Article

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Abstract: Proficiency in English is a prerequisite for Ghanaian Senior High School graduates seeking admission into tertiary institutions, yet nearly 50% fail to meet this requirement. This study explores the use of cohesive devices in academic writings (essays) by Assin North Senior High Technical School (Assin North SHTS) final-year students. The study employs a descriptive design. A qualitative approach was utilized, and 105 final-year students were selected through a simple random sampling method. Students' written texts in mock examinations were used as data sources and were analyzed for their frequency of use of reference, conjunction, ellipsis, substitution, and lexical devices. The findings reveal significant differences between essay types in the use of linguistic ties with conjunction and reference highest in frequency. Informal essays achieved an overall higher average mark (24/50) compared to formal essays (24/50) and story writing (23/50). Successful essays employed a balanced variety of cohesive devices while weaker essays relied heavily on limited types such as conjunctions. Equally striking was a complete absence of ellipsis across all essays in line with previous literature illustrating it in academic writing. The study identifies a need for explicit instruction regarding linguistic ties to enhance writing quality and coherence levels, particularly in high school. This study contributes to the literature on L2 writing in cohesion and also provides insights into curriculum development in an attempt to prepare candidates adequately to fulfill the demands of academic writing in subsequent years.

Keywords: cohesion; coherence; academic writing; cohesive devices; readability

Introduction

Writing is a basic skill for academic performance and professional communication. For second language (L2) learners, mastering English writing, particularly, cohesion and coherence, poses a significant challenge (Ahmed, 2019; Suwandi, 2016). In Ghana, where English is the language of instruction, students' writing competence is not only critical to academic progress but also to career opportunities in the future. Despite this fact, performance in writing in English Language in senior high schools (SHS) remains a cause for worry where most students are unable to write well-structured and coherent essays.

Halliday and Hasan (1976) define cohesion as a set of grammatical and lexical means to form logical ties in a piece of writing to render it coherent and flowing. However, internal consistency of ideas and logical organization is what coherence is ultimately about (Flower, 1988). While cohesion occurs at sentence and paragraph levels (using, e.g., conjunction and conjunction link and lexeme repetition), it is coherence that renders the text readable and understandable to readers. Both cohesion and coherence are more difficult to obtain for L2 writers because of linguistic constraints, limited exposure to good models of writing, and a shortage of explicit writing instruction (Silva, 1993).

The West African Senior School Certificate Examination (WASSCE) results demonstrate this challenge. From 2016 to 2020, a total of around 50% of Ghanaian candidates attained a credit pass

(A1–C6) in English Language (Citi News Room, 2020). English Language performance at Assin North Senior High Technical School (Assin North SHTS) has also continued to trail other core subjects with a mean rate of passing at 32.86% (Assin North SHTS, 2022). The West African Examinations Council (WAEC) Chief Examiners' reports (2011 – 2015) for English Language Paper 2 have consistently cited poor coherence and poor use of cohesive devices as primary areas of weakness, including areas such as disconnected paragraphs, excessive use of simple conjunctions (i.e., "and," "but"), and low lexical range (WAEC, 2015). These weaknesses impair performance in examinations. They also weaken learners' ability to present ideas clearly and concise manner, a competency necessary in tertiary education and professional communication (Hyland, 2016).

While previous studies in Ghana have examined general writing issues such as subject-verb concord errors (Nurjanah, 2017) and paragraph organization (Owusu-Ansah, 2018), fewer have examined specifically the use of linguistic ties in student essays in SHS. This is a critical challenge as cohesive writing is a measure of academic success (Crossley & McNamara, 2012). Without a clear profile of student strengths and weaknesses in this area, teachers cannot establish targeted interventions to improve writing teaching.

This study seeks to address this gap through an exploration of the use of cohesive devices in Assin North SHTS students' essays. Specifically, it addresses the following research questions:

1. What are the kinds of cohesive devices used in essays by students?
2. How effectively are these devices utilized to establish coherence and cohesion?

While responding to these questions, this study aims to offer practical recommendations on teaching writing at the SHS levels. The findings of this study will be useful to teachers, curriculum planners, and policymakers who desire to enhance students' writing skills and thus their academic and professional prospects.

Literature Review

Halliday and Hasan's (1976) theory of cohesion has profoundly shaped L2 writing research, particularly, on cohesive devices. Their five major devices of reference, substitution, ellipsis, conjunction, and lexical cohesion work in combination to form textual cohesion so that ideas are logically related and easy to follow. This taxonomy has been employed in comparative studies of texts of different levels of proficiency to illustrate differences between novice and proficient writers in subsequent studies.

For example, Crossley and McNamara (2012) found that more skilled writers employ a wider array of linguistic ties, such as more complex lexical ties of synonymy and collocation, whereas less skilled writers employ a vast majority of simple conjunction and repetition. Similarly, Liu and Braine (2005) contrasted essays composed by Chinese EFL writers and English native speakers and found that even though both groups of writers employed devices of cohesion, natives applied them more appropriately to make their writing more coherent. The findings support the idea that proficiency in the use of cohesion increases with language proficiency and is affected by instruction.

In the case of Ghana, cohesion studies have predominantly focused on tertiary student levels (Sekwo, 2020), with minimal studies on those in SHS. Mensah (2014), in working on essays by senior high school students, found the students to be overusing conjunctions and underutilizing lexical cohesion to the point where their essays were dull and redundant. Edu-Buandoh (2012) also found students to be having difficulty with reference and substitution to the point where it resulted in ambiguous use of pronouns. This aligns with global studies but calls for more studies at the high school level to inform pedagogy.

The relationship between writing quality and cohesive devices has also been well established. Witte and Faigley (1981) demonstrated that well-rated essays are characterized by greater use of lexical cohesion and balance of conjunctions, whereas poorly rated essays rely on repeating or inappropriate ties. Crowhurst (1987) discovered young writers to overuse additive conjunctions (i.e., "and"), which can hinder argumentative logical flow. These findings underscore the need for explicit instruction in linguistic ties to enhance writing quality.

Despite such contributions, gaps remain in what is known about how Ghanaian high school student use cohesive devices and what affects their competence. The current study contributes to such literature through an empirical account of cohesive device use in Assin North SHTS to provide particular instructional strategies.

Theoretical Framework

This study is grounded in Halliday and Hasan's (1976) cohesion theory, which explains how linguistic ties create semantic bonds between a text, making it more readable and coherent. The theory explains cohesion in five forms. Firstly, *reference* - points to previously mentioned items through pronouns (e.g., "he," "it") and demonstratives (e.g., "this," "those"). Followed by substitution – that is, replacing a word or phrase (e.g., "do so") to avoid repetition. *Ellipsis* results in the omission of words that can be inferred from context (e.g., "She likes tea; I do too"). *A conjunction* is a word used to join clauses or sentences (e.g., "however," "because"). Finally, *lexical cohesion* refers to words that are repeated or antonyms/synonyms used to reinforce ideas.

This theory is particularly relevant to the analysis of L2 writing because it provides a systematic way of identifying strengths and weaknesses in the use of cohesion by learners. For instance, overuse of conjunctions may indicate syntactic inflexibility, whereas the opposite may be an indicator of vocabulary constraints (Halliday & Hasan, 1976). The theory also allows for comparative analysis across levels of proficiency, revealing patterns of development in learners' writing.

Halliday and Hasan's (1976) cohesion theory is central to this study because it offers the platform from which the use of cohesive devices in the writings of Ghanaian high school students is analyzed. The five cohesion types that the theory recognizes, namely *reference, conjunction, ellipsis, substitution,* and *lexical cohesion,* make the analysis of the student's essay systematic. With this taxonomy, the study delineates patterns and gaps in the use of these devices in the students' writings, including overuse of conjunction and lack of use of ellipses. The analysis showcases how weaknesses in cohesion affect coherence with ramifications for instructional targeting for enhancing quality in writing in line with the aim of the current study in developing academic writing proficiency.

Methods

Study Site

Assin North SHTS, established in 1985, is a public institution situated in Ghana's Central Region. The school offers seven programmes within the Ghana Education Service curriculum, which include General Arts, General Science, Visual Arts, General Agriculture, Home Economics, Business and Technical courses. The school accommodates a large student body of approximately 3,000, which is overseen by 139 graduate teachers and 51 non-teaching staff (Assin North SHTS, 2022). Facilities such as science labs, a library, and ICT rooms support academic and extracurricular activities. However, despite these facilities, the school's WASSCE results in English have been poor with an average of 32.86% passing from the years 2016 to 2020 (Assin North SHTS, 2022). Therefore, it is an ideal place to investigate writing challenges and pilot interventions to maximize cohesion and coherence in students' essays.

Study Design

The study employed a descriptive design and qualitative approach when looking at cohesive devices in students' essays. Data were obtained from 105 final-year students who was selected through simple random sampling, which represented 10% of the population (Kothari, 2004). The sample included 54 males (51%) and 51 females (49%), which ensured gender balance. The data was collected after getting consent from the school management and students signing the assent form.

Data Collection

Students' practice examination essays were utilized as the primary source of data. Students chose and wrote a 450-word essay on story-writing, informal, or formal subjects. Essays were anonymized, coded, and marked out of 50 for coherence by experienced language tutors. Any discrepancies in marking were resolved by averaging the marks.

Data Analysis

Essays were grouped into informal (45 responses), formal (36 responses), and story writing (24 responses) to identify cohesive device usage across genres. Essays were manually coded for cohesive devices (reference, conjunction, ellipsis, substitution, lexical cohesion). Each device type was color-coded for identification. Following Halliday and Hasan (1976), only intersentential cohesive ties counted. Frequency and percentage distributions were calculated and tabulated. Each essay was marked out of 50 for coherence, and the marking was checked by two experienced language tutors to ensure reliability. Differences were clarified by taking an average of the marks.

Results

Participants Characteristics

The study included 105 final-year students (54 males, 51 females) of Assin North SHTS. Gender distribution was nearly equal, reflecting the school's enrollment pattern. Students were aged between 16 and 19 years, with a mix of linguistic backgrounds, including native speakers of local Ghanaian dialects.

Informal Essays

The student essays in informal writing were examined for patterns in the application of cohesive devices and how these were related to the quality of writing. The results are presented in Table 1 below. Reference devices, including pronouns (e.g., "he," "they") and demonstratives (e.g., "this," "those"), accounted for 19% of all cohesive ties and were the most rudimentary of connectors that provided topic continuity. Conjunctions were more abundant at 26% since students would usually apply coordinating conjunctions like "and" and "but" to join ideas at the sentence level.

Table 1. Categories of cohesive devices in students' informal essays.

Essay	Score (50)	Reference (%)	Substitution (%)	Ellipsis (%)	Conjunction (%)	Connective Adverbs (%)	Lexical Cohesion (%)	Total No. of Cohesive Devices in Each Essay
1	20	26	19	0	28	12	15	31
2	25	16	16	0	25	12	31	28
3	27	13	20	0	19	19	30	13
4	28	32	10	0	19	28	11	40
5	33	23	16	0	25	19	18	28
6	32	10	26	0	35	6	24	31
7	32	16	23	0	32	12	18	20
8	21	13	18	0	19	20	31	16
9	22	16	13	0	22	12	37	33
10	26	19	19	0	28	15	18	36
11	14	23	16	0	25	19	18	17

12	15	16	13	0	22	12	37	26
13	19	13	23	0	32	9	24	36
14	23	20	13	0	22	16	30	15
15	26	19	19	0	28	15	18	23
16	26	16	19	0	28	12	24	22
17	20	21	23	0	22	22	13	29
18	29	19	16	0	25	15	24	19
19	20	23	16	0	25	19	18	34
20	31	17	25	0	35	12	11	33
21	31	25	17	0	16	32	11	25
22	21	25	18	0	23	21	12	21
23	20	19	13	0	22	15	31	30
24	27	13	23	0	32	9	24	32
25	23	26	16	0	25	22	11	26
26	27	16	13	0	22	12	37	22
27	18	23	19	0	28	19	11	13
28	17	23	16	0	25	19	18	19
29	35	10	19	0	28	6	37	17
30	38	19	23	0	32	15	11	24
31	12	21	19	0	22	25	14	22
32	25	16	26	0	35	12	11	32
33	22	23	20	0	24	19	15	35
34	24	13	23	0	32	9	24	27
35	16	19	26	0	27	15	13	29
36	18	23	13	0	22	19	24	18
37	29	13	19	0	28	9	31	17
38	31	15	16	0	25	11	33	19
39	17	19	26	0	27	15	13	30
40	18	19	19	0	28	15	18	23
41	31	23	16	0	25	19	18	35
42	36	16	16	0	25	12	31	18
43	35	21	20	0	19	14	26	16
44	17	19	23	0	32	15	11	26
45	28	19	29	0	20	15	16	25

The study indicated significant qualitative differences between high- and low-scoring essays. High-scoring essays (28-40 cohesive devices) demonstrated adept use of varied cohesive devices – reference, conjunction, and lexical cohesion - enhancing effective linkage and logical consistency. Planned evidence of cohesion strategy was evident within these essays as devices were employed systematically throughout the text. In contrast, lower-scoring essays (13-19 devices) tended to over-use basic conjunctions, producing dull, repetitive writing in the process. This restrictive strategy for cohesion produced texts that were technically correct but lacked the complex flow and subtle linkages typical of superior writing.

Formal Essays

Formal academic essays displayed a very different cohesion profile, one that was aligned with the more complex rhetorical demands of the genre as displayed in Table 2 below. Conjunctions still prevailed at 25.8%, but with greater variety - students employed subordinating conjunctions ("although," "because") to make logical connections between clauses. Lexical cohesion was particularly significant at 23%, with successful essays employing higher-level techniques such as synonym variation ("government – authorities"), hyponymy ("vehicle – car"), and collocation ("economic growth").

Table 2. Categories of cohesive devices in students' formal essays.

Essay	Score (50)	Reference (%)	Substitution (%)	Ellipsis (%)	Conjunction (%)	Connective Adverbs (%)	Lexical Cohesion (%)	Total No. of Cohesive Devices in Each Essay
1	27	13	20	0	19	19	30	13
2	18	23	19	0	28	19	11	13
3	23	20	13	0	22	16	30	15
4	21	13	18	0	19	20	31	16
5	35	21	20	0	19	14	26	16
6	14	23	16	0	25	19	18	17
7	29	13	19	0	28	9	31	17
8	18	23	13	0	22	19	24	18
9	36	16	16	0	25	12	31	18
10	29	19	16	0	25	15	24	19
11	32	16	23	0	32	12	18	20
12	21	25	18	0	23	21	12	21
13	12	21	19	0	22	25	14	22
14	26	19	19	0	28	15	18	23
15	18	19	19	0	28	15	18	23
16	38	19	23	0	32	15	11	24
17	31	25	17	0	16	32	11	25
18	28	19	29	0	20	15	16	25
19	15	16	13	0	22	12	37	26
20	17	19	23	0	32	15	11	26
21	24	13	23	0	32	9	24	27
22	25	16	16	0	25	12	31	28
23	33	23	16	0	25	19	18	28
24	20	21	23	0	22	22	13	29
25	16	19	26	0	27	15	13	29
26	20	19	13	0	22	15	31	30
27	17	19	26	0	27	15	13	30
28	20	26	19	0	28	12	15	31
29	27	13	23	0	32	9	24	32

30	22	16	13	0	22	12	37	33
31	31	17	25	0	35	12	11	33
32	20	23	16	0	25	19	18	34
33	22	23	20	0	24	19	15	35
34	31	23	16	0	25	19	18	35
35	26	19	19	0	28	15	18	36
36	19	13	23	0	32	9	24	36

The most insightful indicator of essay quality in formal writing was the utilization of connective adverbs. Effective essays (19-22% connective adverbs) employed these transition words ("however," "consequently," and "moreover") accurately to indicate rhetorical moves and argument development. Poorer essays (9-12%), however, underutilized these important signals or used them incorrectly, producing abrupt transitions and gloomy logical relationships. This finding underscores the pedagogical importance of explicating these discourse markers and their rhetorical functions in academic writing.

Story Writing

Narrative texts showed patterns of cohesion (as shown in Table 3) specific to their temporal and descriptive needs. Conjunctions were the most frequent at 25.8%, employed primarily to sequence events ("then," "after") and to establish cause-and-effect relationships ("so," "because"). References were in second place at 19%, as personal pronouns and demonstratives helped sustain characters and objects throughout the narrative.

Table 3. Categories of cohesive devices in Students' story writing.

Essay	Score (50)	Reference (%)	Substitution (%)	Ellipsis (%)	Conjunction (%)	Connective Adverbs (%)	Lexical Cohesion (%)	Total No. of Cohesive Devices in Each Essay
1	14	23	16	0	25	19	18	17
2	15	16	13	0	22	12	37	26
3	16	19	26	0	27	15	13	29
4	17	19	23	0	32	15	11	26
5	18	19	19	0	28	15	18	23
6	19	13	23	0	32	9	24	36
7	20	21	23	0	22	22	13	29
8	20	19	13	0	22	15	31	30
9	21	25	18	0	23	21	12	21
10	21	13	18	0	19	20	31	16
11	22	23	20	0	24	19	15	35
12	23	20	13	0	22	16	30	15
13	24	13	23	0	32	9	24	27
14	25	16	16	0	25	12	31	28
15	26	19	19	0	28	15	18	23

16	26	19	19	0	28	15	18	36
17	27	13	20	0	19	19	30	13
18	27	13	23	0	32	9	24	32
19	28	19	29	0	20	15	16	25
20	29	13	19	0	28	9	31	17
21	31	23	16	0	25	19	18	35
22	32	16	23	0	32	12	18	20
23	33	23	16	0	25	19	18	28
24	35	21	20	0	19	14	26	16

The correlation between number of cohesive devices and narrative worth was particularly strong. Good stories averaged 31.5 cohesive devices, nearly double the 19 of weaker narratives. This large difference makes clear that effective storytelling must be highly cohesive to deal with multiple strands of narrative – character, setting, plot surprise – without diminishing lucidity and interest. The best narratives found a balance of rich conjunctional event ordering and cohesive richness through repeated imagery and thematic lexis.

Prominent was the complete absence of ellipsis in the three essay types (informal, formal and storytelling) examined. This grammatical cohesion device, in which words are omitted but easily accessible through context (e.g., "She went to the market and [she] bought fruit"), doesn't appear to be familiar to high school students or is being deliberately avoided, perhaps because they are afraid of loss of clarity or grammatical correctness. This gap reflects students' deficient cohesive strategies which could contribute to conciseness and fluency in everyday writing.

Discussions

The informal student essays analysis reveals varied cohesive device usage patterns strongly related to writing quality. Reference devices (e.g., pronouns "he," "they," and demonstratives "this," "those") constituted 19% of all the cohesive ties, serving as the most common connectors for topic continuity (Halliday & Hasan, 1976). This overuse of conjunctions is accounted for by Alarcón (2022), who reaffirmed that students extensively use coordinating conjunctions (*"and," "but"* emphasis mine) to link ideas at the sentence level. Top-scoring essays demonstrated expert command of numerous cohesion types, while lower-scoring essays depended excessively on basic conjunctions, producing dull writing (Crossley & McNamara, 2016). Formal essays exhibited another type of cohesion pattern, in line with complex rhetorical requirements (Golparvar, 2024).

These essays registered a high occurrence of conjunctions, though students used more subordinating conjunctions ("although," "because") to form rational connections which are justified by Schleppegrell (2004). The prevalence of conjunction comes as a result of the fact that students will replicate the structure of language that they encounter within academic writing where complex forms of sentences using subordinating conjunction are widespread. Studies show that exposure to formal models of writing makes students replicate the same structures, even when simpler alternatives would suffice (Schleppegrell, 2004; Macbeth, 2010; Hayes, 2012). Most of the students also believe that longer and more complex sentences are of higher quality (Biber et al., 2011). As a result, they employ too many subordinating conjunctions in an attempt to create multi-clause sentences, even when coordination or simpler structures would improve clarity.

High-scoring essays leveraged lexical cohesion through synonym variation, hyponymy, and collocation (Hoey, 1991). The strongest predictor of quality was the employment of connective adverbs (e.g., "however," "consequently"). High-scoring essays (with connective adverbs) used them correctly, while weaker essays overused or misused them, leading to sudden shifts as noted by Castro (2004). This highlights the need for explicit instruction on discourse markers in academic writing (Hyland, 2016).

The findings also indicated that narratives utilized conjunctions extensively to signal sequencing ("then," "after") and causality ("so," "because"). This is corroborated by Labov (1972) who argues that narratives are by nature chronological and require explicit markers to indicate the order of events. That is, narratives require temporal boundaries to be meaningful. Also, stories usually have causal chains – one event leading to another. Conjunctions like "because," "so," and "as a result" make these relationships clear (Berman & Slobin, 1994) and more significant. Parallel or simultaneous events tend to be narrated and therefore conjunctions like "and," "while," and "as" are required to link them smoothly (Halliday & Hassan, 1976). References are most crucial in maintaining continuity of object and character (Berman & Slobin, 1994).

The outcomes of this study are that the most effective narratives had 32 cohesive devices, almost twice those of poorer stories (19 devices). This illustrates that good storytelling requires rich cohesion in an attempt to keep track of many figures, maintain momentum in the action and conserve descriptiveness fullness. As such, successful narratives avoided unclear references (e.g., "He gave it to him," where antecedents are indistinct) through intentional noun repetition where needed. This also emphasizes the need for thick cohesion to manage narrative control (Graesser et al., 2004).

A remarkable note was the complete absence of ellipsis (in all essays) – a cohesion grammatical strategy where words missing are to be inferred from context (e.g., "She went to the market and [she] bought fruit"). This suggests that students do not employ ellipsis due to concerns over clarity or are unaware of its use (Hyland, 2003). The complete absence of ellipsis in all essay writings is also confirmed by Biber et al. (2000), who noted its rarity in academic writing.

Conclusions

An examination of informal student essays revealed that cohesive devices play an important role in quality writing. Reference devices such as pronouns (he, they) and demonstratives (this, those) helped in the preservation of topic continuity. Conjunctions, particularly coordinating conjunctions (and, but), were used in excess to connect ideas. Of interest was the complete absence of ellipsis, suggesting either that students are shying away from it for fear of ambiguity or that they are not acquainted with this strategy.

High-scoring (quality) essays exhibited varied and strategic cohesion, which combined reference, conjunction, and lexical cohesion for logical coherence with ease. Lower-scoring essays, however, relied too heavily on plain conjunctions, resulting in monotonous and repetitive writing. This indicates that students can construct grammatically sound sentences but struggle with advanced cohesive strategies that support fluency and sophistication. Formal essays exhibited a more advanced cohesion profile, which reflects the demands of academic writing.

Conjunctions remained prominent, but subordinating conjunctions (although, because) were utilized more regularly by students to build logical connections. Lexical cohesion – utilization of synonym variation (government – authorities), hyponymy (vehicle – car), and collocation (economic growth) – was a primary measure of effective writing. The use of connective adverbs (however, consequently) was the strongest predictor of quality writing. Strong essays used these precisely to mark argument structure, while weak essays overused or misused them, leading to abrupt transitions. This highlights the need for explicit instruction on discourse markers to support academic writing coherence.

Narratives relied on conjunctions for causality (then, because) and chronology (so, after), while references maintain object and character continuity. Good fiction uses rich cohesion in order to manage several narrative components (plot, setting, characters) without losing clarity and interest.

Recommendations

This study underscores the critical role of cohesive devices in shaping text effectiveness. Cohesive devices such as conjunctions, lexical repetition, pronouns, and linking phrases are the core that hold ideas together and make writing clear, and logically coherent. In the absence of these verbal

devices, texts would be disjointed, and readers have difficulty tracing the intended meaning of the author. The findings of the present study point out that students with the ability in cohesive devices produce more sophisticated and better-organized essays that are essential for educational and professional achievements.

To improve students' writing skills, the research suggests some major recommendations. First, instructors should provide explicit instructions in employing cohesive devices. That means, on the one hand, teaching learners the functions and meanings of various connectors (for example, "however," "therefore," and "in addition") but, on the other hand, showing them the practical use of such devices in different writing situations. For example, instructors can demonstrate how transitional expressions enhance cohesion in paragraphs or how pronoun reference avoids redundancy while ensuring readability.

Second, extensive reading needs to be promoted as a means of enhancing students' lexical base and familiarity with cohesion in authentic texts. Reading good books, academic articles, and essays helps learners catch how experienced authors use cohesive devices naturally. Progressively, it helps learners acquire an intuitive sense of how to link ideas smoothly in writing.

Thirdly, the study demands the restructuring of English language syllabuses with more focus on writing, particularly cohesion. Most existing syllabuses center on exercises in grammar or reading comprehension and neglect extended writing practice. By integrating more formal writing exercises—such as guided essays, peer revision, and multi-draft writing—teachers can help students build their ability to use cohesive devices effectively.

Finally, the study identifies gaps in current research and suggests that future studies explore how different pedagogical approaches and textbook designs influence learners' control of linguistic ties. To provide an example, contrast studies can explore whether process-based instruction in writing generates more positive results compared to traditional product-based approaches. Second, researchers can investigate whether textbooks successfully illustrate examples and exercises in cohesion or if they inadvertently overlook this critical component of writing.

Limitations

Even though this work helps assess Ghanaian senior high school students' use of cohesive devices, there are a few limitations that needs attention.

1. The first of all, only a population of 105 school-leavers in a particular institution (Assin North SHTS) was studied. This means external generalizability to other schools or schools in Ghana is restricted. A larger multi-institution population would help to extend external validity.

2. In addition, the study only used mock examination essays, and these are possibly not the best measure of students' spontaneous writing performance. Cohesion strategies may also be influenced by examination conditions and thereby reduce results. The inclusion of class assignments or drafts would have provided a more comprehensive representation of the cohesiveness and coherence of students' academic writings.

3. Thirdly, the qualitative and descriptive nature of this inquiry excludes causal findings. Although patterns of use of linguistic ties were determined, it is impossible to conclude whether other factors or explicit instruction strengthen cohesion directly. Experimental or long-term designs may be utilized in future work to test interventions in teaching.

4. Finally, in this study, socio-linguistic factors such as students' L1 backgrounds or prior exposure to English were not accounted for, possibly affecting their cohesion decisions. Accounting for them in other studies will produce a more precise description of writing difficulty in multilingual communities.

In spite of these limitations, this study offers a foundation for guided writing instruction and demands additional investigations of cohesion in classrooms in Ghana.

Ethical approval: Ethical approval for the study was obtained from the University of Education, Winneba, Institutional Review Board (UEW/2022/19). All the ethical guidelines enshrined in the University of Education, Winneba research ethics policy document were strictly adhered to. Consent was obtained from participants before the commencement of the study.

Conflict of Interest: No competing interest

Generative AI Statement: "As the author(s) of this work, I used the AI tool [Quilbot] for [paraphrasing and summarizing. After using this AI tool, I reviewed and verified the final version of our work. I, as the author(s), take full responsibility for the content of this published work".

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