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Pre-modification of noun phrases in the writings of students in Ghanaian colleges of education

Frempong, Clara Ofosua
Abetifi College of Education, Ghana (clarafrimp@gmail.com)
Anani, Gifty Edna
University of Professional Studies, Accra, Ghana (giftyanani@upsamail.edu.gh)
Ayitey, Henry Kwao
Kibi College of Education, Ghana (kwao432@gmail.com)
Agbaglo, Ebenezer ✉
University of Cape Coast, Ghana (ebenezer.agbaglo@stu.ucc.edu.gh)

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Abstract

The past few decades have witnessed a proliferation of studies on students' writing, but texts written by students of colleges of education remain largely unexplored. The purpose of this research was to investigate pre-modification of the noun phrases (NPs) in texts written by students in colleges of education (CoEs) in Ghana. A total of three hundred and eighteen (318) texts produced by Levels 100, 200 and 300 students from three colleges of education in Ghana were selected and analysed based on Quirk et al.'s (1985) analytical framework on NPs. It was found that with a total of 3,742 pre-modifications, 1,404 (37.5%) were simple pre-modifiers and 2,338 (62.5%) were complex pre-modifiers. This means that students' writings were filled with more simple pre-modifiers than complex pre-modifiers. In the corpus, pre-modifying adjectives were the most frequently used word class in the complex NPs. The use of these pre-modification types also varied across levels of college education. The present study contributes to knowledge on the noun phrase and academic genres and also has implications for pedagogy and further research.

Keywords: colleges of education, Ghana, noun phrase, pre-modification, students' writings

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1. Background of the study

The development of students' literacy skills is crucial for their future functioning in the world (Matthiessen, 2015; World Bank, 2018). Studies on grammatical complexity have received substantial attention in various fields such as Applied Linguistics, Second Language Acquisition, English for Specific Purposes, Second Language Writing, and Language Testing (Bulté & Housen, 2012). The acquisition of writing proficiency is an essential element of students' success at advanced academic levels, such as universities and colleges, where specialised linguistic knowledge (which is shaped by situational variables such as discipline, genre, and level of education) is imperative to achieving proficiency (Gardner et al., 2019; Hyland, 2002; Zhu, 2004).

The development of students' writing skills is crucial for their participation in the academic discourse community. Ortega (2003) and Wolfe-Quintero et al. (1998) believe that writers advance in their use of language if they are able to produce fluently accurate and increasingly complex language. There is, therefore, evidence in studies conducted by Biber et al. (2011) and Lu (2011) that complexity is increasingly constructed in the noun phrase (NP) as writers develop along an academic path. Many scholars in Applied Linguistics have recently argued that grammatical complexity has basically been analysed by clausal features (e.g., subordinate clauses), and it is necessary to look at grammatical complexity at both the clausal and phrasal levels (Biber et al., 2011; Norris & Ortega, 2009). Based on this, there were recommendations for more research in areas of syntactic complexity of the NP in students' writing (Biber et al., 2011; Lu, 2011). Knowledge about the use of the NP, particularly the complex NP, is important for student writers as they work to acquire the language features of academic writing.

The NP is one of the common linguistic features in the English language. Among the essential features that distinguish the academic register from others is the frequent use of the complex NP, which consists of a head noun as well as pre-modifiers and post-modifiers (Biber & Gray, 2010). The NP is a stylistically sensitive linguistic structure that allows for a great complexity when one is expressing it. This is of great interest when a text analysis focuses on the complexity of NPs. The structure of the English NP has been experiencing a dramatic historical change over the past three centuries, resulting in an increase in the use of NPs in some academic disciplines (Biber & Conrad, 2009).

Over the past few decades, the syntax of the NP has attracted the attention of many scholars. Studies of the NP from the semantic perspective follow the functionalist approach to language acquisition, which argues that the meaning of a grammatical structure largely depends on the context of use (Bates & MacWhinney, 1979). The NP serves a communicative function in written texts, as it is pervasively used to describe entities. Semantically, NPs are regarded as those aspects of our experience that we retain as entities. According to Downing and Locke (2006), the term, *entity*, not only refers to specific entities such as people, objects, places, institutions, and other *collectives*, but also the names of actions, abstractions, qualities, and behaviours. Naming an entity involves adding information about it to indicate how we conceptualise it.

Downing and Locke (2006) have indicated that NPs have been studied in terms of their structure, types, functions, and use in texts. For instance, Biber et al. (1999) have noted the functions of NPs in language. In support of that, Vannestal (2004) explains that NPs specify who and what the text is about. Vannestal, therefore, concludes that the NP is a stylistic linguistic structure because it allows for a great complexity, plays an important role in expressions, and is of great interest in text analyses.

Elliot (2019) has stated that it is imperative for student writers of the English language to know how to use

complex NPs. Biber et al. (2011) have also posited that the ability to use complex NPs follows a process. To them, student writers move from conversation-like clausal elaboration to the use of complex NPs. Thus, students' use of complex NPs increases with an improvement in their literacy (Liu & Li, 2016). The criteria for measuring the complexity of NPs have also been found to distinguish students of different proficiency levels (Liu & Li, 2016). Thus, NP complexity can be deemed to be an indicator of advanced literacy (Elliot, 2019). This study seeks to examine pre-modification of the NP in the writings of students of Ghanaian colleges of education (CoEs).

2. Literature Review

According to Quirk et al. (1985), the pre-modifier comprises all items placed before the head word other than the determinative phrase. Pre-modifiers are usually adjectives, as shown in the examples below:

1. The *handsome* boy is here.
2. The *red* car belongs to my father.

In example (1), the underlined structure is the complex noun phrase in focus. Here, the adjective, *handsome*, is the pre-modifier, as it immediately precedes the head word. Similarly, the adjective, *red*, used in example (2), is the pre-modifier, as it finds itself between the determiner (i.e., *the*) and the head word (i.e., *car*).

The pre-modification can be simple or complex. It is simple when it is made up of only one element, as shown in the following examples:

3. The *ugly* dog is dead.
4. The *intelligent* student is dead.

In examples (3) and (4), the underlined structures are the complex noun phrases in focus and the italicised words are the simple pre-modifiers. In example (3), the adjective, *ugly*, constitutes a simple pre-modification, since it is the only word that is found in the pre-modifier position. Similarly, *intelligent*, as used in example (4), constitutes a simple pre-modification, since it is made up of only one word.

The pre-modification is complex when it comprises more than one element, as exemplified below:

5. The *dedicated bank* manager works for Fidelity Bank.

In example (5) above, the underlined structure is the complex noun phrase while the structure in italics constitutes the complex pre-modification. Here, the noun, *bank*, is modifying the noun, *manager*, which is also modified by the adjective *dedicated*. Thus, the two words, *dedicated* and *manager*, fill the pre-modifier position, making it a complex pre-modification. Sometimes, the complex pre-modification can result in ambiguity, as shown in the example below:

6. The baking powder container

    a) The [baking powder] container

    b) The baking [powder container]

Essentially, the ambiguity results from the modifier closer to the head word and its relationship with the first modifier, on the one hand, and the head word, on the other hand. Thus, in example (6) above, it is unclear whether *powder* relates more with *baking* (as in 6a) or with *container* (as in 6b). This creates ambiguity since each interpretation seems logical.

There have been attempts to generalise the acceptable or preferred ordering of pre-modifiers in NPs with

multiple modifications (Obeng, 2012). Quirk et al. (1985), for instance, provides rules for the hierarchy of pre-modifiers. The rules divide the territory between the determinative and the head into four pre-modification zones: (a) Zone I: Pre-central, (b) Zone II: Central, (c) Zone III: Post-central, and (d) Zone IV: Pre-head. Their explanation of these zones is based on the four defining features of adjectives. Zone I is the first in their ordering and can be occupied by non-gradable adjectives which are typically intensifiers, such as emphasisers (e.g., *certain, definite, plain, sheer*), amplifiers (e.g., *absolute, entire, extreme, perfect, total*), and downtoners (e.g., *feeble, slight*).

The second zone, central, comes after the pre-central position. It has elements such as the central, gradable adjectives which satisfy all four specifications of adjectival status. Examples include *big, funny, intelligent, keen, powerful, slow, and thick*. Central adjectives, according to Quirk et al. (1985), admit intensifiers (e.g., *over brilliant student*), comparison (e.g., He is *more brilliant* than Akua) and alternative predicative position (e.g., He was *more brilliant* than now). The central adjectives function to qualify or distinguish, and they structure contrary to each other, such as *big/small, hot/cold, and soft/hard*. They are usually basic and include both non-derived adjectives and derived adjectives, which are either deverbal (e.g., *interesting, interested*, and *hesitant*) or denominal (e.g., *angry, rainy*, and *peaceful*).

Zone III, post-central, which comes after the central slot, includes specific and colour adjectives. See examples below:

7. the *retired* teacher

8. a *working* theory

9. the *blue* shirt

10. a *yellow* undergarment

The italicised words in examples (7) – (10) are post-central adjectives. These adjectives are not central in the sense that they do not have all the features of adjectives. Hence, they are usually non-gradable and, therefore, cannot be intensified.

The final slot for pre-modification is Zone IV, pre-head. This slot includes the least adjectival and most nominal pre-modifiers. They include (a) adjectives with proper nouns which refer to country, city, or style (e.g., *American* Gothic); (b) other denominal adjectives which relate to nouns, often with the meaning "consisting of", "involving" or "relating to" (e.g., *annual, economic, medical, social, political, rural*); and (c) nouns that modify other nouns (e.g., *tourist* attraction, *Yorkshire* women, *university* student).

Adjectives at pre-head are usually not central but peripheral adjectives. Thus, they do not admit intensifiers, comparison, or the predicative position. Also, they cannot be coordinated, as shown below:

11. a) The Ghana national labour

    b) *The Ghana and national labour

As illustrated in example (11) above, the pre-head adjectives do not allow coordination. In this example, *Ghana* and *national* are the pre-head adjectives. Example (11a) makes sense but example (11b) is grammatically incorrect since coordination is not allowed in pre-head adjectives.

A number of studies have been conducted on NPs in academic and professional texts (e.g., Afful, 2015; Elliott, 2019; Hutter, 2015; Obeng, 2012). On academic texts, Hutter (2015) conducted a corpus-based analysis of noun modification in empirical research articles in Applied Linguistics and Language Teaching to explore the connection between article sections (Introduction, Methods, Results, Discussions [IMRD]) and five types of noun modifications: (a) relative clauses, (b) -ing clause, (c) post-modifiers, (d) pre-modifying nouns, and (e)

attributive adjectives. Using the intersection of genre and register analysis, Hutter carried out the study in two broad areas. The first was that the frequency of these types of noun modification was compared across IMRD sections and the second was the use of a hand-coded analysis of the structural patterns of a sample of NPs through IMRD sections from the fields of Applied Linguistics and Language Teaching.

Hutter's (2015) purpose of study was based on previous studies that had found noun modification to be common and complex in academic writing, in general, since research articles are a highly valued kind of academic writing. Hence, there was a need for the researcher to perform a descriptive analysis of how noun modification functions within research articles, in particular. The findings from the study revealed that noun modification was not uniform across IMRD sections. The study also revealed that there was no significant difference between sections for relative clauses, -ing clause post-modifiers, or -ed clause modifiers. The noun phrase structures across IMRD sections showed that common noun modification patterns such as pre-modifying noun only or attributive adjective with prepositional phase post-modifiers were mostly consistent across sections. Noun phrase structures including pre-/post- or no modification differed across these sections. Therefore, different IMRD sections call for different rates of usage for noun modification and the results reflected that.

Also, Adebileje (2016) conducted a quantitative study on how authors use noun phrases in texts to create effects in the description of their characters, objects, and situations in projecting their themes. The study was based on textual analysis of selected excerpts from contemporary Nigeria authors: *Purple Hibiscus* by Chimamanda Adichie and *Broken Ladder* by Lekan Oyegoke. Adebileje highlighted the distribution of NP types in different textual categories. The researcher examined the NP complexity to ascertain whether or not it produced any stylistic effect in the selected texts and finally to examine whether there was any relationship between NP complexities, functions, and text types. The study described selected NPs from the two texts under study on the basis of headedness in NPs in areas such as short/kind/type of constructions, apposition, of-appositions, bi-nominal constructions as well as the relationship between post-modification, complementation, and apposition.

Adebileje's (2016) study concluded that the complexity of phrases reflects the complexity of syntax in different registers of English. This was revealed in the variety of noun phrases used by the two authors. The simplest structures most frequently occurred in *Broken Ladder* while the complex structures occurred more in *Purple Hibiscus* to corroborate intricacies and complexities of life portrayed in the texts. Hence, a description of the NP structures from both texts revealed the form and meaning of NPs and the nexus between the two authors' intention to use them, which means that there is a connection between the authors' choice of a specific NP form and the context of use. Adebileje recommended that despite the need in linguistic analysis for strict categories, some consideration needs to be given to pragmatic and stylistic factors.

In a similar study, Hussein (2011) aimed to examine the functions of particular linguistic features in literary texts. The researcher, using Firth's system structure theory, including certain principles from Halliday's functional grammar, did a linguistic analysis of the clause (in its textual, interpersonal, and ideational aspects), primary classes of group and phrase (nominal, verbal, adverbial, and prepositional), and the clause complex. The study focused on one linguistic feature related to nominal group (NG) structure as it occurs in Dylan Thomas' poem, "There was a Saviour". The researcher hypothesised that the NG structure is handled by Dylan Thomas throughout his poem in a way that contributes to the general meaning he tries to convey. The nominal group structure was analysed carefully into five elements: (a) head, (b)deictic, (c) numerative, (d) epithet, and (e) qualifier. Dylan depended on qualifiers and the epithet to increase the structural complexity of the NG in the poem.

Rysava (2012) did a descriptive study of the NP in English by focusing on its forms, function, and distribution in texts by analysing the constituents of a typical NP in pre-modification and post-modification. The study compared an originally English text to its official Czech translation to find as many NPs as possible. Using Quirk et al.'s (1985) framework of the NP structure, Rysava revealed the similarities and differences in both

languages by reading (newspapers, fiction, advertisement, etc.) and listening (radio, films, and series, everyday conversation with native speakers, etc.) from two corpora: the British National Corpus (BNC) and the Corpus of Contemporary American English (COCA). The study analysed texts to find out whether there were some repeated patterns and what head nouns were possible to be pre- or post-modified by a quotational compound. The study showed less frequent possibilities of pre- and post-modification of a noun phrase. Hence, the researcher developed an intervention for employing these structures in utterances/texts.

Suarez (2013) also carried out a descriptive study on NPs, their elements, and their syntactic function in the clause. The researcher analysed abstracts of science texts in English. The study was based on the theoretical background of Downing and Locke (2006) and Halliday and Matthiessen (2004). The five selected scientific abstracts were analysed and grouped based on their complexity in terms of the presence of non-head elements (determiner, pre-modifier, and post-modifier) and according to their structural roles (subject, direct object, and completive in prepositional groups). The samples were taken from the *Canadian Journal of Chemistry*, *Chemistry Science* (a British journal), and *Journal of American Chemistry Society*. The results from this study indicated that the structure which was common was the one with the head and pre- or post-modifier, with an optional the determiner. Suarez also found that NPs functioning as direct objects displayed a more complex structure when compared to the NPs realising subject roles.

On professional texts, Satya (2017) also did a systemic functional grammar analysis of the NG features used in Bank Mandiri General Conditions for Account Opening (GCAO) for 2016 in Indonesia. The purpose of the research was to investigate the features of NGs used in GCAO. The data used consisted of 18 articles. It was concluded in the research that the NG structures analysed consisted of five elements: (a) the Deictic, (b) the Epithet, (c) the Classifier, (d) the Thing, and (e). the Qualifier. The most dominant pattern found was the Thing plus the Qualifier. As the study revealed, GCAO was made up of simple NGs, in general, to make it easier for customers to understand.

Afful (2015) focused on a diachronic examination of the NP structure in Ghanaian Newspaper editorials by dwelling on Quirk et al.'s (1985) framework on NP complexities. He did a mixed approach study in editorials from the *Daily Graphic* by studying nine editorials published in 1988, 1998, and 2008. He found a gradual increase in the use of "head" of prepositional structures in Ghanaian editorials. He also found that the "Determiner + Head" has been the most preferred structure of pre-modification in editorials. Sharndama (2015) also performed a qualitative study in Tarabu State by comparing the structure of the nominal group as used in professional and popularised legal texts. He took excerpts from both professional and popularised legal texts as his data and concluded that there was no significant variation displayed in the NPs in the two categories of texts.

NPs have also been studied in students' writings from both native and non-native writers. Wang and Beckett (2017) did a comparative study of NPs used in Chinese EFL students' writing and that of proficient language users. The study explored the use of NPs by having two different groups of participants perform the same task to make the two datasets more comparable. The data source for the study was the "personal statement," a type of document required as part of the admission requirement for further learning by many universities. Fifteen personal statements were collected from nine universities. The study found that, compared with skilled writers, Chinese EFL students generally tended to use more modifiers, including qualifiers, numbers, and hypernyms. The use of prepositional modifiers was the most obvious difference. Therefore, the research supports the following hypothesis: language learners first learn to use pre-modifiers and then use qualifiers/post-modifiers.

A research conducted by Liu and Li (2016) compared the NP complexity in two corpora: (a) a corpus of MA dissertations written by Chinese EFL students and (b) MA published research article in Applied Linguistics journals. The study examined the overall NP complexity using an automatic syntactic complexity analyser and specifically identified features of NP post-modification based on Biber et al.'s (1999) concept. The quantitative results were contextualised in a textual analysis from the two corpora. The findings indicated a significant underdevelopment of NP post-modification complexity in students' writing in relation to published texts.

Obeng (2007) explored gender variation in the use of complex NPs in the writings of students of the University of Cape Coast (UCC). The study was based on a corpus of four hundred examination essays which were collected from hundred undergraduate students in a communicative skills course in the 2009/2010 academic year. Obeng concluded that the female students dominated in the use of concatenated modifiers while the male students dominated in the use of embedded modifiers. In terms of numbers, the female students used more complex NPs than the male students, but in terms of the degree of complexity, the male students dominated. Male students used more post-modifiers while female students dominated in the use of pre-modifiers.

In a related research, Zabala (2004) aimed to describe the structural and discourse properties of nominal post-modifiers in the narratives of ESL learners. The study was based on the assumption that the understanding of language acquisition requires the integration of structural and functional aspects of language use. The study focused on spontaneous oral and written narratives from Japanese and Korean native speakers. The analysis of the texts was based on Biber et al.'s (1999) descriptive grammatical categories. The study focused on prepositional phrases, relative clauses, and participial clause. The findings indicated that structural and discourse properties were largely consistent with reported English use.

Also, Bamigbola (2015) examined the complex sequence of English NPs. The study made use of insights from different theories of grammar to clarify some aspects of the NP that pose problems for English as Second Language (ESL) learners. Bamigbola selected complex NPs from passages in textbooks, articles in magazines and newspapers, and students' essays. The findings showed that the complex ordering had a significant impact in any discourse and that many of the language difficulties of ESL students concerned the lack of adequate understanding of the structure and usage of NPs.

Elliott (2019) did an analysis of nouns across disciplines. He analysed the Michigan Corpus of Upper-Level Students Papers (MCUSP). The texts were drawn from four advanced levels of post-secondary education including senior year of undergraduate and first, second, and third years of graduate study. He aimed to level out which students began to approach professional disciplinary norms. The MICUSP includes seven paper types (argumentative essay, creative writing, critique/evaluation, proposal, report and response paper), representing a variety of academic genres within the broader register of academic writing. Based on the conceptual framework of Biber et al. (1999), the corpus was analysed. The results showed changes in the writing of senior students based on the subject. The results support efforts to develop complexity in students' writing (Biber et al., 2011) and suggest that high-level students' writing may become a more accessible model for less proficient writers because of their advanced level.

The studies focused on different arguments of the NP structures. While some looked at holistic aspect of the NP structure, others looked at just a part (pre-modification or post-modification). Most of these empirical studies were not conducted in the Ghanaian context. Though most of them used written registers, they used different theoretical frameworks. With the present study, we concentrate on the written texts of advanced student writers at the CoEs in Ghana. We pay attention to the possible variations in the pre-modifications of NPs across Levels 100, 200, and 300 students.

3. Methodology

We used the descriptive survey method (Gravetter & Forzano, 2006), which allowed us to draw a sample from the population of interest and make generalisations based on their responses. This design also facilitated the comparison of results in quantitative terms. In the present study, the population was based on written texts obtained from 3,192 students (composed of L300s, L200s, and L100s) in three colleges of education in Eastern and Greater Accra Regions (EAGAR), namely, Presbyterian College of Education (PCE henceforth), Presbyterian Women's College of Education (PWCE henceforth) and Accra College of Education (ATRACOE henceforth). A summary of the population is presented in Table 1:

Table 1

Population of the Study

College	Level 100	Level 200	Level 300	Total
PCE	494	429	553	1476
PWCE	232	295	241	768
ATRACOE	324	311	313	948
Total	1,050	1,035	1,107	3,192

Currently, there are 46 colleges of education in Ghana. These colleges have been zoned as Eastern and Greater Accra Regions (EAGAR), Volta Region (VOLTA), Northern Region (NORTHERN), Ashanti and Brong Ahafo Region (ASHBA), and Central Region and West Region (CENTWEST). The study looked at the EAGAR zone and purposively selected PCE, PWCE, and ATRACO. Then, each college of education was stratified into the three levels: Level 100, Level 200, and Level 300. With the population of 3,192 students, we used scripts of 318 students. Krejcie and Morgan (1970) suggest that a sample size of 346 for a population of 3,500 is appropriate. We, therefore, stayed within the sample size suggested by Krejcie and Morgan in order to have the right representation for the entire population. Hence, 10% of the total population of each level for each college was used as the sample (e.g., PCE level 100: 10/100x494= 49 for the sample). Therefore, 147 of the 318 scripts were selected for Level 300, 77 of the 318 scripts were selected for Level 200 and 94 of the 318 scripts were selected for Level 100 students. The sum total of the various samples of the various levels for a college then became the total sample size for that college and this is representative enough, as suggested by Krejecie and Morgan.

A multi-stage sampling approach was used to select the scripts. Two main sampling methods (purposive and simple random sampling) were employed at different stages of the study to obtain the required scripts. Through purposive sampling, the scripts of narrative essays on "The Memorable Event I have Witnessed in College" of not more than 200 words were selected. The simple random sample technique was used to select the 318 scripts from each level in the selected colleges. Since the texts did not bear the names of the students, the students were made to write their levels on the paper to help easy identification; scripts without the indication of levels were excluded from the sample. In all, the sample for the study was 318 written scripts from students from the selected CoEs. Table 2 presents a summary of the sample for the study.

Table 2

Sample for the Study

College	Level 100	Level 200	Level 300	Total
PCE	49	43	55	147
PWCE	23	30	24	77
ATRACOE	32	31	31	94
Total	104	104	110	318

From Table 2, the sample for PCE, Akropong was 147 written texts. This comprised 49 written texts from Level 100 students, 43 written scripts from Level 200 students, and 55 written scripts from Level 300 students. Also, the sample for PWCE, Aburi was 77 written texts made up of 23 written texts from Level 100 students, 30 written texts from Level 200 students, and 24 written texts from Level 300 students. Finally, the sample for ATRACOE, Accra was 94 written texts, made up of 32 written texts from Level 100 students, 31 written texts from Level 200 students, and 31 written texts from Level 300 students.

Thus, a total of 147 written texts out of the total 1,476 students from PCE, Akropong; 77 written texts out of the total 768 students from PWCE, Aburi; and 94 written texts out of the total 948 students from ATRACOE, Accra were used. Samples of 147, 77, and 94 written texts from PCE, PWCE, and ATRACOE students, respectively, were representative. This is in line with the argument of Alreck and Settle (1985) that a sample size of at least 10% of a population is representative enough to obtain adequate confidence. They postulate that the greater the dispersion or variance in the population, the larger the sample must be to provide estimation and

precision.

Essentially, the analysis involved two steps. In the first step, we relied solely on content analysis to analyse the texts in order to identify the NPs. Any technique for making inferences by systematically and objectively identifying special characteristics of messages is seen as content analysis (Holsti, 1969). The second step involved quantitative analyses of the data. All quantitative data analyses were done using frequencies, percentages, and mean.

4. Analysis and Discussion

4.1 Simple vs. Complex Dimension

Simple pre-modifications are realised by only one modifier element. The modifier may either be preceded by determiners or not since determiners were not analysed as part of Quirk et al.'s (1985) framework on pre-modifiers. The data indicates that the simple pre-modifiers were mostly adjectives or nouns. Examples from the data are given below:

12. A *new* day (L100-2).

13. *Academic* counselling (L200-191).

14. *Poetry* recitals (L300-198).

Examples (12)-(14) above show the use of simple pre-modification in the data analysed. In example (12), the adjective, *new,* which is preceded by the indefinite article, *a*, pre-modifies the noun, *day.* In a similar way, *academic* and *poetry* pre-modify *counselling* and *poetry* in examples (13) and (14) respectively.

Complex pre-modifications are pre-modifications which have more than one modifier. Examples in the data are as follows:

15. *Male soccer* team (L100-277).

16. The *Ohemaa stokes* competition (L300-63).

17. The *Sunday church* service (L200-167).

In example (15) above, *male* and *soccer* constitute the modifier elements. Similarly, *Ohemaa* and *stokes* together form the pre-modifying element in example (16). The same applies to example (17), where *Sunday* and *church* pre-modify the noun, *service.* In all these examples, there are two elements constituting the pre-modifier, making the pre-modification a complex one. Table 3 shows the distribution of pre-modifiers used by students:

Table 3

The Use of Simple Pre-modifiers and the Complex Pre-modifiers

Level	Simple Pre-modifiers		Complex Pre-modifiers		Total
	F	%	F	%	
Level 100	490	35.0	674	28.8	1,164
Level 200	562	40	1,039	44.4	1,601
Level 300	352	25.0	625	26.7	977
Total	1404	100.0	2,338	100.0	(3742)

With a total of 3,742 pre-modifications, 1,404 (37.5%) were simple pre-modifiers and 2,338 (62.5 %) were complex pre-modifiers. This means that students' writings were filled with more simple pre-modifiers than complex pre-modifiers. The implication is that though the writings of students in colleges of education were with more pre-modifiers, the type of pre-modifiers used were those with simple modifiers, indicating that students

condensed content which may likely generate ambiguity when the structure is treated out of context. Structures in simple pre-modification types were condensed both lexically and informationally, as found in a study by Biber and Gray (2010). This allows regular editing and revising mostly in academic writing. Whereas Level 200 students used 562 (40%) simple pre-modifiers, Level 300 students used 352 (25%) and Level 100 students used 490 (34.9%). This again reflected in the use of the complex pre-modifiers, where Level 200 students dominated in their usage. With complex pre-modifiers, Level 200 students used 1,039 (44.4%), Level 100 students used 674 (28.8%), and Level 300 students used 625 (26.7%).

The findings from Table 3 clearly indicate that Level 200 students, who are at the centre of the maturation scale, used more complex pre-modifiers than Level 100s and 300s. Though Quirk et al. (1985) argue that pre-modifiers are semantically less explicit, it cannot be the same in this situation, since the contextual information available helped to avoid the ambiguity. We can say the Level 200 students were more explicit by packing meaning into modification. In their aspirations to be more explanatory, they made use of more word choices as pre-modifiers to their head nouns. This is a clear indication that Levels 100 and 200 made use of more complex modifiers as pre-modifiers. This supports Biber et al.'s (1999) findings that in academic writing, nominal complexity is expressed most often as pre-modifiers by learners, which is mostly acquired and applied in their writings (Biber et al., 1999).

The use of more pre-modifiers by student writers in CoEs, though stylistic, demonstrates the students' ability to share information to readers where the content included less communicative dynamism than new information (Halliday, 1985). Complexity at the level of pre-modification, instead of post-modification, relates more to semantics than syntax. It, therefore, requires much effort to recall and identify all the elements in front of the head noun to arrive at the head noun. Therefore, it can be interpreted that the Level 200 students and, by extension, all levels (300, 100 students) use more complex pre-modification to indicate their complexity at the semantics level as compared to their use of limited post-modification to show their complexity at the syntactic level.

4.2 Open System Dimension

Table 4 presents the frequency distribution of the types of open class modifiers used in the data. Open class modifiers are modifiers that consist of the category of content words such as nouns, verbs, adjectives, and adverbs.

In terms of pre-modifiers used in the complex NPs, the most used pre-modifiers found are adjectives, which recorded 1,609 (48%) out of the total open class pre-modifiers used. According to Biber et al. (1999), a frequent use of adjectives in texts is as a result of many different semantic fields, such as size, time, age, frequency, and effective evaluation. There was a significant difference in the use of adjectives as pre-modifiers by each level. With the total of 1,609 adjectives used as pre-modifiers, Level 200 students used 674 (41.9%). Thus, Level 200 was the group that made use of the highest number of adjectives as pre-modifiers. In terms of frequency, there was not much difference between Level 300 students' and Level 100 students' use of adjectives as pre-modifiers.

Table 4

The Use of Open Class Pre-modifiers in Noun Phrases (F = 3886)

Level	Level 100		Level 200		Level 300		Total	
	F	%	F	%	F	%	F	%
Adjective	462	28.7	674	41.9	473	29.4	1,609	47.5
Noun	403	29.8	605	44.7	346	25.5	1,354	39.9
Participle	76	30	107	42	70	28	253	7.4
Genitive	54	53.4	43	42.6	4	4	101	2.9
Compound word class	15	21.7	36	52.2	18	26.1	69	2.0

Level 300 students used 473 (29.4%) and Level 100 students used 462 (28.7%). Below are examples of adjectives used as pre-modifiers in the data:

18. *Eligible* Ghanaians (L100-1190).

19. The *great* gathering (L200-280).

20. The *unskillful* players (L300-468).

Examples (18) – (20) illustrate the use of adjectives as pre-modifiers in the data analysed. The adjectives, *eligible, great,* and *unskilful,* pre-modify the nouns, *Ghanaians, gathering,* and *players,* in the respective examples.

In example (18), *eligible*, a descriptive and general adjective, was used to describe the event of a Students' Representative Council (SRC) election. In context, the writer, in describing the event of the SRC election, equated it to the electoral system in Ghana where people who are *eligible* to vote are those who are qualified by the constitution, but during the SRC election, students were allowed to vote based on the provision of students' identification card. In example (19), *great* is also a descriptive and general adjective. *Great* was used attributively to qualify the *gathering*, that is, matriculation at PCE, in order to describe its features which made it distinct from other gatherings in the college. Examples of features include the presence of tutors, the principal, the invited guests, and the use of ceremonial uniforms by students. In example (20), the descriptive and general adjective, un*skilful*, was attributively used to describe players for the freshers' games at ATRACOE. In all, the three adjectives, *eligible, great,* and *unskilful* were used as non-restrictive adjectives to the head nouns. The use of the adjectives as pre-modifiers in high a frequency in written genres demonstrates a heavy reliance on NPs to present information (Biber et al., 1999). They are common in academic prose, and in the present study, students, especially, Level 200 students (41.8%), used them to classify the head noun.

From the data, the second most common type of open class pre-modifiers is noun pre-modifiers. The data recorded 1,354 (39.9%) of nouns used as pre-modifiers. Like the adjectives, there was a difference in the use of nouns as pre-modifiers by the students. Level 200 students used 605 (44.7%), Level 300 students used 346 (25.5%), and Level 100 students used 403 (29.8%) of nouns as pre-modifiers. Below are examples of nouns used as pre-modifiers in the data.

21. *School* uniforms (L100-1186).

22. *Wednesday* afternoon (L200-183).

23. *Movie* night (L300-942).

Examples (21) – (23) demonstrate the use of nouns as pre-modifiers in the data analysed. In these examples, the nouns, *school, Wednesday,* and *movie*, pre-modify *uniforms, afternoon,* and *night,* respectively. In example (21), the classifying non-restrictive noun, *school*, narrows the denotational class of the head to a sub-set denoted by the head, *uniform*, as the type of dress worn by students during the freshers' week celebration at PWCE. The use of the common noun, *school*, specifies the type of uniform used on that special occasion. In example (22), *Wednesday*, a defining proper noun, provides information about the specific day of the event, matriculation at PCE. They include the affirmation of the matriculation oath, the cheering from their seniors, and the presence of tutors and invited guests. In example (23), the noun, *movie*, a classifying common noun, is restricting the night as a night for movies on the first Sabbath day at ATRACOE. Nouns are extremely compressed in terms of packaging information. Perhaps, this is due to the limited space or technical underlying meanings, and multiple semantic relations can be expressed with nouns in pre-modification (Biber et al., 1999).

Noun sequences, compound nouns, and a sequence of noun modifiers were also realised in the data. It was the least type of open class pre-modifiers. In the data, 69 (2%) of noun sequences were used by students. Level 100 students used 15 (21.7%), Level 200 students used 36 (52.2%), and Level 300 students used 18 (26.1%). Examples are seen below:

24. The *school's entertainment* committee (L100-286).

25. The *aerobics and soccer* match (L200-500).

26. The *hall gyama* competition (L300-55).

The examples above show the use of noun sequences and compound nouns in the data. In example (24), *school's* and *entertainment* form a noun sequence that pre-modify the noun, *committee*. In example (25), *aerobics* and *soccer* form a compound noun that modify *match*. In a similar vein, *hall* and *gyama* constitute a noun sequence modifying *competition* in example (26).

Once again, Level 200 students used more (52.1%) of the compound nouns as pre-modifiers to the head noun than Level 300 students and Level 100 students. The compound nouns (noun + noun sequence, e.g., *fire report, air force machines,* etc.) and a sequence of noun modifier + noun head appear to be a challenge during the analysis since the difference between nouns in sequence and nouns used as modifiers relates to both orthography and stress placement. Hence, to solve the repetition gap, these concepts (compound nouns and noun in sequence) were treated as the same. Therefore, noun pre-modification has shown to serve the function of adding detailed information to a noun head in a way that makes the phrase more economical and faster to read (Biber & Gray, 2010, 2016).

Participles (both present and past) constitute another open class pre-modifier type used in the data. Participles recorded 253 (7.4%) of the total open class items used as pre-modifiers. The examples below were found in the data:

27. The s*hocking* announcement (L100, 223).

28. The *invited* pastor (L200-226).

29. The *continuing* students (L300-313).

In examples (27) and (29), we have the -ing participials, *shocking* and *continuing,* pre-modifying *announcement* and *students* respectively. In example (28), the -ed participial, *invited,* pre-modifies the noun, *pastor*.

Out of the total of 253 participles found in the data, Level 200 students used 107 (42%), Level 300 students used 70 (28%), and Level 100 students used 76 (30%). Though participles are rare in English (Biber et al., 1999), they show a permanent feature of referent (Quirk et al., 1985). This implies that in students' writings, they modify their subjects mostly at the initial stage. However, Level 200 students, with the highest frequency of 107, used participles to modify their head nouns at the pre-modification stage. The students explored linguistic resources acquired at any given situation to bring some variety and beauty to their writings.

Genitives recorded 101 (2.9%) of the total number of open class modifiers. Level 100 students used 54 (53.4%), Level 200 students used 43 (42.6%), and Level 300 students used only 4 (4%). The following examples were found in the data:

30. The *children's* ward (L100-1061).

31. The *athletes'* morale (L200-118).

32. The *principal's* children (L300-93).

In examples (30) - (32), *children's, athletes'* and *principal's* are genitives that pre-modify the nouns, *ward, morale*, and *children,* respectively.

In these instances, common and proper nouns are combined with the suffix,-*'s,* to specify reference to the head noun, usually to indicate possession or to clarify its group or type. Usually, when it specifies another noun,

its function is a determiner, but if it classifies a noun, it functions as a pre-modifying adjective. They are less frequent in academic prose (Biber et al., 1999) and students at all levels in this study used only a few of them (2.9%), as compared to the other open class items.

5. Conclusion

The purpose of the study was to investigate NP pre-modification in texts written by students of colleges of education in Ghana. The descriptive survey approach, which made use of content analysis, was used to collect information on the NP structural types used in the essays of students in CoEs. The purposive and stratified random sampling methods were used to select a total of three hundred and eight (308) student writers as respondents. The study found that both the simple and complex pre-modifiers were utilised by the students. In the corpus, pre-modifying adjectives were the most frequently used word class in the complex NPs.

The study adds to the existing literature and has implications for pedagogy. The study adds to the existing literature on investigations into grammatical features of advanced ESL/EFL learners' writing progress at the CoEs. The findings are supposed to support existing literature on the level of complexity of the writings of non-native/ L2 writers (Biber et al., 2011; Elliott, 2019; Liu & Li, 2016; Obeng, 2012). The research findings have implications for English language teaching and curriculum development. Thus, the findings of the study will serve as a useful resource for the development of curriculum for CoEs in Ghana. Relatedly, the findings will expose English students of CoEs in Ghana to their own writing practices, from which they will learn to improve their writings.

The present study opens doors for further research. First, the corpus for this research, though enough, could not cover enough settings. Also, the study focused on one genre: the narrative text. Further research could venture into the study of NPs based on a larger setting and to even conduct a comparative analysis between different zones of CoEs with several proficiency levels and genres representation.

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