicators across the three stages in the PAST. In the following section, we present the results of the analysis by calculating frequency values as percentages, comparing them, and drawing inferences. We analyzed the frequency values of the early, basic, and advanced measures on the PAST. The data from the kindergarten and primary 1-3 documents were analyzed separately.

3.0 Results

The results presented are specific to standards and indicators in both the kindergarten and grades 1-3 curricula. First, we present the distribution of all phonological awareness standards by calculating the percentage of standards and indicators in kindergarten and primary 1-3 curriculum documents. We also examine the scope and sequence of phonological awareness skills by calculating the percentages of standards and indicators that reflect early phonological sensitivity, basic phonemic awareness, and advanced phonemic awareness skills, and discuss the results.

3.1 Distribution of Standards between Kindergarten and Primary 1-3

Overall, standards and indicators reflecting early phonological sensitivity, basic phonological awareness, and advanced phonemic awareness skills occurred fifty-five (55) times in both documents, where 39 (71%) of these 55 occurrences of phonological awareness skills were found in the kindergarten curricula standards document. In comparison, 16 (29%) of the 55 occurrences were in the primary 1-3 curriculum documents. Table 5 below presents the breakdown of standards across the kindergarten and primary 1-3 curricula, expressed in both numerical values and percentages.

Table 5.
Frequency and Occurrence of Phonological Awareness Standards between K and 1-3

Grade	Value	Percentage (%)
Kindergarten	39	71
Grade 1-3	16	29
N	55	100

3.2 Frequency and Occurrence of Early Phonological Sensitivity to Advanced Phonemic Awareness Skills

The scope and sequence for phonological sensitivity to advanced phonemic awareness skills is captured in Table 6, which shows the percentage of standards and indicators related to early phonological sensitivity skills, basic phonemic awareness skills, and advanced phonemic awareness skills.

Table 6
Frequency and Occurrence of Early Phonological Sensitivity to Advanced Phonemic Awareness *Skills*

Stage	Value	Percentage (%)
Early phonological sensitivity	34	62
Basic Phonemic Awareness	15	27
Advanced Phonemic Awareness	6	11
N	55	100

Findings on the scope and sequence for early phonological sensitivity to advanced phoneme awareness skills indicate that 34 (62%) of the 55 occurrences of the standards and indicators reflected early phonological sensitivity skills, as captured in Table 6 above. The early phonological awareness standards and indicators emphasized using songs to tune learners into sounds. The tasks in this phase emphasize syllable awareness, rhymes, and onset and rime awareness. 15 (27%) standards and indicators emphasized basic phonemic awareness skills, including phoneme blending and segmentation. Also, only 6 (11%) of standards and indicators represented advanced phonemic awareness skills, including detection and substitution of second and final phonemes and deletion and substitution of internal phonemes, as indicated in Table 6.

4.0 Discussion of Results

In general, curriculum standards, including phonological awareness standards, serve as a framework for instruction, guiding teachers on what to teach and establishing general expectations for children's learning at various stages. By understanding how phonological standards are organized and how they connect to established theories and research on phonological development, educators can ensure that these standards are educationally relevant and effectively support their teaching goals. The frequency and occurrence of the standards and indicators in both the NaCCA language and literacy curriculum (kindergarten and primary 1-3) suggest that standards and indicators largely reflect learning tasks that contribute to early phonological sensitivity to basic phonemic awareness skills. The breakdown of standards and indicators in both the kindergarten and primary 1-3 curricula suggest that the curriculum primarily emphasizes the development of early phonological sensitivity skills such as matching and producing rhyming words, matching pictures with the same sounds, and blending syllables. Early phonological sensitivity standards emphasized instruction on how to notice, think about, and work with larger units of language- syllables, onsets, and rime. On the other hand, basic and advanced phonemic awareness focus on manipulating phonemes at the beginning, middle, and end of words. The teaching materials and learning tasks prescribed in the curricula for developing phonological sensitivity include songs, poems, and games relevant to learners' daily lives and traditions. The results suggest no clear distinctions were made among the three levels: phonological sensitivity, basic phonemic awareness, and advanced phonemic awareness skills. The scope and sequence of instruction did not fully capture the research-

based conceptualization of phonological awareness development as indicated on the *PAST*. In practice, the levels on the PAST provide teachers with guidance on where students are in their literacy development. School administrators and teachers may use the PAST to identify individual students who are likely to experience reading difficulties that may not be visible using informal assessments alone. Students at risk are to be monitored using progress monitoring tools throughout the academic year. A well-designed scope and sequence for phonological awareness instruction includes all essential elements. It builds on prior skills, promotes smooth learning progression, addresses foundational competencies, and identifies gaps in knowledge while reducing redundancy across grades.

5.0 Recommendations

To enhance teachers' instruction of phonological awareness, the distinctions among phonological sensitivity skills (deletion of syllables, onsets, and rhymes), basic phonemic awareness skills (phoneme blending and segmenting), and advanced phonemic awareness skills (like the substitution of vowel phonemes and deletion of internal phonemes) should be clearly explained to teachers. Also, teaching phoneme manipulation, blending, and segmenting in words is likely to yield greater benefits when taught in conjunction with letters, as this approach is even more effective (NICHID, 2000). The syllabi for grades 1-3 must provide teachers with guidance on how to teach and assess phonological awareness logically and sequentially. Addressing this limitation is essential, as many users of the curriculum may struggle to integrate the subskills across the three levels of phonological awareness in lesson planning in a logical, sequential manner without guidance. Many teachers, particularly those new to the field, require ongoing professional development and support to effectively incorporate basic and advanced phonemic awareness instruction into their lesson planning. Providing clear and structured guidance on how to teach and assess phonemic awareness, particularly in the context of Ghanaian languages, Ghanaian English (GhE), and Standard English, is essential for supporting struggling readers. The articulation of the distinctions among the three levels will help clarify the complexities of integrating phonemic awareness into lesson planning for teachers, especially novice educators. To address the unique needs of children in Ghanaian classrooms who struggle with word reading in both Ghanaian languages and English, teachers should be aware of the similarities and differences in the phonological systems of Ghanaian languages, Ghanaian English (GhE), and Standard English. For phonological awareness instruction to be effective, it should focus on helping children distinguish the internal details of spoken words and accurately represent these internal differences in their memory. Thus, it is advisable to evaluate children in K–3 multiple times throughout the academic year to gauge their understanding, and ability to blend and segment of sounds in both their mother tongue and English. This allows for timely interventions for students who show deficiencies during the crucial stages of reading development.

In a multilingual context, teachers could identify phonological similarities and differences between English and the learner's first language to ensure instruction focuses on sounds that do not exist in the first language. (Cárdenas-Hagan, 2018). For example, in Ghana, it has been argued that consonant sounds corresponding to the dental sounds / θ / and / ð / do not occur in native Ghanaian languages. Because these sounds do not exist in the native languages of most Ghanaians, learners of English are tempted to insert the alveolar plosives /t/ and /d/ in place of the dental sounds, respectively (Asante et al., 2022).

Ofori et al. (2014) argued that the nasal velar sound /ŋ/ is completely absent in "Ghanaian English" (GhE). Similarly, Koranteng (2006) argues that the sound has a phonetic realization as /n/ in GhE. Koranteng further explained that the nasal velar /ŋ/ may be pronounced as /n/, where /ŋ/ acts as a pre-velar allophone of /n/ in Ghanaian English. This suggests that Ghanaian English does not include the /ŋ/ sound in its phonetic inventory, resulting in its replacement with /n/. Additionally, Huber (2008) also insists that, unlike Received Pronunciation (RP), Ghanaian English allows the /ng/ sound to occur in the coda position of words such as "sing" and "song". Depending on whether the orthography is shallow or deep, phonological awareness instruction may focus on larger units, such as syllables, or smaller units, including phonemes (Share, 2023). Children who struggle with reading in both English and any of the 11 languages of instruction in Ghana, and who may have underdeveloped phonemic awareness skills when they entered school, may benefit from phonological awareness instruction. Explicit and systematic teaching methods are particularly beneficial for all learners, especially those with limited oral language skills (Bursuck & Damer, 2011). It is also important to recognize that all the sounds in the International Phonetic Alphabet and the English alphabetic system have distinctive features and characteristics. As such, the differences should be taught explicitly, as the unique characteristics of the consonants and vowel phonemes in the language of instruction may not be apparent to early learners. The level of explicitness and systematic nature of instruction may need to vary based on the learner's skills (Smith et al., 1998; Archer and Hughes, 2011), especially for those at risk of reading difficulties. The literature suggests that frequent and intensive instructional sessions are crucial for effective phonemic awareness teaching (Elbaum et al., 1999; Gillon, 2004). Furthermore, the concept of the alphabetic principle requires clarification, as students must understand the differences between letters and sounds. This distinction is critical for developing word-reading skills. It is essential to teach all phonemes in English, including digraphs, trigraphs, vowel teams, blends, vowels, and diphthongs, using explicit and direct instructional approaches.

6.0 Conclusion

Phonological awareness is a crucial skill for learning to read in alphabetic languages. The process of reading development is complex and involves multiple facets. Word reading serves as a bridge between fluency and comprehension, and phonological awareness skills facilitate the development of both word reading and reading comprehension. The significance of phonological awareness in relation to word reading cannot be overstated. Using the PAST instrument, we evaluated the extent to which the elements of effective PA instruction have been integrated into Ghana's national language and literacy curriculum by analyzing the presence and frequency of occurrence of PA standards that reflect the stages of phonological awareness instruction in the K-3 curriculum of the NaCCA. The findings from the content analysis of the national curriculum documents indicated that the standards primarily address early to basic levels of phonological awareness, but there is less emphasis on advanced phonemic awareness skills. Furthermore, the organization of these standards lacks the systematic, structured, and organized approach recommended by evidence-based reading instruction principles. Regarding future directions for research, first, we acknowledge the limitations of content analysis, including its inability to establish causality in general, and other limitations

specific to this evaluation, such as the inability to collect observation data from actual classroom environments and instructional practices that indicate how teachers use the standards in the curricula to develop lesson plans and teach in an actual lesson in a classroom context. Future studies seeking to improve phonological awareness instruction for children in Ghana's public schools may explore the link between teacher knowledge of phonological awareness and its impact on the teaching of decoding, word reading, and spelling. Also, further research is needed to develop phonological awareness standards that are grounded in evidence-based practices and informed by the phonology of the languages of instruction in Ghana. Given the linguistic diversity and multilingualism in Ghanaian classrooms, most students will benefit immensely from phonemic awareness instruction when introduced to it early, as they can draw on the phonological awareness skills learned in their first language when learning to read in English.

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LEARNING FRENCH IN MULTILINGUAL CONTEXTS: THE IMPACT OF EXTRACURRICULAR ACTIVITIES AMONG STUDENTS IN POSTSECONDARY INSTITUTIONS IN GHANA AND NIGERIA

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Abstract

In anglophone multilingual countries like Ghana and Nigeria, extracurricular activities have long supported the learning of French. Activities such as French club, exposure to francophone culture, and excursions to cultural or historical sites allow learners to practise French beyond formal classroom hours. However, there is limited research on their influence in anglophone multilingual contexts. Drawing on language socialisation theory, which highlights language learning through social interaction and participation, this study examines how these activities influence the learning experiences of students studying French in public postsecondary institutions. Using a mixed-methods design, it combined an online questionnaire with semi-structured interviews. Data were collected from 401 survey respondents and 24 interview participants at postsecondary institutions that offer French in Ghana and Nigeria. Survey data were analysed descriptively, while interview data were analysed thematically. Findings show that regular participation in extracurricular activities improves students' communicative competence and sustains engagement in French, although funding and organisational challenges continue to limit full participation. This study contributes to understanding how extracurricular activities support French learning in multilingual Anglophone countries.

Keywords: Extracurricular activities, Nigeria, Ghana, French as a foreign language, multilingualism

Competing interest: The authors have no competing interests to declare.

1.0 Introduction

Multilingualism has become an asset for both national and personal development in an increasingly globalised world. While English still maintains its status as a global lingua

franca (Selvi *et al*., 2023), the acquisition or learning of other major international languages remains essential for many fields, including diplomacy, international business, and cultural exchange (Okoedion, 2019). Languages such as French, Spanish, and Portuguese, which were introduced through colonisation, continue to hold a recognised status in nearly all African countries more than sixty years post-independence (Akinpelu, 2024; Akinpelu & Yegblemenawo, 2023). These languages are used for official and administrative functions, including education.

In many Anglophone countries, the teaching and learning of French as a foreign language has become a strategic priority within education systems. Hence, for countries like Nigeria and Ghana, which are surrounded by Francophone countries, learning French is not just beneficial but increasingly essential for facilitating cross-border trade, regional integration and effective communication among citizens.

Although French has enjoyed official recognition (particularly in education) since 1998, following a declaration by the Nigerian government, the Ghanaian government has always shown a strong commitment to French. In 2019, Ghana announced its intention to adopt French as the second official language, alongside English (Ministry for Foreign Affairs and Regional Integration, 2019). This commitment led to Ghana being granted full membership status in the *Organisation Internationale de la Francophonie* (OIF) in October 2024 (Ministry for Foreign Affairs and Regional Integration, 2025), following a transition from associate membership, which it had held since 2006 (OIF, 2022).

The language-in-education policies in both countries support the teaching and learning of French despite challenges such as limited learner motivation, unavailable teaching and learning resources, difficulty of French graduates in securing employment, and lack of conducive environments for practising oral communication in French outside the language classroom, among others (Akinpelu & Yegblemenawo, 2023; Okoedion, 2019). Although classroom contact hours remain very relevant for language learning, they do not fully address the need for oral proficiency development and affective dimensions of language learning, particularly in non-francophone environments where there is limited access to opportunities for authentic communicative experiences (Akinpelu & Yegblemenawo, 2025; Agbotah, 2021; Akuneme et al., 2021; Akanbi, 2020; Marinze, 2019a).

Activities outside the classroom complement and reinforce classroom-based approaches. Indeed, extracurricular activities can help address these constraints by complementing academic learning with social, cultural, and personal development opportunities. Beyond the classroom, activities such as excursions to cultural centres or historical sites and participating in French club activities expose learners to diverse cultural narratives and support real-life cultural immersion in the target language (Yegblemenawo & Yegblemenawo, 2025). Participation in these activities can also enhance learners' motivation and attitudes towards learning foreign languages (Albayrak & Şener, 2021). Such initiatives could serve as a bridge between the formal teaching and learning of language in the classroom and authentic language use.

The overall goal of this research is to examine the impact of extracurricular activities in French on learners' proficiency development and learning experiences in Ghana and Nigeria. Specifically, this paper seeks to:

i. identify common extracurricular activities among postsecondary French students in Ghana and Nigeria and explore the relationship between these activities and formal classroom learning.
ii. examine the languages used during extracurricular activities and the level of exposure to Francophone culture.
iii. explore strategies adopted for funding these extracurricular activities in the various institutions.
iv. outline key challenges associated with organising these activities and make recommendations.

The research questions guiding this study are:

i. What are the common extracurricular activities among postsecondary French students in Ghana and Nigeria, and how do these activities relate to formal classroom learning?
ii. What languages are used during extracurricular activities, and to what extend these activities expose students to Francophone culture?
iii. What strategies are adopted to fund extracurricular activities in the various institutions?
iv. What are the key challenges associated with organising these extracurricular activities and how can these be addressed?

The study contributes to a better understanding of the importance of promoting and supporting extracurricular activities, as they offer an opportunity for students learning French in Anglophone and multilingual settings like Ghana and Nigeria to enhance their oral and written proficiency, which, in turn, would have a positive impact on the quality of French students who graduate each year.

2.0 Literature Review

Previous research shows that extracurricular activities organised within language clubs can influence language learning beyond the formal classroom. Such activities create opportunities for members of these clubs to be exposed to the cultural aspect of the language and practice what they learnt in class, thereby promoting literary engagement and language learning (Alcântara et al., 2024). This role is particularly important in postcolonial contexts such as Ghana and Nigeria, where language serves not only as a medium of communication but also as a marker of cultural identity, social mobility, and a tool for educational advancement (Hulstaert, 2018).

This supportive role is important, as evidence from both Ghana and Nigeria shows recurring challenges with learners expressing themselves spontaneously and fluently. Among the causative factors are anxiety, fear of making errors, insufficient vocabulary,

phonological interference, and the anglophone context the learners find themselves in (Fiagbe, 2023; Afari et al., 2023; Yegblemenawo et al., 2023; Akanbi & Kezie-Osuagwu, 2020; Inegbe, 2020; Dumenyah, 2015), despite a reported use of the communicative approach aimed at improving their communicative competencies.

Other literature on extracurricular activities supports these club-based activities, as these activities enhance cognitive and social outcomes. Chan (2016, p. 2) argues that these activities "may enhance students' problem-solving, analytical and critical skills through co-operative activities and hands-on experiences." This is supported by a broader literature affirming their positive impact on students' academic and personal development while fostering essential social connections (Christison, 2013; Stuart et al., 2011; Blomfield & Barber, 2009; Fredricks & Eccles, 2008; Eccles et al., 2003). Longitudinal evidence from Fredricks & Eccles (2008) and Eccles et al. (2003) is particularly persuasive that engaging in structured extracurricular activities, such as school clubs and sports, leads to better academic outcomes, higher school engagement, stronger prosocial peer networks, and reduced risky behaviours among adolescents. Recent studies demonstrate that exposing learners to culture through media, native-speaker interaction, and curriculum content, as well as engaging in language club-based activities, not only improves learner motivation, communication skills, and oral fluency but also develops learners' social competencies and confidence (Chung & Long, 2024; Benabbes et al., 2024), thereby reinforcing the importance of extracurricular activities outside the classroom.

Students are more likely to complete a foreign language programme when they appreciate its relevance to their personal or professional goals. In Ghana, for instance, Csajbok-Twerefou et al. (2014) found that many students of French at the University of Ghana acknowledged the importance of French for employment in international organisations. Similarly, in Nigeria, Oyeniyi (2014) and Agbor & Ashabua (2018) found that when students understand the importance of learning French, it influences their attitude towards it. More recent studies associate proficiency in French with increased opportunities for competitiveness in both the local and international job markets, particularly in fields such as diplomacy, tourism, teaching, and it also strengthens cultural ties with neighbouring Francophone countries (Egbe-John & Umukoro, 2024; Braimah & Bito, 2023).

Despite these positive insights, challenges remain in the teaching and learning of French in anglophone settings. Afari et al. (2023) report the urgent need to adopt more contextually appropriate methods for teaching oral French. Their evaluation of the oral component of the French WASSCE Examination revealed a lack of spontaneity, fluency, and understanding of examination questions. These deficits are compounded by systematic challenges such as students' inability to form complete sentences, an insufficient number of qualified French teachers, overcrowded classrooms, and a lack of standardised teaching and learning resources (Marinze, 2019b). Such challenges reinforce the importance of complementary safe spaces where learners of French can

practise French without stress, thereby developing confidence and sustaining interactions in French.

However, although the importance of extracurricular activities, such as those organised by French clubs is widely acknowledged, there remains a limited understanding of how French learners in both Ghana and Nigeria develop their language proficiency outside formal classrooms and how participating in these French club activities contributes to their communicative competence and overall learning experience. Existing literature has primarily focused on classroom-based interventions, while less attention has been given to the role of extracurricular activities in supporting language learning in informal language classroom settings, especially in anglophone multilingual contexts such as Ghana and Nigeria.

3.0 Theoretical Framework

This paper draws on the language socialisation theory, which came from early research works of Ochs and Schieffelin in the 1980s, based on their studies of Samoan and Kaluli caregivers, in response to the limited attention given to the diversity of languages and cultures in the study of first-language acquisition. Language socialisation entails "socialisation through language and socialisation into language" (Ochs and Schieffelin, 2017, p. 6). Although considered an interdisciplinary field at the intersection of many fields, such as anthropology, linguistics, and developmental psychology, the guiding principle of research in language socialisation is that language is central in the process of understanding socialisation (Brown and Gaskins, 2014; de León & García-Sánchez, 2021). Two types of language socialisation can be identified, according to Brown and Gaskins (2014): (1) socialisation through mastering language forms and (2) socialisation through participating in interaction.

On the one hand, socialisation through mastering language forms involves a speaker's understanding and internalisation of a particular language. Although it developed largely from research in monolingual societies, the concept was later extended to bilingual and multilingual societies, taking into account issues associated with language contact, such as code-switching. Socialisation through participating in interaction, on the other hand, refers to the function and purpose of interaction in the process of socialisation. It holds that "cultural information is communicated through talk during everyday interactions. [Learners] get socialised through interaction not only to language practices but also to the full range of cultural practices and their meanings" (Brown and Gaskins, 2014, p. 205).

Drawing on language ecology, which stresses the study of interactions between a language and its environment, Steffensen and Kramsch (2017) highlight the relationship between second/foreign language learning/acquisition and second language socialisation. According to them, the ecology model questions the early second-language acquisition research which holds that "language is a structural entity sui generis; it traces cognition to an inner, mental realm; and it separates learners from their sociocultural and autobiographic contexts" and neglects "the influence of the

social context in the development of language use or communicative competence … because it took for granted that language could have no other function than for communication" (p. 19). However, since the 1990s, sociocultural theorists and sociolinguists have established that language does not function only as a mode of communication but also as a symbol of social and cultural identity, thereby establishing the connection between language acquisition and language socialisation. Additionally, an ecological perspective on second language (L2) acquisition views language socialisation differently, particularly in relation to adolescents and adults. According to Steffensen and Kramsch (2017):

> From an ecological point of view, the concept of language socialisation differs when it comes to adolescents and adults learning a second language from when a child is socialised through his/her mother tongue into a given cultural setting. The L2 socialisation processes of adolescents and adults who are already socialised in their primary community are saturated with reflexivity regarding identity, social relations, and their political implications. Their language acquisition is inseparable from the secondary socialisation that follows from being transplanted into a non-native culture or into the culture of the educational system. (p. 21)

Consequently, second/foreign language acquisition or learning is more than just educational settings but also includes various other learning contexts (Steffensen and Kramsch, 2017), such as extracurricular activities outside the classroom.

Moreover, the importance of extracurricular activities in learning a foreign language has already been established. Recent studies have shown the pertinence of these activities not only in providing learners with opportunities to interact in the language in authentic and meaningful contexts but also in promoting social interaction (Mondada and Doehler, 2000; Santiago-Garabieta et al., 2023). Interactions within the context of language learning create space and opportunities for meaningful learning and the construction of new knowledge (Canelas-Trevisi & Thévenaz-Christen, 2002). It also favours the Zone of Proximal Development (ZPD) - the distance between what a learner can do independently and what the learner can do when the needed assistance is provided - which occurs through guided participation and support from more capable peers, mentors, or teachers (Vygotsky, 1978).

In both Ghana and Nigeria, extracurricular activities are an integral part of the experience for students pursuing a French programme at the postsecondary level (university and college of education). Typically organised as extracurricular activities within the framework of a French Club or a French Students' Association, these initiatives are usually student-run. In sum, extracurricular activities in second or foreign language learning provide a dynamic and enriching learning environment where learners can develop their linguistic, cultural and social skills in a meaningful way. This observation supports the constructivist approach to learning, which highlights the active role of learners in constructing their understanding of the world. This is facilitated by providing opportunities for learners and students to engage in meaningful language use, problem-solving tasks, and collaborative learning activities (Nunan, 2012).

4. Extracurricular Activities within French Clubs

Language clubs are defined as extracurricular activities where learners meet regularly to practice their target language and engage in related cultural activities outside the formal curriculum (Ávila & Riveros, 2024; Demydovych & Holik 2020). Characteristics of these activities include being generally voluntary with a regular participation schedule, some structure and rules and being organised around particular competencies (Fredricks, 2008). Related names, such as conversation clubs (Ávila & Riveros, 2024; Şenbayrak & Ortaçtepe Hart, 2024), foreign language clubs (Nealon, 1950), and speaking clubs (Demydovych & Holik 2020), are used in some existing literature to describe these extracurricular language activities. In this study, we prefer to use *French Students Association* and *French Club* interchangeably to reflect the terminology used in institutions in both Ghana and Nigeria.

While the precise origins of these activities are difficult to trace, they have evolved into various tasks which aim to facilitate academic achievements. Activities across campuses in both countries include music and dance, drama, debate and symposiums, and excursions, as well as targeted writing and oral communication workshops.

In Ghana, for instance, the French Students Associations at the Kwame Nkrumah University of Science and Technology, the University of Ghana and the University of Cape Coast propose a variety of weekly activities, such as *News Club, Debate and Reading Club, Dance and Music Clubs, Drama and Poetry Clubs, Special Events and Excursions*, etc., to meet different interests and learning needs.

Similar student-led initiatives are found in postsecondary institutions in Nigeria, such as the University of Ibadan and Obafemi Awolowo University. These activities provide authentic contexts for cultural immersion, allowing students to use the French language in real-life interactions and bridging the gap between classroom instruction and practical application.

More broadly, extracurricular activities, such as structured debates, poetry, theatre, sports, professional development and "my hobby" workshops, excursions, and festivals, encourage students to collaborate and engage with others, developing creativity alongside intercultural competence. Institutions maintain linkages with the *Organisation Internationale de la Francophonie* (OIF) to support language and culture initiatives and partnerships in cross-national education and student development. In 2025, for instance, French club members were invited to participate in the Francophonie Festival 2025, themed "*Je m'éduque, donc j'agis*". It featured music concerts, theatre performances, poetry events, sports, seminars/lectures, and a cultural parade, promoting the value of education and cross-cultural programming. (Francophonie Festival, 2025). Campuses also host weekly sessions where students can participate in or lead debates, poetry, music, and excursions that give students a platform to engage with French while interacting with students with Francophone backgrounds. Additional cultural events, such as movie nights, quizzes, and reading clubs, are sometimes organised in collaboration with Campus France.

Collectively, these activities show how extracurricular activities expand and facilitate student learning outside of conventional classroom contexts, deepening linguistic competence while developing cultural consciousness and meaningful social relationships.

5.0 Methods

5.1 Research design and setting

This research adopted a mixed-methods convergent design, combining an online questionnaire and semi-structured interviews to collect both qualitative and quantitative data. The primary objective was to carry out a situational analysis of the impact of extracurricular activities on French undergraduate students in postsecondary institutions in Ghana and Nigeria. Specifically, it examined common extracurricular activities and their relationship with formal classroom learning, language use and exposure to Francophone culture, funding strategies and the challenges associated with organising these activities.

5.2 Participants, sampling and eligibility criteria

For the survey participants, the target population comprised undergraduate students majoring in French in postsecondary institutions in Ghana and Nigeria. The study used purposive sampling to select participants. Eligibility criteria included (1) being a French student enrolled in a postsecondary institution in Ghana and Nigeria; (2) having spent at least one academic semester in the current institution; and (3) participating in extracurricular activities organised by the French Students' Association (French Club) in their department since enrolling in the school. Participants were recruited by sending promotional materials to postsecondary institutions in Nigeria and Ghana to distribute among French students and by using social media platforms.

For the qualitative data, a semi-structured interview guide was used to ensure consistency across interviews. Data were purposively collected from 24 participants across both countries (16 from Nigeria and 8 from Ghana). To ensure a national representation, each country was divided into three geographical zones: Northern, Middle and Southern belts.

5.3 Data Collection Procedures

Data for this research were collected using an online questionnaire administered through the University of Regina's Qualtrics platform and through semi-structured interviews with selected members of the French clubs in Ghana and Nigeria. The questionnaire had both open-ended and closed-ended questions, generating quantitative and qualitative data, and was administered from February to October 2024 in both Ghana and Nigeria. These questions captured students' participation in the French club activities and their perceived benefits.

The semi-structured interviews were conducted through Zoom in both countries between September and November 2024. Each interview lasted approximately 25 minutes. The interviews were audio-recorded with the consent of individual participants and then transcribed for analysis.

5.4 Ethical Considerations

This project was reviewed and approved on ethical grounds by the University of Regina Research Ethics Board. All ethical standards were met in line with the approval granted. Participation in this survey was entirely voluntary. Informed consent was obtained from all respondents before completing the online questionnaire and participating in the semi-structured interviews. In addition, participants were assured of the confidentiality and anonymity of their responses. Interview recordings and transcripts were stored securely, accessible only to the research team and used solely for this study.

6.0 Data analysis and interpretation

Quantitative and qualitative data were analysed separately before integration. Responses to the closed-ended questionnaire items were coded numerically and analysed using descriptive statistics, including frequencies and percentages, to identify patterns in participants' responses. These are procedures used to describe and summarise data through pictorial or graphical representations (Cooksey, 2020). Qualitative data from the open-ended questionnaire items were repeatedly read to help familiarise with the data. NVivo 15 was then used to identify, code, and categorise the key ideas that emerged from participants' responses. Similar codes were then grouped into broader themes to reflect the various experiences students shared (Braun & Clarke, 2006; Vaismoradi et al., 2013).

The semi-structured interview transcripts were transcribed, assigned codes and analysed thematically. To protect confidentiality and anonymity, each participant was assigned a unique code: Ghanaian participants were coded GH 1 - GH 8, while Nigerian participants were coded NG 1 to NG 16, rather than identifying them by institution or by their personal names

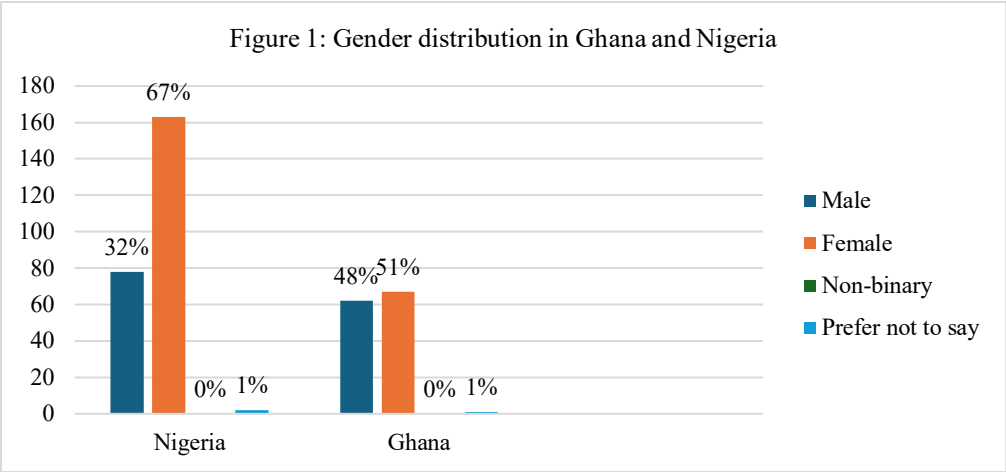
The findings from both Nigeria and Ghana were integrated at the interpretation stage using side-by-side comparison of the quantitative results and qualitative themes. This approach helped compare, synthesise and interpret quantitative and qualitative strands of data within a single discussion. This was necessary because integration in a mixed-methods research approach allows for areas of convergence, divergence and complementarity to be identified, thereby providing a more comprehensive understanding of the experiences across both countries (Bazeley, 2024).

6.1. Survey Respondents and Demographic profile

In total, 401 students participated in the online survey, with 130 respondents from Ghana and 271 from Nigeria. This exceeded the initial target sample of 300 respondents

across both countries. In terms of the gender distribution, the sample from Ghana indicates a nearly balanced representation. Out of the 130 respondents, 51% identified as female and 48% as male, with only 1% preferring not to disclose their gender and none identifying as non-binary or third gender. The scenario is a bit different in Nigeria, where the gender distribution favours the female category. Out of the 273 people who participated in the online survey, more than two-thirds (67%) identified as female, while about a third (32%) identified as male. Only 1% of them chose not to disclose their gender, whereas none identified as non-binary or third gender. See Figure 1 below.

Figure 1: Gender distribution in Ghana and Nigeria



While the data show a broad geographic representation across both countries, respondents are mainly from the Ashanti region in Ghana (33%) and the South-West region in Nigeria (45%). In addition, although French students at all levels participated in the online survey, students in their third and final years represented 71% of the respondents in Nigeria, while participants in Ghana were mainly in the second, third and fourth years of their programme – 28%, 28% and 33%, respectively.

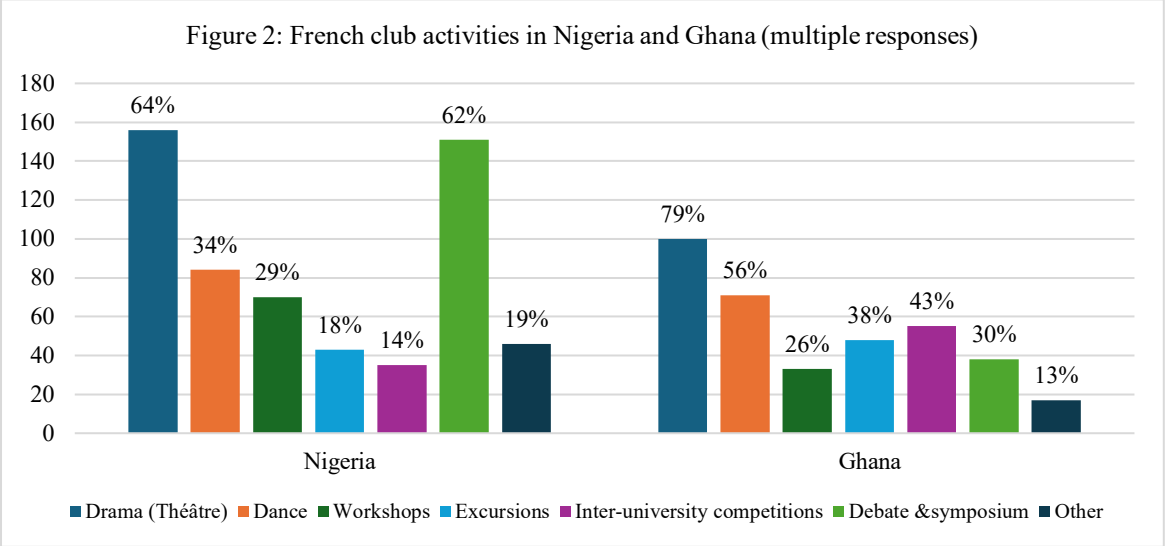
Interview data were collected from 8 participants from Ghana and 13 participants from Nigeria who have enrolled in postsecondary institutions that offer French in both countries. Out of the 8 participants from Ghana, 3 are females, and 5 are males. In Nigeria, out of the 13 participants, 4 are males, and 9 are females. All interviewees were active members of the French club in their institutions. Three executives and one non-executive member were interviewed.

6.2 Common extracurricular activities

Various extracurricular activities are organised through French clubs and association meetings, including storytelling in French, spelling bee competitions, drama, symposiums, debates, singing competitions, quiz competitions, poetry recitation, games, interuniversity competitions, dance, pick and act, music and movie sessions, etc. However, as survey data revealed (Figure 2), in Nigeria, the most popular activities

among French students are drama (64%), debate (62%), and dance (34%). In Ghana, drama (79%), dance (56%) and debates (30%) top the list.

Figure 2: French club activities in Nigeria and Ghana



6.3 Funding the extracurricular activities

Extracurricular activities in Nigeria and Ghana are mainly funded through contributions made by French students. These contributions are usually mandatory and vary from institution to institution, ranging from 10 to 30 cedis in Ghana and 1,000 to 10,000 naira in Nigeria on a semester or yearly basis. They are normally added to the student's school fees, and in some cases, collected by the department as indicated in the following excerpts from respondents.

> *The HOD [Head of Department] is the one taking care of the money. They have an account for the French club. Okay. Yeah. So, as the money is being paid, then the list, the number of those who pay will be given to the HOD and the HOD will submit and then the money will be saved by the bank. Okay.* (GH 3)

> *There's this dues we pay as students of the French department as Cercle français Levy. All students. We are bound to pay for it. It's compulsory. It's not optional just for departmental clearance. So we paid the sum of 1500 naira, and the student was issued a receipt Cercle français, which has been approved by not only the department, not only the faculty but by the university*. (NG10)

To better fund their extracurricular activities and enhance services offered to their members, some leaders of French clubs and associations have adopted other means, such as grocery sales and fundraising activities, as mentioned by some participants from Ghana.

> *We pay dues every semester. Okay. So out of the dues that we use to prepare some foodstuffs, then we use as get-together before the semester ends. Within the department, we have a printer, we have a fridge. So these two machines give*

> *us money. With the fridge, we use it to sell water. At first, we used to sell other things like yoghurt. Okay. Later, we realised that the yoghurt was draining us… Then we focus on the water. And then with the printer, we use it to print at an affordable price. Right. Okay.* (GH 8)
>
> *We started fundraising. It is our first time, though we are trying. We offer some t-shirts and then French, the club t-shirts … So, through the t-shirts you purchase, we get funds from that.* (GH 1)

6.4 Languages used during extracurricular activities

Although activities at French language association meetings are meant to be conducted exclusively in French, findings reveal that these meetings are essentially dominated by the use of French and English in both countries. As data from the online survey shows in Figures 3 and 4 below, in Ghana, the majority of the respondents (73%) reported using both French and English during these activities, while only 13% indicated an exclusive use of French, and 14% stated that they engage in multilingual use of languages, combining French, English and a local language. Only 1% of the respondents indicated the use of French and a Ghanaian language. In Nigeria, 76% of the respondents indicated using French and English, compared to only 11% who use French only and 12% who use French, English and a local language during these meetings. Only 1% of the respondents from Nigeria indicated using French and Pidgin during these activities.

Figure 3: Languages used during French association activities in Ghana

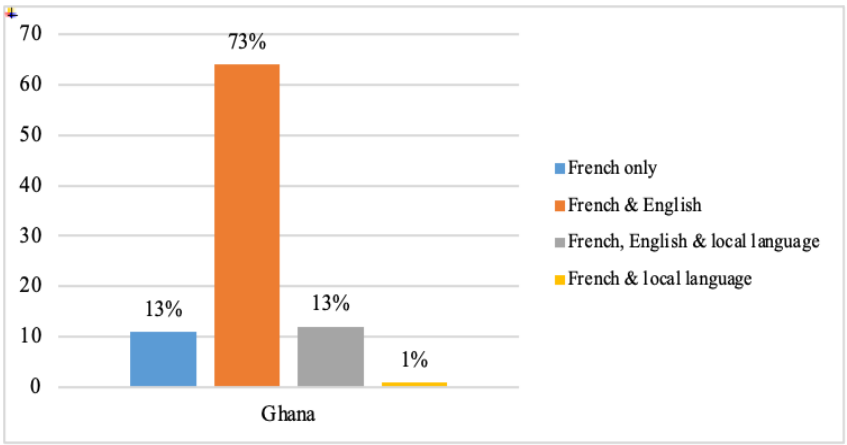
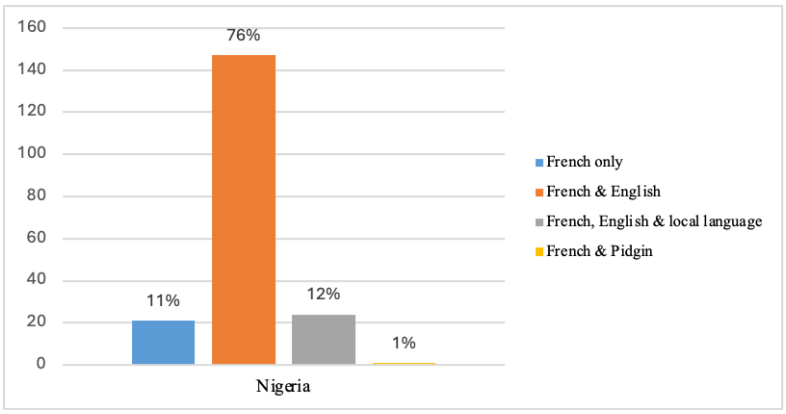


Figure 4: Languages used during French association activities in Nigeria



Interview data support this finding and explain the language choice. First, French clubs and associations bring together students at different academic levels – some are in the first year of their undergraduate programme, and their proficiency level in French is still developing. As a result, the English language is often used as a tool for inclusion and to aid understanding. This is illustrated in the interview excerpts below:

> *I would say it was a mélange [blend]. It was a mélange. So when we were with the level 100, for instance, we spoke more English than French. But for the other levels, especially 300 or 400, it was more French than English. Mainly because we felt like, you know, you are at a stage, for 300 or 400, you are at a stage where you should be able to construct. Logical sentences in French, so, you know, just to help everyone. So, it was more French than English. But then when, you know, given that it's an Anglophone setting, it's one of the setbacks we face. How do we balance the two, you know? In order to get the message across, should it be more French than English or more English than French? It was one of the struggles. But depending on the level and the context, it was either more English to French or more French to English*. (GH 7)

> *Okay. Yes, French is the language, but since we are also learners, there are times that somebody is hooked. English is also used. So it's a mixture of French and English. So those let's say 100 level students that we are trying to bring them so that next time they don't feel discouraged, there are times we allow them to also use English, so the major language is French, but English is also there so the 2 languages are English and French.* (NG 7).

Second, there seems to be a general sense of linguistic insecurity due to a broad low level of proficiency in French among students, as mentioned in the excerpts below.

> *Okay, officially, we all agree that it's French that we are supposed to use. But you know, whenever we go to meetings like this, even though it is agreed that it's French, some people still try to bring in the English because they are scared of expressing themselves because they are afraid, they might be laughed at. But it's strictly French*. (GH 5)

> *So the main language we use is French. But sometimes they use English because, you know, we are Anglophone as I said earlier, so it's not every word*

> *or every vocabulary in what they say that we understand. So they use English, they use French, but they ensure they use more French sometimes…* (NG 8)

6.5 Link between formal classroom learning and extracurricular activities

Interview participants indicated a direct link between formal French learning and the activities organised during the French clubs and associations meetings. For several of them, these meetings provide them with the opportunity to go over topics not well understood in the classroom. Additionally, activities such as *théâtre* (drama), symposium, *atelier* (workshop), etc. help students develop oral communication skills, as mentioned by some participants below.

> *Yes, I think they do… In the classroom, I believe that we are not taught how to express, per se. I would say we are taught the pedagogical knowledge, like what to teach when we go to the classroom. It's mainly, let me not say, it's mainly exam per say, but they focus on the course content. Yes, even though there are times where we have other engaging activities in class, but the priority is the course content. So, the activities that we engage in in the clubs, it helps with the day-to-day conversation, not only the course content. It helps you to be able to converse with someone else. It just helps you build upon your French as a person, not just to learn for exams.* (GH 5)

> *Yes, absolutely. Of course, you see that, for example, this atelier normally is based on whatever they teach or whatever that is being practised. It is based on the course content for the particular semester. OK, everything is based on what the drama is, the drama aspect, the theatre, the reading aspects or the speaking aspect. Everything is based absolutely on the course contents that we're supposed to be taught. So, you see, we combine them. Levels 100, 200, but of course, the facilitators look at what level 100 is supposed to look at, what level 200 is supposed to treat this semester and then blend them.* (GH 6)

> *That's some of them are not taught in class and sometimes we do expose on some topics probably topics we have used for like a like exposing class. Like a symposium probably because we have some courses where the lecturer will choose some groups of people or students to talk about a particular subject and some other group as well. So talk about some other things where we students, we ask questions. And our colleagues, our other students in other groups they answer. So we bring some of these topics taught there or treated there to our social education activities.* (NG 1)

> *Most of the courses that the students are finding difficult most of the topics. In maybe Grammaire, culture civilisation, and the other literary courses as well. Some students would like those who are good in each area to come and throw more lights to help them understand the topics properly*. (NG 10)

6.6 Exposure to Francophone culture

While members attending the French clubs and associations are normally exposed to French culture through regular activities, qualitative data revealed that the Francophonie Week event - *La Semaine de la Francophonie* - which is held yearly in March, constitutes the moment when students have the opportunity to immerse themselves in the francophone culture in many aspects of its diversity.

> *We also had expression de la semaine that is every Wednesday to had an expression. We had one called en Francais s'il vous plaît. That means on every Friday it's only French that we speak on our pages in classroom, everywhere it is French. …Yeah, that is for the academic aspect when it comes to the fun aspect of it, we had a trip. We had two trips: one was among ourselves, so we went to, I think, the Kwame Nkrumah Museum and then the Aburi Botanical Gardens. The second trip we did it with the school from the Côte d'Ivoire called Tifa. So, we went to with them on a trip around Accra to different places and when we were doing that as we were doing that we were speaking French with them and they were speaking English with us.* (GH 7)

> *Then that is on a Saturday. We also have the talent show, where people come and only perform a talent; we give the space. But all the talents are performing in French, like singing in French, dancing to a French song. You are reciting a poem in French. You are doing something in French. That is for the talent show. Then on a Sunday, we go back and then do Thanksgiving. And then the Thanksgiving mass is also done in French. And we have been able to do that three consecutive times, which is something we can boast about.* (GH 3)

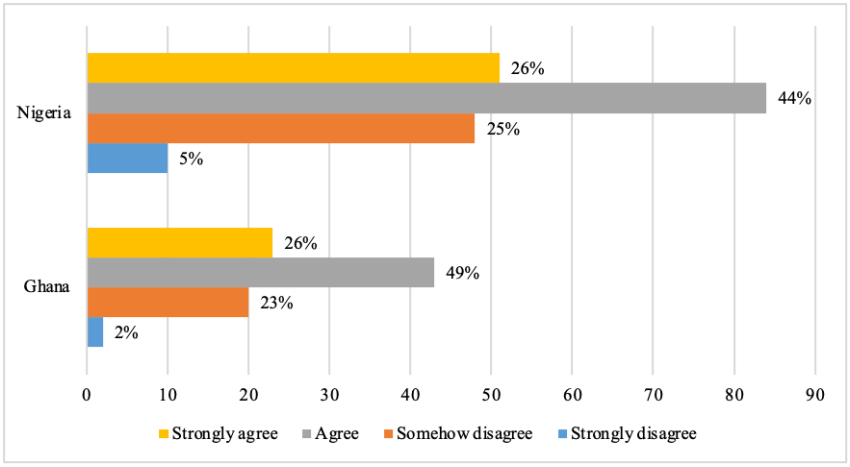
> "*Okay, we… introducing the French culture we do something they called like when we have our semaine francophonie, we do what we call the French food basically. And some French songs*." (NG1)

> *We were much in class for the activities. And we learned, we talked about la Journée de la Francophonie and that was, that was a great one where we have one of our lecturers who spoke on la Journée de la Francophonie, and we went ahead to ask the students questions and they were able to give positive responses to these questions* (NG 3).

6.7 Impact of activities on participants' overall proficiency in French

Findings from quantitative data show that participants who attended the extracurricular activities regularly find them very beneficial to their knowledge of French and their oral proficiency in French (see Figures 5, 6 and 7).

Figure 5: Impact of extracurricular activities on participants' knowledge of French



As Figure 5 above shows, 44% of participants in Nigeria agree and 26% strongly agree that activities held during the French association meetings are beneficial to them, while 25% somewhat agree, and a small portion (5%) strongly disagree. In Ghana, 49% of the respondents indicated that participating in these activities has helped them improve their knowledge of the francophone culture, 26% of the participants stated that they strongly agree, 23% also affirmed that it has somehow helped them, and 2% of the participants stated that they strongly disagree.

Respondents were also asked to rate their oral proficiency in French as a result of attending and participating in the socio-educational activities organised by their French clubs. As shown in Figure 6, students in Nigeria rated their oral proficiency between 4 and 9 on a scale of 10, with the highest values being 5 and 6 cited by 24% and 18% of them, respectively. In Ghana, most respondents rated their oral proficiency between 4 and 8, with the highest value being 6 (24%). This is followed by the ratings of 5 and 8, which represent 22% and 14% of the responses (see Figure 7):

Figure 6: Participants' self-assessment of their oral proficiency in French (Nigeria)

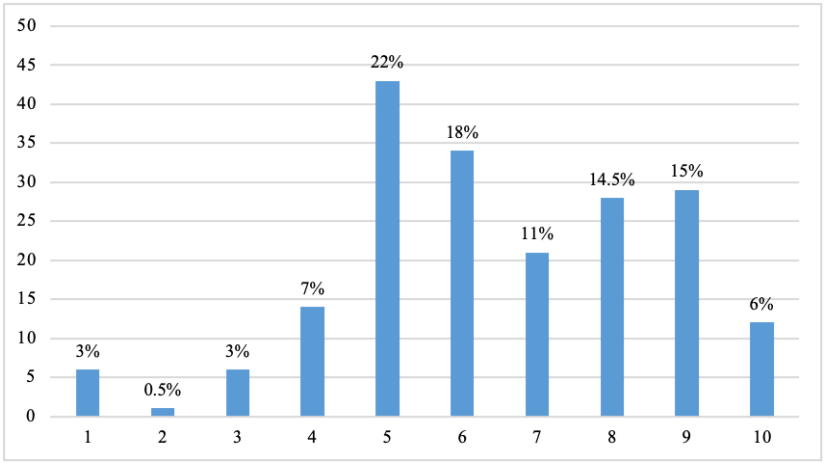
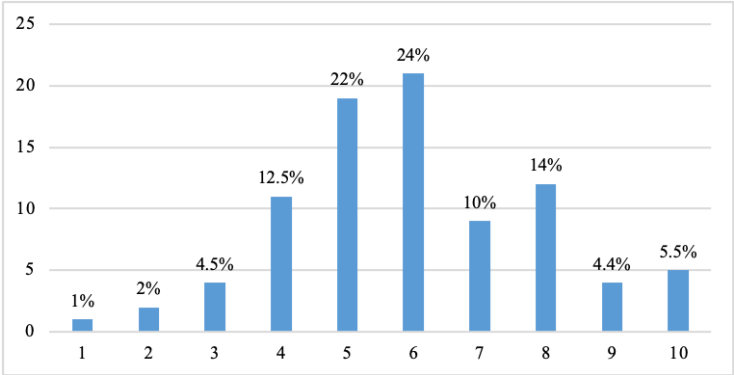


Figure 7: Participants' self-assessment of their oral French proficiency (Ghana)



Data from the interviews conducted in both countries have also shown that French students who attend these activities derive many benefits from them, including the opportunity to practise their French while socialising, and a sense of belongingness.

> *Very important. One, it helps when you are part of those types and you engage in, it brings sense of belongingness. You feel belong to a group of people, and then you all share your ideas. You get to have time to talk to people who have the opportunity to learn from others. You have the opportunity to have fun and get educated as well. So, it's very important*. (GH 5)

> *For example, now, because of this, social educational activities, I'm able to like, when a teacher asks a question, I'm able to express myself a little. At least you will know what to say. Because before I started this French club something. I was not able to express myself. Sometimes you can even ask me a question I will not know what you are saying.* (NG 12)

> *This socio-educative has really helped, especially me talking, it has really helped me a lot. Like they used to tell us that, learn a new word, learn a new word every day, but it used to be hard for us students because in the college of education, it is not only French, you combine two courses.* (NG 8)

7.0 Challenges

In spite of the many benefits associated with attending activities organised by the French clubs and associations, students who took part in this study have highlighted several challenges that continue to undermine the effectiveness of these associations. A major challenge reported across all the French clubs and associations in Nigeria and Ghana is inadequate funding and limited sponsorship, as contributions made by students themselves are insufficient. As a result, some executive members of these associations indicated that they use their personal resources to finance some activities.

> *So, part of the funding came from the association coffers, of course and when, of course, when we started, basically, we took dues and we thought, yes, and all that. So, some of the money all came from there… So, I had to convince them*

> *how it works. We contributed a lot for several other programmes so we could have it. And some of them had to sponsor it on my own. But for external sponsors, we never had one. We never even had a couple from anyone, I remember, I don't know what to tarnish any organisation, but they couldn't help us. We went to them. We had a conversation with them many times about our programme. So, we started. We never really disappointed. So, yeah, external organisation, nothing, everything was from me. Not even campus, France. Oh, not even a person, even French employees, no money*. (GH 7)

> *Well, we'll do that sometimes because like I said, I'm the president of my club and sometimes, the schools contribute and sometimes. We call for sponsor if there is one among our students and some people like myself for instance some days I just fund it. As far as my capacity can go. So that's how we do because the truth is that we don't have much fund for these activities*. (NG 1)

Attendance at these extracurricular activities constitutes another challenge. All French clubs and associations in both countries experience low participation of student members. The fact that executive members have to work with the classmates or agemates, coupled with the absence or lack of enough support from lecturers who are often not present at these meetings, exacerbates the situation.

> *Okay, our challenges, the first one will be the attendance. They either don't come at all or when they come, they come very late. Okay, a major problem with how they show up for meetings or programmes is either they don't come at all, or they come, and then they are very late, maybe an hour late. The other problem was the finances to organise more programmes… and then financial difficulties.* (GH 4)

> *So it is stressful going around gathering the students. it is written in the constitution of the department that it's way from noon to 2 pm every Wednesday, no lecturer*. (NG 10)

> *Some of the challenges we face are number one: The department. From our lecturer, basically there is not much emphasis on this activity. It is we students who try to make learning French effective among ourselves. The school is not really putting in much effort to ensure that all students participate.* (NG 1)

8.0 Discussion and Conclusion

The findings offer interesting details about extracurricular activities held during French clubs and associations meetings in Nigeria and Ghana. Membership in these language clubs and associations offers several benefits. First, they continue to be an integral part of French language learning in both countries, with drama and debate as the most popular activities because they help learners develop and improve their oral proficiency. Second, they complement formal classroom learning by providing a tutoring platform where stronger, senior students help weaker, junior ones with topics

not well understood in class. Third, activities such as dancing and gastronomy commonly expose students to francophone culture. However, in Ghana, as well as in Nigeria, the yearly Francophonie Week event (*La Semaine de la Francophonie*) gives the students the opportunity to learn more about francophone culture in its diversity, including the cultures of neighbouring francophone countries. Despite their many benefits, French clubs and associations face many challenges, such as a lack of adequate resources to fund their activities, challenges in learning a foreign language in a multilingual and anglo-dominant context, and a lack of support from lecturers. Notwithstanding, French students who attend these extracurricular activities regularly find that they have improved their overall knowledge of French, including their oral proficiency in the language.

In short, extracurricular activities remain relevant to learning French in diverse sociolinguistic contexts, such as Nigeria and Ghana, as they offer students the opportunities to socialise through interactions in the language being learned and its culture (Brown and Gaskins, 2014). In this perspective, socio-educational activities complement formal language learning, which neglects communicative and oral competencies, which are crucial in foreign language learning. These associations also provide a safe environment for collaborative French language development in highly multilingual and Anglo-dominated contexts.

We offer a few recommendations based on this study's findings. First, while payment of association fees is mandatory in most institutions, attendance at the French club and associations' meetings is not. To mitigate the attendance challenge, we suggest that every institution integrate extracurricular activities as part of the French curriculum design and make them a required component of the programme by assigning some university credits to them – the number of credits may vary from institution to institution. This would further strengthen the link with what is learned in the classroom and serve as the practical component of the learning experience. It would also encourage the full support of lecturers, which is currently lacking and foster the development of oral communication skills in French in each learner, which continues to be a serious challenge. Our second recommendation builds on the first. To alleviate the funding challenge, French departments should consider including their French clubs and associations as part of their budget and encourage their institutions to invest more in French language teaching and learning. Additionally, French departments are better placed to secure sponsorships from external bodies (private sector, embassies, etc.) than the students themselves. Finally, while making attendance mandatory would give more control of the extracurricular activities to French departments, provisions must be made for fun activities organised by students for students.

Ultimately, extracurricular activities offer several benefits to French as a foreign/second language learners. They promote socialisation and social interaction by encouraging learners to communicate in the language with their peers, teachers, and other native or non-native speakers (Vygotsky, 1978). They also help to contextualise learning by connecting language knowledge to concrete situations, which promotes the retention

and application of linguistic knowledge. Additionally, these activities increase learners' motivation by engaging them in interesting and stimulating activities (Ménard, 2021), and help develop their intercultural competence by exposing them to the cultural diversity of the French-speaking world (Mouto, 2013), while stimulating learners' autonomy by giving them the freedom to choose activities based on their interests and linguistic needs.

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INFLUENCE OF SOCIAL FACTORS ON THE USE OF ENGLISH PREPOSITIONS AMONG EWE-ENGLISH BILINGUAL CHILDREN

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Abstract
Despite substantial evidence of difficulties in learning English prepositions among L2 speakers, empirical studies on the role of social factors remain limited. This study fills this gap by exploring how Ewe-speaking school-going children in Ghana use English prepositions and whether variations in their learning outcomes may be linked to social factors (age, gender, parents' educational background, birth order, language learning environment, and familiarity with L1 spatial expressions). The Variationist Sociolinguistics approach informed the data collection. The Topological Relation Picture Series was used to collect data from 40 purposively sampled Ewe-English bilingual children aged 3–13 years. A cross-sectional quantitative research design was adopted for this study. IBM Statistical Package (Version 22) was used to provide a descriptive analysis employing mainly means and frequencies, and the first language interference was qualitatively analyzed. Findings show that age and gender are significant factors in influencing preposition usage, whereas parents' educational background, birth order, and language learning environment had minimal influence. Findings further suggest L1 interference: some learners experience confusion regarding the meanings of certain English prepositions, a difficulty that appears to stem from their misunderstanding or improper learning of the L1 equivalents of those prepositions.
Keywords: language learning, sociolinguistics, English prepositions, spatial terms, Ewe, L1 interference

1.0 Introduction

Prepositions are a vital component of English sentence making (Nghi, Thang, & Phuc, 2021); therefore, English speakers need a good grasp of the use of prepositions. Whereas native speakers grasp the prepositions with little or no difficulty, L2 learners have great difficulty with using English prepositions accurately (Alhammad, 2023; Boieblan, 2023; Ellis, 1994). Despite overwhelming evidence of difficulty acquiring prepositions among L2 learners of English globally, empirical studies on L2 children's use of prepositions are limited, perhaps because the research is largely focused on adult learners (see Boieblan, 2023; Geluso, 2022). Furthermore, studies demonstrate that language learning is a deeply rooted social phenomenon (Dörnyei & Skehan, 2003; Malone, 2010). It is therefore important to understand the influence of sociological factors on children's use of

prepositions, as this may reveal the nature of the difficulty. Thus, the crux of this paper is to determine whether age, first language, gender, parents' educational background, birth order, the language learning environment, and familiarity with L1 spatial expressions influence children's use of prepositions.

1.1. Prepositions

According to Wood (1998: 5), "English sentence-making is almost inseparable from prepositions, so English is a language of prepositions". Therefore, a good knowledge of prepositions is of importance to any speaker of English. Feist (2010) elucidates that there are particular difficulties with prepositions such as preposition stranding which are not reported in L1 acquisition. Feist's point has long been made by Cooper (1968):

> It is interesting that native speakers, who often make all kinds of syntactic and semantic errors never use prepositions in prepositional phrases incorrectly; while foreign speakers master the proper use of prepositions with the greatest difficulty (1968: 1)

Regarding the acquisition of prepositions by children, Gentner and Bowerman's (2009) Typological Prevalence Hypothesis draws on Bowerman and Pederson's (1992) cross-linguistic study of 50 languages to argue that the order in which children acquire spatial prepositions is shaped by how common a given spatial distinction is across the world's languages. Using data on how English, Dutch, Spanish, and Japanese encode support ("on") and containment ("in") relations, they found that containment is expressed remarkably consistently across these languages, with English, Dutch, and Japanese all using a single unified form for the same range of containment relations, marking it as a typologically widespread and cognitively "natural" concept. Support relations, by contrast, showed far greater cross-linguistic variation: English uses one broad term for a wide range of support configurations, whereas Dutch splits support into four distinct forms depending on the nature of contact or attachment, indicating that these finer support distinctions are language-specific rather than universal. Based on this asymmetry, Gentner and Bowerman predicted that both English- and Dutch-speaking children would acquire containment terms early, given their crosslinguistic prevalence, while Dutch children would acquire their language's more particular, fine-grained support distinctions later than English children acquire their simpler, more universal support term. Their findings confirmed these predictions, with universally common spatial notions (containment) emerging early in both groups and language-specific distinctions (Dutch support categories) developing later, providing empirical support for the claim that typological prevalence, rather than input frequency or structural complexity alone, is a key determinant of the order of acquisition of spatial prepositions in children.

Some studies also highlight the order of learning L2 prepositions among adults. Hanako (2012) used a cognitive linguistic approach, conceptual framework, to analyse an acceptability test of 57 Japanese adult ESL learners. In terms of order of acquisition of basic spatial relations, 'on', 'in', and 'at' were acquired first, second and third respectively. Topological meanings of prepositions were also acquired before their temporal meanings.

Other abstract meanings of prepositions were the last to be acquired. Furthermore, Fion (2005) explains the most difficult preposition for Chinese ESL learners is 'at' and the least difficult is the preposition 'on'. Fion attributes the difference to the differences in the conceptualization of space between Chinese and English. Similarly, Arjan et al (2013) is of the view that the ambiguous semantic nature of prepositions is one of the reasons that account for the high level of difficulty in learning L2 prepositions.

In contrast to the findings in the studies above is Dimitrova-Vulchanova et al. (2012). They point out that Bulgarian learners of Norwegian at advanced stage of learning showed no evidence of using their L1 in encoding directed motion constructions. Di (2006) also rejects the interference of Chinese L1 in the acquisition of the two ESL prepositions: stranding and pied-piping. The reason provided was that Chinese permitted a similar structure as English does. In Di's study, the application of the markedness theory to language acquisition was tested. It emerged that the markedness theory could not account for the acquisition order of the two types of prepositions. She asserts that language input could be the reason for the results.

Other studies also accentuate the difficulties in learning preposition among Arabic-English learners. In a study involving 80 participants, Alotaibi et al. (2018) bemoans the low level of proficiency in using prepositions among Arabic-English speakers in Kuwait. They recommended that both linguistic and cognitive strategies be adopted in achieving higher proficiency in the use of prepositions. Thyab (2019) also points out difficulty in the use of prepositions is a major setback in the learning of English among Arabic speakers. Thyab attributes the difficulty to mainly the L1, Arabic. However, as I will show later in this study, even in the case of Ewe-English bilingual children whose L1(Ewe) has limited interference in the learning of English prepositions, the learning of prepositions is challenging. Another study of prepositions among Arabic speakers, Mourssi and Al Hilali (2015), conducted a study of the written texts of 60 Arabic speakers of English. They also attributed the difficulty in the use of prepositions to L1 interference and overgeneralisation of the meaning of prepositions. Mourssi and Al Halali also pointed out the use of ***in*** for ***on*** and the vice versa as one of the difficulties Arabic learners of English exhibited. Their observation of the use of ***in*** and ***on*** is not very different from that of Ewe-English children, as will be shown later in this study. Lorincz and Gordon (2012) have pointed out that the polysemous nature of propositions are one of the major reasons for the difficulty L2 speakers of English face. Similar observations have been made by Šeškauskienė and Juknevičienė (2020).

2.0 Social factors that affect language learning

2.1 Age

Age is widely recognized as an important variable in second-language (L2) learning, particularly in relation to grammatical development. Research generally suggests that an earlier age of L2 exposure can be associated with stronger ultimate attainment, although the strength of this relationship varies according to the linguistic feature, amount of exposure, learning context and proficiency (DeKeyser, 2013; Qureshi, 2016). Importantly, evidence concerning prepositions provides some support for an age effect. Taliancich-Klinger, Bedore, and Peña (2018), examining 148 Spanish–English bilingual children,

found that age of English exposure was related to children's developing English language abilities, including their knowledge of prepositions. Earlier exposure to English has also been associated with earlier mastery of particular English prepositions, including *in* and *on*, among bilingual children (Taliancich-Klinger et al., 2018). More broadly, Qureshi's (2016) meta-analysis found a small-to-moderate overall relationship between age and L2 grammatical development, although the effect varied according to learning context and assessment conditions. Bialystok and Miller (1999) similarly found that age of learning influenced L2 grammatical performance, but the pattern differed across learners' first-language backgrounds. Thus, age may influence L2 preposition use, but it should not be treated as an independent determinant. Exposure, frequency of use, proficiency and L1 background may interact with age to shape learners' preposition use performance.

2.2 Gender

There are varying views about the role of gender in second language learning success. Zafar and Meenakshi (2012) conclude that females do better in all language learning skills (except for listening skills) than their male counterparts. However, Shakouri and Saligheh (2012) also argue that cultural norms influence gender performance in L2 learning. They argue that where men have performed better, it was because cultural norms have been in their favour. For instance, in male-dominated cultures, men participate more in classroom activities, and they are also given more attention during L2 learning tasks. Shakouri and Saligheh also note that women may outperform men in areas that align more closely with their interests. Consequently, women tend to excel in topics related to domestic activities, hair, fashion, and similar domains. Similarly, women who are involved in communal activities like buying and selling in the L2 are likely to learn the language faster. The converse is also true for men. Therefore, social factors and cultural expectations may favour one gender to be more successful in each context. Overall, there seems to be very little evidence to suggest that there is a biological factor that can enable one gender to be more successful at L2 learning than the other.

Furthermore, gender has been identified as one of several learner-related factors that may influence the use of English prepositions among second- and foreign-language learners. Nghi, Thang, and Phuc (2021), in a study of 400 Vietnamese EFL learners (200 females and 200 males), found that gender was a significant factor in language transfer affecting English preposition use. However, the study also identified other influential factors, including proficiency level, mode of language production, and cognitive embodiment, suggesting that gender should not be considered in isolation. More recent research provides mixed evidence. Phuc, Thang, and Nghi (2023) examined gender differences in English preposition use among university EFL students and reported differences in the frequency of particular prepositions across male and female learners. Similarly, Avila et al. (2025), examining 26 Grade 12 ESL learners, found that males recorded a higher percentage of errors on several frequently missed preposition items, although both genders demonstrated weak overall mastery and experienced similar difficulties. Overall, the evidence suggests that gender may be associated with differences in preposition use, but the relationship is neither consistent nor sufficiently established to treat gender as a primary determinant.

2.3 First Language Interference

Another factor that may contribute to differing L2 learning outcomes among adults is the degree of similarity or difference between a learner's L1 and the target language (Alisoy, 2024). According to Brown (1980), the distance between the learner's L1 and L2 may be determined by social factors, or merely by the learner's own or the community's subjective perceptions. When this distance is wide, or merely perceived to be wide, motivation for learning the L2 tends to decrease, ultimately reducing the likelihood of successful acquisition. Hayakawa et al. (2021) also argue that though the level of similarity between the L1 and the L2 influences language learning, it also affects the level of cognitive and affective strategies that learners will employ. Moreover, Đorđević (2013) found that most errors of Serbian EFL speakers is a result of the structural mismatch between Serbian and English. Similarly, Jach (2018) showed that while stranding was generally more acceptable than fronting across both L2 groups, fronting was significantly more acceptable to German learners than to Chinese learners. The difference is attributed to greater crosslinguistic similarity and input frequency of fronting-like structures in German. Al-Bawaleez & Abdullah (2023) also found that L1 transfer was a significant, positive predictor of prepositional errors among Jordanian Arabic-English University students. Therefore, the more similar two language structures are, the easier it is to learn the new language (Gampe et al., 2021). However, Gampe et al. admit that the level of similarity needed to gain language learning advantage remains unclear.

2.4 Birth order

Another sociolinguistic variable that has been explored in studies of language learning is birth order of language learners. Shin (2002, p. 103) defines birth order as "a child's place relative to other children in a family". One of the reasons provided as an advantage for first-born children is the fact that first-born children have more access to adult speech than later-born children (Shin, 2002). Bornstein et al. (2019) also argue that first-born children engage more socially with their mothers; likewise, mothers engage more with their first-born children than they do with their later-born children. Another reason provided for the advantage first-born children have over later-born children is that parents invest in first-born children more than they do for their later-born children (Salmon, 2012). Such arguments are backed by the Resource Model (Blake et al., 1981) that espouses that the more children one has, the more one's resources are depleted. These resources include providing more attention and input which is vital for language development. However, there is a contrary view. In a study of fully adopted siblings, Barclay (2015) concludes that birth order did not significantly affect the educational attainment of siblings. The current study seeks to interrogate this debate, as well as the other debates referenced above, with fresh data.

2.5 Language Learning Environment

The language learning environment also contributes to varying success rates of adult learners (Ellis, 1994; Hansen & Broekhuizen, 2021). Where the learner, for instance, learns the L2 in the L2-dominant community and has frequent contact with speakers of the L2, the learner is likely to develop communicative skills faster than another adult learner who learns the language outside the L2 speakers' dominant community and, thus, has limited

access to L2 speakers. The learner who acquires the language outside an L2 environment may acquire grammatical competence and may never acquire communicative competence. Furthermore, it has been widely reported that rural dwellers have peculiar problems in language learning (Hossain, 2016; Vogt et al., 2013). For instance, Vogt et al. (2013) report that rural folks seem to show a delay in vocabulary development.

For these reasons, this study was set up to examine the urban-rural dichotomy in the use of prepositions among the participants.

3.0 Theoretical Underpinnings

Two complementary theories formed the basis for analyzing data in this study. The typological prevalence hypothesis influenced the analysis of the pattern of prepositions learnt, and the variationist sociolinguistics approach informed the methodology and sociolinguistic analysis of data.

3.1 Typological Prevalence Hypothesis

The Typological Prevalence Hypothesis (Gentner & Bowerman, 2009) states that "[a]ll else being equal, within a given domain, the more frequently a given way of categorizing is found in the languages of the world, the more natural it is for human cognizers, hence the easier it will be for children to learn" (Gentner & Bowerman, 2009, p. 467). In their study of the acquisition of topological relations *on* and *in* among English and Dutch L1 children, Gentner and Bowerman provide evidence that some topological relations are easier to acquire than others. This is because some prepositions occur more naturally in human language than others. Hence, there are terminologies for expressing them in almost all languages. Based on this hypothesis, it could be predicted that children will easily learn what occurs more frequently than what occurs less frequently. The theory is useful in explaining why some prepositions are difficult to learn which others are easy to learn. Thus, it informed the categorization of the prepositions in this study. However, Gentner and Bowerman (2009) concede that other alternative explanations provided for the difficulty or ease of prepositions are also plausible. We consequently adopt the variationist approach to complement this approach.

3.2 Variationist Sociolinguistics Approach

The variationist approach to sociolinguistics is most closely associated with the work of William Labov, whose early studies – especially his 1966 investigation of postvocalic **/*r*/** in New York City department stores – demonstrated systematic patterns of language variation. Labov found a strong correlation between social class and the use of pronounced "***r***" and provided empirical evidence that linguistic variation is neither random nor haphazard but structured and socially meaningful. Central to the variationist framework is the idea that variation results from the interaction of linguistic (internal) factors and social (external) factors. Internal factors include the phonological or grammatical environment in which a form occurs (in our study, the target prepositions vs deviant versions that learners use), while external factors include variables such as age, gender, socioeconomic class, ethnicity, and, as in this study, birth order and parents' educational background.

The variationist approach is fundamentally empirical and comparative, relying on the quantitative analysis of naturally occurring speech. As both a theoretical and methodological framework, it uses systematically collected language data (most commonly from sociolinguistic interviews, supplemented by observational techniques and occasionally questionnaires). Being quantitative in nature, the approach emphasizes representative sample sizes, speaker stratification, and statistical analysis of variable linguistic forms. These methodological principles informed the data collection and analysis procedures used in this study.

4.0 Methodology

The study adopted a cross-sectional quantitative research design. The cross-sectional design involved collecting data at a specific point in time to describe and analyse a phenomenon (Levin, 2006; Zangirolami-Raimundo et al., 2018). Although longitudinal designs may provide greater insight into language development, cross-sectional designs have also been used in second-language research to examine language development across learners with different characteristics and proficiency levels (Bardovi-Harlig, 1992; Rose, 2000; Gabriele, 2013). Data was collected from two communities: Ho, the capital city of the Volta Region, the native home of Ewes in Ghana, and Lume Ge, a rural community located on the outskirts of the Ho Township. The objective of selecting the two fieldwork sites was to track the rural-urban dichotomy in performance in the use of English prepositions.

A total of 40 participants were purposively sampled. The participants were all Ewe-English bilinguals and had at least one parent who spoke English. They were drawn from four age groups (3 to 4 years; 6 to 7 years; 9 to 10 years; and 12 to 13 years). The age groups were useful in tracking both inter-group and intra-group characteristics. To address potential concerns about overlapping language development stages, a two-year age range was adopted to minimize any overlap in acquisition stages. Additionally, this study used an equal number of males and females to track the possible influence gender has on learning to use English prepositions.

Data was elicited through a picture elicitation guide, a questionnaire, and observation. The picture elicitation guide, the Topological Relations Picture Series (Bowerman & Pederson 1992), is a picture elicitation commonly used for collecting data on spatial concepts. Additionally, a questionnaire was purposely designed to collect data on the sociolinguistic background of the participants. The questionnaire consisted of open- and closed-ended questions from four sections on participants' biodata, parents' or guardians' background, language use at home and language use in other domains. The Ethics Committee for Humanities (ECH), University of Ghana, granted ethical approval for this work. As part of the ethical review protocol parental approval was sought from parents, after which the participants also thumb-printed or signed to show they understood and agreed to be interviewed. Finally, during the data collection process, an observation list was used to note, clarify and confirm data of participants.

5.0 Data Analysis

5.1 Picture Data

Each participant was assigned a unique code based on the age group (*HA/HB/HC/HD*), gender (*F* or *M*), and number (*01* to *05*) of the participant. So, the first male of the HA (3-4 years) was assigned the code ***HAM01***. This ***HA*** means that the respondent is between the age of 3 and 4 years. ***M*** means the participant is male and ***01*** means the participant was the first male within the HA group to be interviewed (see column one of Table 1 for the participants' codes).

The recorded data were transcribed for analysis and then grouped according to the individual pictures. In consultation with three other English language experts, each picture was assigned the most appropriate preposition(s) The three experts largely agreed on the majority of the correct prepositions to use. Where there were varied views, all the options were added as correct options for the picture. In all, there were 71 pictures, and each correctly elucidated answer was awarded 1 mark. The scores were based on the correctness of the participants' responses to the picture elicitation task. Table 1 shows the total score for each participant.

Table 1: A table showing participants' performance in the preposition identification task

PARTICIPANT'S NUMBER	HA	HB	HC	HD
F01	39	34	60	40
F02	24	42	46	44
F03	20	50	25	44
F04	17	13	46	47
F05	13	35	51	63
M01	20	28	56	42
M02	22	32	26	43
M03	25	30	32	49
M04	26	34	45	45
M05	20	49	51	40

5.2 Questionnaire Data

After collecting the questionnaire data, each questionnaire was coded from SN1 to SN40 serially. The influence of sociological factors on preposition use performance was analyzed based on the sociological background of the participants. To track the sociological impact of the participants, the independent sociological variables such as age, gender, and birth position were tested against the total score of the participants. The total score for each participant was based on their performance in the picture elicitation task using the Topological Relation Picture Series. The statistical tool, IBM Statistical Package (Version 22), was used in analyzing the data to determine mean scores. t-test and ANOVA analyses were also conducted to determine the level of difference of the mean scores. The

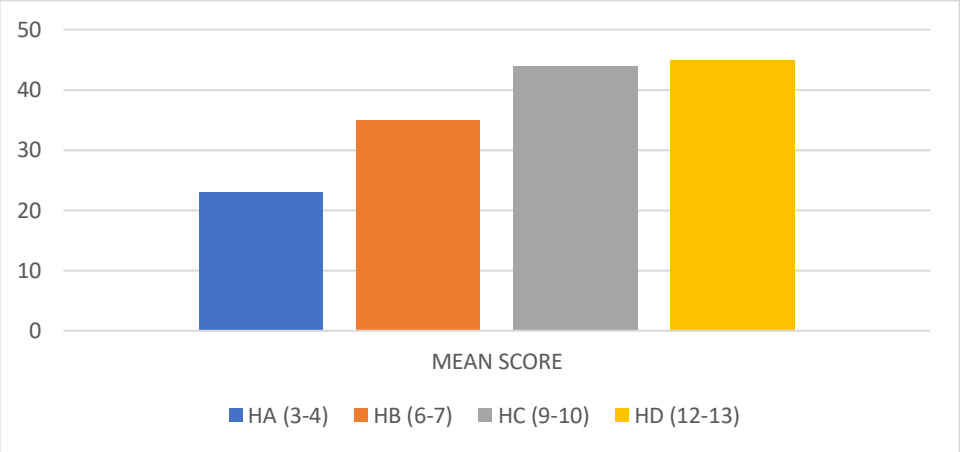
significance level was set at 0.05. Finally, Microsoft Excel and Microsoft Word were used in generating graphs and charts.

5.3 Findings

5.3.1 The effect of age on learning to use English prepositions

Analysis of the performance of difference age cohorts in the use of English prepositions shows that age, undeniably, affects second language learning. The analysis was based on the total mean score for each age group. The total mean score of the HA group (3-4 years) was 23, whereas that of the HB group (6-7 years) was 35. The mean score for the HC group (9-10 years) was 44, and the HD group (12-13 years) was 45. Figure 1 below shows the mean scores of the various age cohorts:

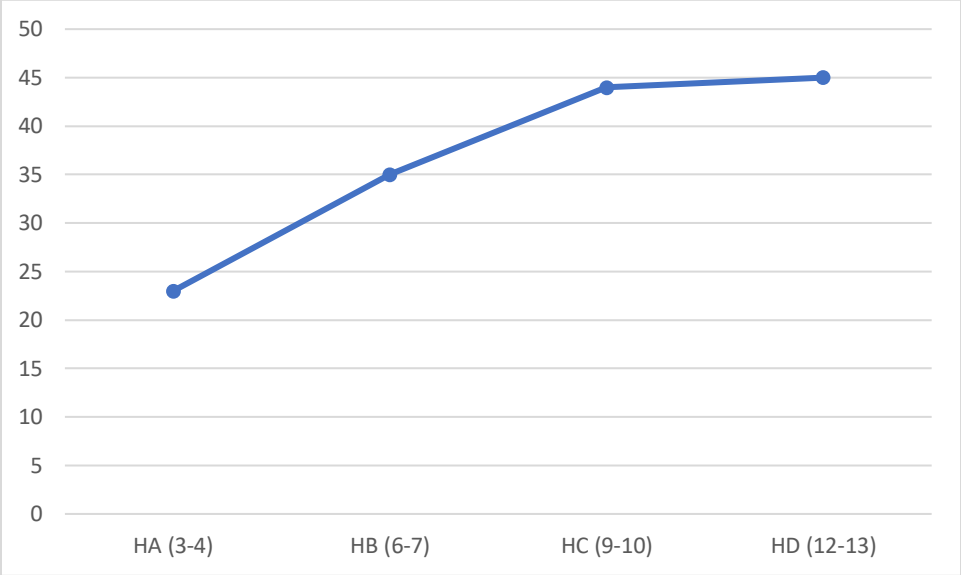
Figure 1: Graph showing the mean scores of each age cohort



The mean scores of the various age groups show that as the participants grow older, they are more likely to improve on the correct use of prepositions (as expected). The significance level for the ANOVA analysis was .000 to indicate that the influence of age on learning English prepositions is significant. Also, although the HD group has the highest performance, the average score of the group is quite low. However, the rate of progression was not similar across the age groups. The highest progression was from the HA Group (3-4 years) to HB Group (6-7 years): HB had a mean which was about 13 score points above the HA group. The HB group also had a performance with a mean score 11 points above that of the HC group. However, the progression in mean scores between HC and HD was one (1). Figure 2 below shows this progression. The chart shows sharp increases between the HA group and the HB group and between the HB group and the HC group. However, between the HC group and the HD group, the progression almost plateaued. This is confirmed by the ANOVA Post hoc analysis. The significance level of the means of the 3–4-year-olds against the 6-7-year-olds, 9-10-year-olds, and 12–13-year-olds was 0.006, 0.000 and 0.000, respectively. This showed that the mean difference was significant between the 3-4-year-olds and all the other age cohorts. That of 6–7-year-olds against 9-10-year-olds and 12-13-year-olds was also significant at 0.036 and 0.017, respectively. However, the difference in the mean scores of age cohort 9-10 and cohort 12-13 was at a

significance level of 0.740. This means that the mean differences between all age cohorts were significant, but that of 9-10 and 12-13 was insignificant (0.740).

Figure 2: A chart showing the inter-group progression

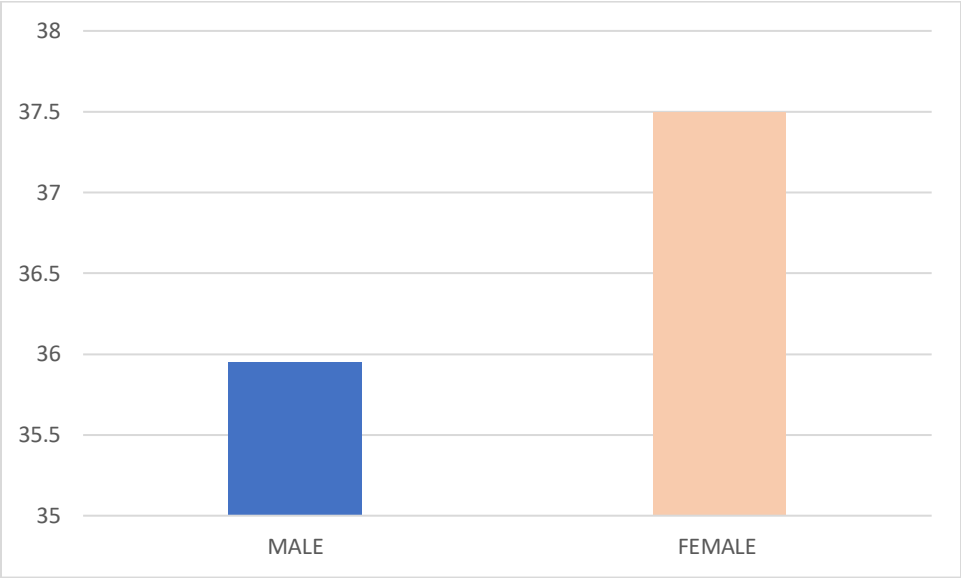


Studies show that language learning is faster at a younger age in both L1 and L2 learning (Kuhl, 2004, 2010, 2014; Klein et al., 2014; Johnson & Newport, 1989; Long, 1990; Newport, 1990). The findings suggest the existence of a childhood phase during which language learning proceeds more rapidly. This interpretation resonates with the conclusions of Hakuta et al. (2003), who argue that the decline in language-learning ability may not be tied to a sharply defined critical age but may unfold gradually across the human lifespan. In other words, while language learning is accelerated during a particular period in childhood, it is followed by a phase of slower language learning pace that may extend throughout life.

5.3.2 The effect of gender

It has been strongly argued that gender plays a critical role in language learning (Lakoff, 1973; Ehrlich, 1997; Mulac et al., 2001; Palomares, 2004). Overall, the mean score for males was 35.9,
while that of females was 37.5. Figure 3 below is a graphic representation of the performance of participants based on their gender.

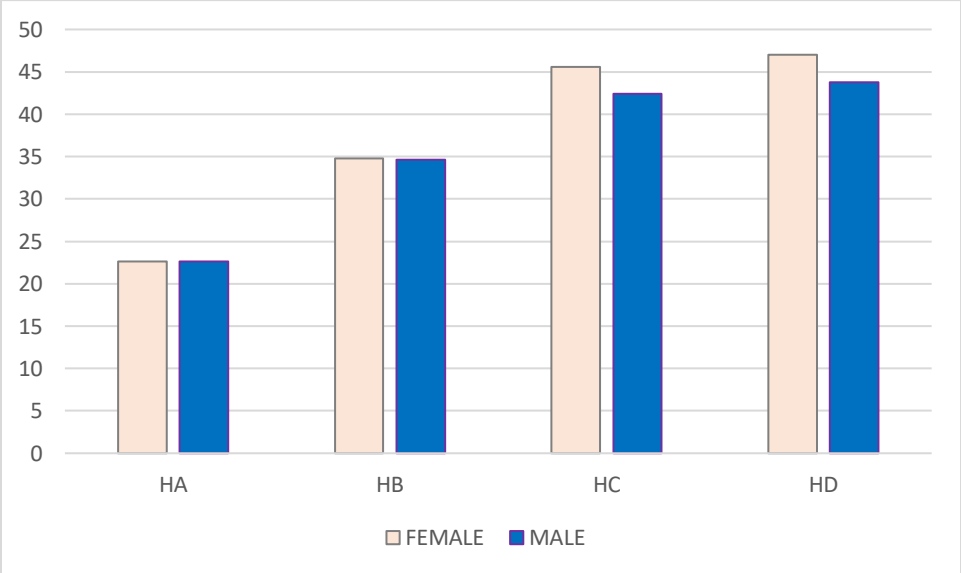
Figure 3: Graph showing participant's performance based on gender



The results show that females outperformed males, although the t-*tes*t shows that the difference is insignificant (.299). The outcome echoes Alkhrisheh et al.'s (2019) study of written texts in which he found that the difference between males and females was insignificant. Nonetheless, some studies which have looked at other aspects of language have shown that females have better flair for language learning than their male counterparts (Berglund et al., 2005; Hannah & Murachver, 2007).

Additionally, we examined in-group dynamics to determine whether gender influenced preposition use performance similarly across the different age cohorts. The graph below presents the intra-group gender results.

Figure 4: A graph showing intra-group gender performance



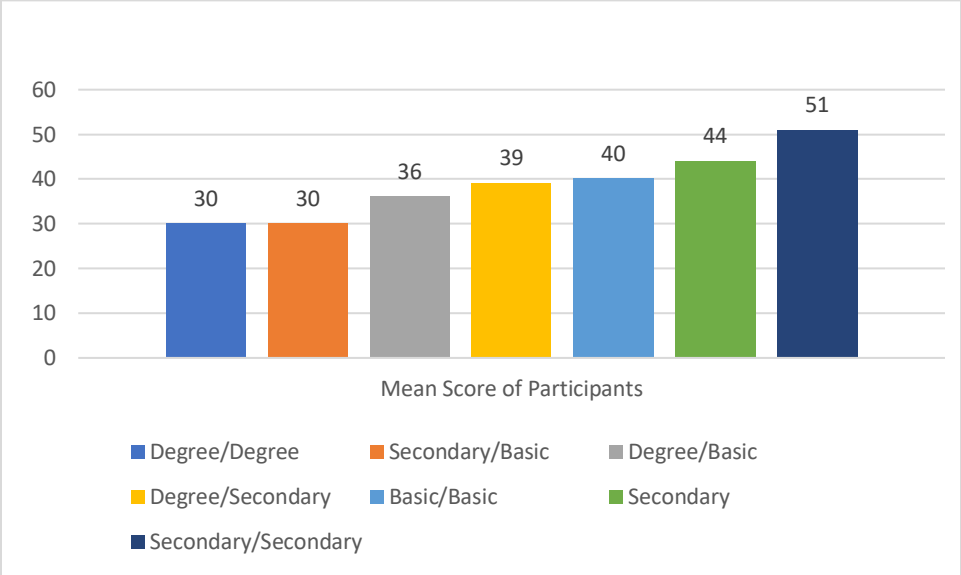
For the HA group, both males and females had a mean score of 22.6, thus recording no difference. Among the HB group, males had a mean score of 34.6, whereas the females had a slightly higher mean score of 34.8. In addition, males in the HC group scored 42.5, whereas the female participants outperformed their male counterparts with a score of 45.6. Finally, the HD group recorded the highest difference, with males and females scoring 43.8 and 47, respectively. Thus, between the ages of 3 and 4, there seems to be no difference between males and females. After this stage, there is a gradual increase in the difference between males and females, with females gaining a consistent increase. In contrast to this finding are the works of Eriksson et al. (2012) and Bornstein et al. (2004). In both studies, girls as young as 0.8 to 2.6 months and 2 to 5 years, respectively, were found to have slightly outperformed their male counterparts. Eriksson et al. (2012) note that females' language gains increase with age, suggesting a developmental advantage even though the precise age at which differences emerge is not identified. This pattern matches the intra-group gender findings by Robertson and Murachver (2003); they observed that gender differences are minimal in early childhood but widen over time in favor of females. Likewise, Marjanovič-Umek and Fekonja-Peklaj (2017) report that gender-related differences in language ability are not consistent across ages, further indicating that such disparities develop gradually rather than remaining stable.

All in all, the data suggest that females do better in using prepositions correctly than males do, but this difference is subtle when the learners are younger. There also appears to be a gender influence in the use of *in* or ***inside*** for describing containment positions among HC participants. It appears that male participants were more likely than females to use ***inside*** rather than ***in*** when describing containment relations. However, the gender difference in the use of ***in*** and ***inside*** was not consistent for the other age groups. This observation among the HC participants confirms studies showing that women tend to use simpler language (Lakoff, 1973).

5.3.3 The influence of parents' educational background

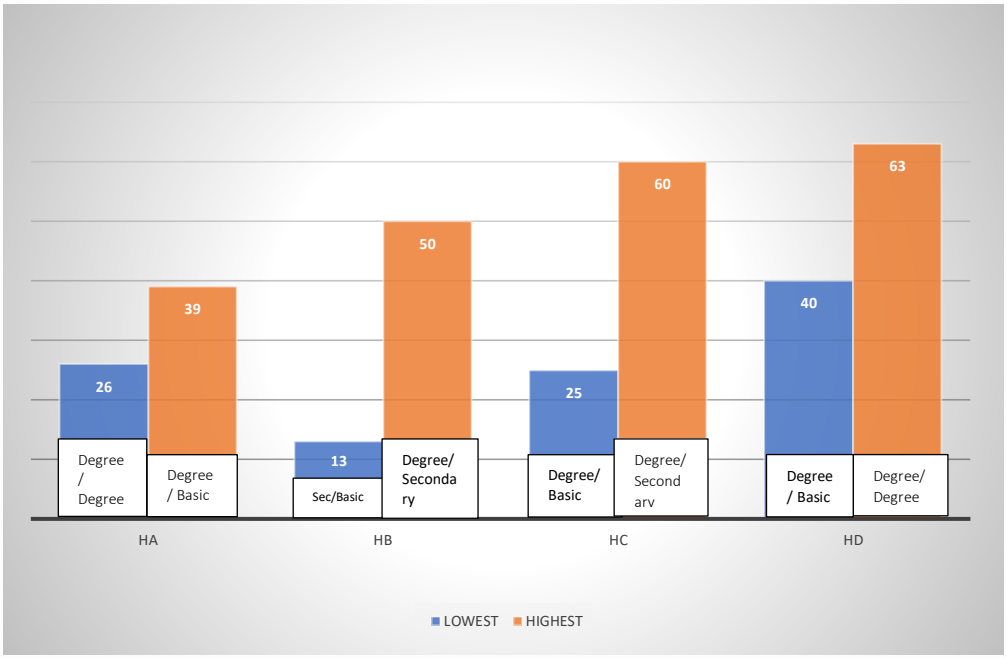
Another sociological factor that is said to affect success in language learning is the educational background of parents (Longobardi et al., 2018; Manolitsis et al., 2013). All parents of the participants had some level of education, and in instances where one parent had a higher educational level than the other, it was the father who had a higher level of education. This ties in with a common phenomenon that in most of the world's communities, men are more likely to attain higher levels of education than their female counterparts. Figure 5 below is a representation of the breakdown of mean scores based on the educational background of the parents. Thirteen (13) of the participants had parents who had degree education (Degree/Degree) while three had fathers with degree and mothers with secondary school education (Degree/ Secondary). In addition, there were three participants whose fathers had degree education and whose mothers had a basic school education (Degree/ Basic). Also, both parents of four participants had secondary education (Secondary/Secondary), and five had fathers with secondary and mothers with basic level education (Secondary/ Basic). Eleven (11) students also had parents who had only secondary education and one participant had a single mother who had secondary education.

Figure 5: A graph showing the mean scores of participants based on the educational background of parents



The data shows no consistent relationship between parents' educational background and participants' performance. Mean scores do not increase or decrease in any predictable way across parental education levels. For example, participants whose parents held university degrees had a mean score of 30, whereas those whose parents had only basic education scored 40, and the highest mean score (51) occurred in the group with parents who completed secondary education. Although the low mean for the degree-holding group might suggest an inverse relationship, closer examination shows that most of these participants belonged to the HA group, which accounts for their lower scores. Therefore, the next stage of analysis looked at the lowest and highest scores in each group to see if they were similar with regard to their parents' educational background. Below is a breakdown of the parents' educational background for the highest and lowest achieving participants of each group:

Figure 6: Graph showing educational background of the highest and the lowest scorers of each group

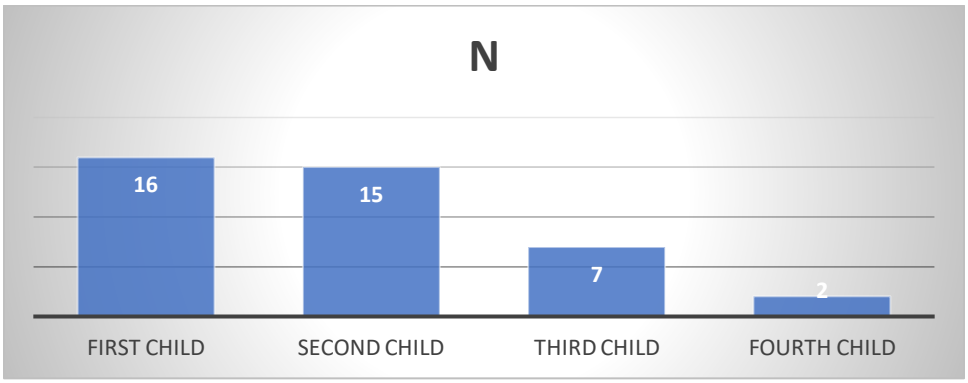


In Figure 6 above, the highest and lowest members of each group were analyzed for consistency or otherwise. Once again, the results did not show any identifiable pattern. For the HA group, the participant with the lowest score had two graduate parents, whereas the highest-scoring participant had a graduate father and a mother with only basic education. In contrast, within the HD group, the lowest score came from a participant whose parents held a degree and a basic school certificate, while the highest scorer had two graduate parents. These opposite patterns recur throughout the dataset, indicating that parental educational background plays little to no role in children's learning of prepositions. Thus, although it is widely acclaimed that the educational attainment of parents positively impacts language learning, the present study does not support such a claim. To the best of our knowledge, none of these studies have looked at the acquisition of prepositions.

5.3.4 The influence of birth order on language learning

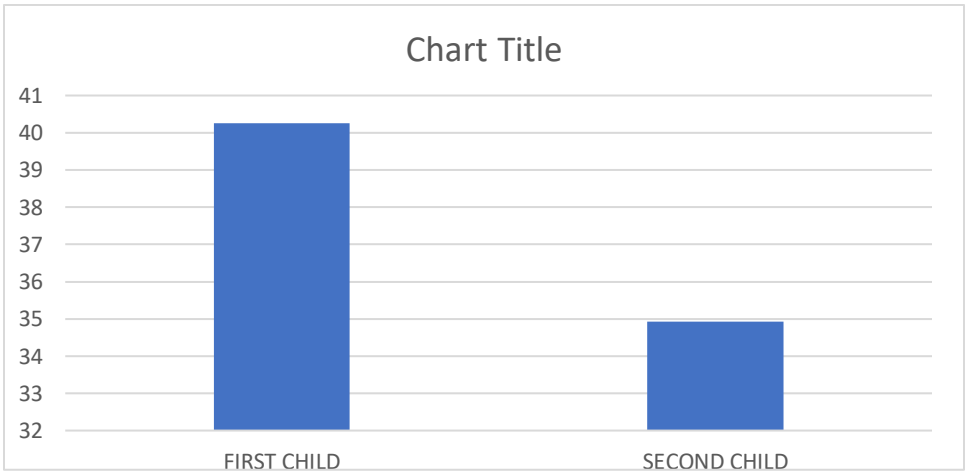
Another contentious sociological factor attributed to language learning is the birth order of children (Berglund et al., 2005; Oshima-Takane et al., 1996; Foster et al., 2020). Thus, birth order was examined to determine whether it influences bilingual children's learning of L2 prepositions. Among the participants, 16 were first-born children, 15 were second-born, 7 were third-born, and 2 were fourth-born. This resulted in 16 first-borns and 24 later-borns. Figure 7 presents the distribution of participants by birth order.

Figure 7: Graph showing the breakdown of participants' birth order



As a result of the great disparity between the number of the first and second children on the one hand, and the third and fourth, on the other hand, the comparison for this section will be based on the first children and the second children only. While the 16 first-born children had a total mean score of 40.25, the 15 second-born children had a mean score of 34.93. Figure 8 below shows the mean scores of first-born children and second-born children.

Figure 8: Graph showing birth order scores of participants



The mean scores suggest that first-born children performed slightly better than later-born children, but the difference is not statistically significant (.262). However, this result requires closer examination because younger participants tend to have lower mean scores overall. If a larger proportion of first-born children fall within the younger HA group, their lower performance would reflect age effects rather than birth order. Thus, it becomes important to look at birth order based on the age cohorts. Below is a table showing the distribution of birth orders of participants within the various age cohorts:

Table 2: Table showing the birth-order of first and second-born children across the age cohorts

AGE GROUP	FIRST-BORN	SECOND-BORN
HA (3-4 years)	3	3
HB (6-7)	2	5
HC (9-10 years)	7	2
HD (12-13 years)	4	5
TOTAL	16	15

The distribution of first-born participants was concentrated mainly in the HC and HD groups. Consequently, the earlier indication that first-borns performed better may not accurately reflect overall preposition learning patterns. Because the groups do not contain equal numbers of first- and later-born children, the analysis focused on the two highest- and two lowest-scoring participants in each group. For this purpose, all 40 participants were classified simply as first-borns or later-borns. Table 3 presents these results, where "1" denotes the highest and lowest scores and "2" the second highest and second lowest in each group.

Table 3: Table showing the birth order of the two highest and two lowest participants of age cohorts.

GROUP	HIGHEST	LOWEST
HA (3-4 years)	1.Later-born 2. Later-born	1. Later-born 2. First-born
HB (6-7)	1. Later-born 2. Later-born	1. Later-born 2. Later-born
HC (9-10 years)	1. First born 2. First born	1. Later-born 2. First-born
HD (12-13 years)	1. Later-born 2. Later-born	1. Later-born 2.Later-born

From Table 3 above, later-born participants dominated both the two highest and the two lowest scores. This suggests that birth order did not seem to affect the use of prepositions. The findings corroborate several studies that have proved that birth order has little effect on language competence (Barclay, 2015, 2018; Barreto, 2017; Foster et al., 2020). As Barclay (2015, 2018) points out, there could be intra-family social dynamics that affect the educational attainment and perhaps, in effect, language learning (emphasis ours). Likewise, this study did not support Hoff-Ginsberg's (1998) claim that first-born children hold an advantage in acquiring grammar and vocabulary. Although Berglund et al. (2005) found that first-borns typically reach the 50-word milestone earlier than later-borns, they also observed that this early advantage does not persist in later vocabulary development. Shin (2002) attributes early differences to first-borns' greater exposure to adult speech, yet Berglund et al. argue that birth-order effects diminish as children age. The present data do not support this view. For example, in the youngest group (HA: ages 3–4), first-borns had a mean score of 20, nearly identical to the second-born mean of 21. Overall, these findings indicate that birth order does not influence children's preposition use performance.

5.3.5 The influence of the area of the language learning environment

Based on observation and questionnaire data, it was realized that the use of English among bilingual (Ewe and English) parents in both Ho (urban) and Lume Ge (rural) is similar. At home and outside, participants in both areas interacted comparably in Ewe and English, with Ewe dominant at home. English was mainly used in formal contexts, such as homework assistance, and Ewe–English codeswitching was common. As a result, there seems to be minimal influence of the rural and urban dynamics on the learning of English in general among the participants. What appears to be the case is that the majority of the children who grew up in Ho also did not use English extensively outside the home, just like their counterparts who lived in Lume Ge did. Preposition proficiency consequently showed minimal differences between urban and rural participants sharing the same L1, contrasting with studies reporting greater rural language-learning challenges (Hossain, 2016; Vogt et al., 2013). This may reflect that prepositions are a minor word class and that Ewe dominance ensures similar L2 exposure. It is also significant to note that participants with greater English exposure, such as HBM03 (who spoke English with Akan neighbors), did not score highest in their cohort. Likewise, attending monolingual (Ewe) versus bilingual (Ewe–English) churches did not affect performance. Results might differ if rural participants were compared to children in highly English-exposed areas like Accra.

5.3.6 First language interference

A contrastive analysis is employed to determine the role of L1 in the use of L2 prepositions among the participants. Ewe and English encode topological relations in fundamentally diverse ways. One of the most salient distinctions concerns the placement of the topological marker. In English, the principal element expressing topology appears before the noun or noun phrase – hence its classification as a preposition; see the highlighted elements in the bracketed segments in examples (1) to (7) below which describe the spatial concepts in figures 9 and 10. In contrast, in Ewe the element expressing topology follows the noun phrase, thus functioning as a postposition (as in the highlighted post-noun elements in examples (8) to (14).

Figure 9: Pictures targeting the use of *behind*, *under*, *beside*, and *on top of*

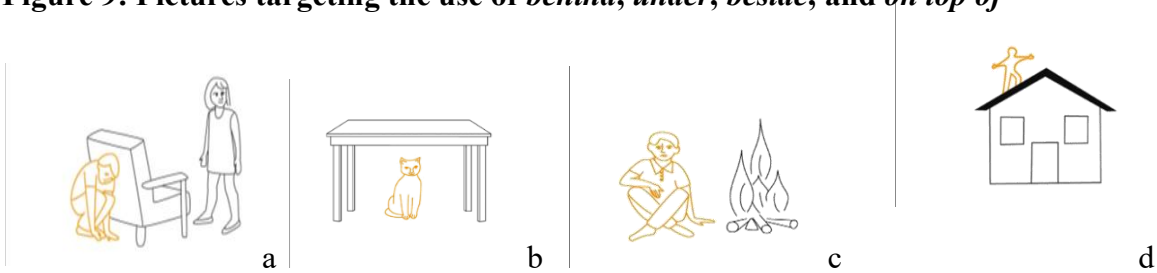


Figure 10: Pictures targeting *over / above and on*



a b c

The postposition may be complemented by a preposition to express an intended topological relation, as in examples (8) and (10). In other words, the Ewe structure is potentially more complex than its English counterpart: whereas English relies primarily on prepositions to express topological relations, Ewe employs postpositions with or without an accompanying prepositional element (cf. Ameka 1995).

English:

(1) The person is hiding [**behind** the seat]. (Figure 9a)
(2) The cat is [**under** the table]. (Figure 9b)
(3) The person is sitting [**beside** the fire]. (Figure 9c)
(4) The person is [**on top of** the building]. (Figure 9d)
(5) The lamp is [**above** / **over** the table]. (Figure 10a)
(6) There is cloud [**above** / **over** the mountain]. (Figure 10b)
(7) The cup is [**on** the table]. (Figure 10c)

Ewe:

(8) Ame-a be [**ɖe** zikpui-a **megbe**] (Figure 9a)
Person-DEF hide at seat-DEF behind
"The person is hiding behind the seat".

(9) Dadi le [kplɔ-a **te**] (Figure 9b)
Cat be.at table-DEF under.
"A cat is under the table."

(10) Ame-a nɔ anyi [**ɖe** dzo la **xa**] (Figure 9c)
Person-DEF sit down at fire DEF side
"The person sits near the fire".

(11) a. Ame-a le [xɔ-a **tame**]. (Figure 9d)
Person-DEF be.at building on_top_of
"The person is on top of the building."

b. Ame-a le [xɔ-a **dzi**]. (Figure 9d)

Person-DEF be.at building on_top_of
"The person is on top of the building."

(12) Akaɖi-a le [kplɔ-a **tame**]. (Figure 10a)
Lamp-DEF be.at table-DEF above/over
"The lamp is above the table / the lamp hangs over the table."

(13) Lilikpo le [to-a **tame**]. (Figure 10b)
Cloud be.at mountain-DEF above/over]
"There is cloud above / over the mountain."

(14) Kɔpu-a le [kplɔ-a **dzi**]. (Figure 10c)
Cup-DEF be.at table-DEF top
"The cup is on the table."

To establish that the structural differences between English and Ewe indeed impact Ewe-English children's learning of English prepositions, one needs to find that erroneous placements of English propositions indeed mirror the placement of their Ewe counterparts. We did not find any such errors in the data. Our findings instead suggest that some learners experience confusion regarding the meanings of certain English prepositions, a difficulty that appears to stem from their improper learning of the Ewe equivalents of those prepositions. Let us consider the examples below. They are some learners' attempts to describe figures (10a) and (10b):

(15) a. *The light is ***up***. (Figure 10a)

b. *The light is ***on the up***. (Figure 10a)

c. *The light is ***in the top***. (Figure 10a)

d. *The light is ***beside the table***. (Figure 10a)

e. *The light is ***in the air***. (Figure 10a)

f. *The light is ***inside*** the mountain. (Figure 10a)

g. *The light is ***on*** the table. (Figure 10a)

(16) a. *The cloud is **on the top**. (Figure 10b)

b. *The cloud *is* ***on top of*** the mountain. (Figure 10b)

As illustrated in examples (11a) and (11b), the Ewe postpositions ***dzi*** and ***tame*** function as synonyms when used to describe upper contiguous support in contexts where the ground is elevated (e.g. the rooftop in Figure 9d). In such cases, their English equivalent is ***on top***

of. ***Dzi*** and ***tame***, however, cease to be synonymous in the description of elevated upper non-contiguous support (e.g. figures 10a and 10b as shown in examples 12 and 13) in which only ***tame*** may be used. This means that ***tame*** has two distinct readings, corresponding respectively to ***on top of*** and ***above/over***. In our view, some learners conflate the two readings of ***tame*** in their use of the English expression ***on top of***, thereby failing to acquire the distinction between ***on top of*** and ***above/over***. This phenomenon illustrates Arjan et al.'s (2013) assertion that the ambiguous semantic nature of prepositions is one of the reasons that account for the high level of difficulty in learning L2 prepositions. The errors captured in the examples in (15) and (16) above show that the learners were unsuccessfully trying to use ***on top of*** in contexts that demanded that they use ***over/above*** instead. Note that the words ***on*** and ***top*** feature prominently in the various permutations in (15) and (16): ***on the up*** (15b), **on** (15g), ***on the top*** (16a), ***on top of*** (16b), and ***in the top*** (15c).

The source of the error in example (15e) above is, however, different. It is not traceable to the learner's confusion of the senses of ***tame***. The speaker of that example, who probably is yet to acquire ***tame***, chose instead to use ***yame*** "in the air' (see example 17 below), which is unacceptable in this context. Evidently, the speaker merely translated his unacceptable Ewe expression of the spatial relation in figure (10a) into English in example (15e).

(17) Akaḍi-a le [**yame**] (figure 10a)
Lamp-DEF be.at air inside
"The lamp is in the air."

It must be noted that ***tame*** differs from ***dzi*** in another respect: only ***dzi*** may be used to describe upper contiguous support when the ground is not elevated, as with figure (10c). Further details about the distribution of Ewe prepositions and their impact on the learning of their English equivalents are the subject matter of a forthcoming paper.

7.0 Conclusion

This study examined how Ewe-speaking school-going children in Ghana use English prepositions, focusing on their accuracy and on whether performance differences correlate with social factors such as age, gender, parental education, birth order, language-learning environment, and speaker-familiarity with spatial expressions in Ewe. The Topological Relation Picture Series (which yielded over seventy pictures) was used in collecting data from 40 children aged between 3 and 13, and the Variationist Sociolinguistics approach informed data analysis.

Age emerged as a significant factor, as anticipated: the mean scores of the various age groups in Figure 1 showed that as the participants grow older, they are more likely to improve on the correct use of prepositions (as expected). We also found that participants between the ages of 4 and 10 acquired prepositions at a faster rate, but progress slowed considerably beyond this stage. Gender differences in learning outcomes were also evident: girls consistently outperformed boys, with the disparity becoming more pronounced among older participants than younger ones. Parents' educational background did not significantly affect success in learning English prepositions, likely due to the limited role English played at home and in the wider community. Similarly, birth order had no measurable impact on

proficiency levels. Also, whether participants acquired English in urban or rural settings in the Volta Region had little effect, as English played similarly limited roles in both environments.

L1 interference (specifically the extent to which exposure to Ewe spatial expressions impact learners' use of English prepositions) was also investigated. It was found that some learners experience confusion regarding the meanings of certain English prepositions and that this type of difficulty stems from their misunderstanding or improper learning of the L1 equivalents of those prepositions. Incorrect use of ***on top of*** (for non-contiguous support instead of ***above*** / ***over***) was specifically discussed; further details about the distribution of Ewe prepositions and their impact on the learning of their English equivalents are the subject matter of a forthcoming paper.

Based on these findings, some pedagogical recommendations were made. First, because age emerged as the most significant factor, we recommend that learners' developmental stages be aligned with teaching materials. For example, basic prepositions such as ***on***, ***in***, and ***inside*** should be introduced before more complex ones like ***near***, ***under***, and ***on top of***. Second, since older girls tend to perform better, we also recommend that teachers should avoid using girls' performance as the sole benchmark for evaluating progress. In other words, teachers should ensure that instructions on prepositions are sensitive to this trend to prevent expressive female learners from overshadowing male participation and potentially delaying the performance of male learners. Finally, we further recommend that learners' exposure to L1 (here Ewe) spatial expressions be examined, as such investigation may shed light on the difficulties they encounter with certain English prepositions.

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LEARNING FRENCH IN MULTILINGUAL CONTEXTS: THE IMPACT OF EXTRACURRICULAR ACTIVITIES AMONG STUDENTS IN POSTSECONDARY INSTITUTIONS IN GHANA AND NIGERIA

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INFLUENCE OF SOCIAL FACTORS ON THE USE OF ENGLISH PREPOSITIONS AMONG EWE-ENGLISH BILINGUAL CHILDREN

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