

The Influence of Morphological Awareness and Vocabulary Depth on Academic English Writing Skills of Undergraduates

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Samaraweera, S.G.S.^{1*}

^{1*}Department of English Languages Teaching, Faculty of Humanities and Social Sciences, University of Ruhuna, Wellamadama, Matara, Sri Lanka

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Abstract

Developing academic English writing skills in undergraduates is a challenging task for teachers and students, as it is a complex process. Morphological awareness and vocabulary depth may influence academic English writing skills in tertiary-level students. Therefore, this study investigated the effect of morphological awareness and vocabulary depth on academic English writing skills in English as second language undergraduates. The study was conducted with 110 undergraduates from a public university in Sri Lanka. The instruments used for data collection were a demographic questionnaire, standardised measures of morphological awareness and vocabulary depth, and academic English essays. The essays were evaluated using standardised rubrics. The data were analysed using several statistical techniques, including hierarchical regression analysis, to explore the extent of influence of the independent variables on academic writing skills. The findings showed that morphological awareness had a greater independent effect on academic writing skills than vocabulary depth. Students with higher morphological awareness had better grammatical accuracy and coherence in their writing. Findings also showed that while vocabulary depth contributed to revisiting the lexical resources, its strength was less than that of morphological awareness. The findings indicated that morphological awareness is a more promising area for enhancing English academic writing skills in tertiary-level students. Morphological awareness should be incorporated into academic English language programs to improve students' academic writing skills.

Keywords: Academic Writing Skills, English Language, Morphological Awareness, Undergraduates, Vocabulary Depth

INTRODUCTION

Academic writing in English plays a critical role in facilitating effective written communication within the academic community in English-medium tertiary institutions (Hyland, 2006; Flowerdew, 2015). Academic writing skills enable students to successfully complete their studies and participate in global academic discourse (Lillis & Scott, 2007; Hyland, 2019). Since academic achievements are mainly judged by written assessments, proficiency in academic writing is vital in reaching educational goals (Wingate, 2012).

Developing English academic writing skills is a complex process since it is associated with non-linguistic elements: cognitive abilities, educational background, motivation, organisational skills, and psychological factors, and linguistic elements: grammar, sentence structures, and vocabulary knowledge (Gharabally, 2015; Schoonen et al., 2003). English writing skills are more challenging for undergraduates than listening, speaking, and reading skills (Gustilo & Magno, 2012; Younes & Albalawi, 2015). Academic writing demands precision, objectivity, clarity, conciseness, structured organisation, and the use of precise vocabulary and straightforward language. It is a structured, evidence-based, and logically organised form of communication that involves assessing sources, comparing

and contrasting ideas, and critically analysing them to reach reasoned conclusions. The complexity of academic writing poses challenges for both teachers and students, with tertiary-level learners often struggling to complete assignments, essays, research proposals, and reports due to insufficient writing proficiency (Hyland, 2019). Effective academic writing relies on characteristics such as formality, accuracy, coherence, cohesion, and objectivity, which can be achieved through the use of appropriate vocabulary and grammatically accurate, meaningful sentences (Biber, Grey, & Poonpon, 2011; Paltridge, 2020).

Morphemes are the meaningful units in a language, and morphology is the study of the internal structure of the words, how words are formed in a language and their relationship to other words in the same language. Morphological awareness is the ability to identify the smallest units of meaning in a language and use the knowledge of word structure and formation, its relation to other words, and its grammatical and syntactic properties accurately and correctly in receiving and producing meaning in a language. To be familiar with the writing system of a language and construct correct and meaningful sentences and paragraphs, one needs to identify these units. Kuo and

* Corresponding author: Tel.: +94 (77) 383 9141; Email: samaraweera021@gmail.com

<https://orcid.org/0000-0003-1908-9941>



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Anderson (2006) and Öz (2014) suggested that morphological awareness enables language learners to engage with the writing system of a language. Morphological awareness is necessary to understand the syntactic connection of a word and unlock its meaning through morphemic analysis (Zaretsky & Russak, 2024). It provides information on sentence and paragraph structures, enabling learners to comprehend the morphemic structure of words and their derived meanings (Kieffer et al., 2013). Morphological awareness enables students to manipulate lexical, grammatical, and syntactic properties to produce an accurate, coherent, and cohesive piece of academic writing. Moreover, English is a morphophonemic language (Venezky, 1970), and therefore in English academic writing, morphological awareness supports writers to see the multiple connections between the form, structure, and meaning of words.

Morphemes make words through their association, and a word can be formed with one or more morphemes (e.g., approve (one morpheme), preapproval (three morphemes: pre- approve -al). In addition, morphemes involve word structure attributes (e.g., “joyful -ness” “joyfulness” or “significant -ly” “significantly”) and syntactic structure attributes (e.g., adding “-er” to “sing” forms “singer”, and which consequently changes the word from a verb to a noun, adding “-ly” to “significant” creates “significantly”, and thus changes the word from an adjective to an adverb, adding “-al” to “sensation” creates “sensational”, which is a way of changing the word from a noun to an adjective, adding “-ness” to “truthful” creates “truthfulness”, which makes the word a noun, adding “-s” to “play” creates “plays”, which turns the word from plural to singular, adding “-s” to “girl” creates “girls”, which now makes the word into a plural word “girls”). Such patterns are used to form words, alter words, and unite them in the English language, where the morpheme plays the role of meaning and function in this language. Conceptualising the properties of words and their syntactic structures may assist in creating coherent sentences, logically introducing ideas, and producing academic pieces of writing.

Academic writing is a language-based activity in which a coherent academic text is produced using linguistic elements such as word structure and sentence structure (morphological awareness), collocations, connotations, and semantic changes (vocabulary depth). A deep grasp of word forms, how these words are combined in phrases, their meanings, and the rules they follow in the language can guide writers in their task of putting ideas together and structuring arguments in academic writing. Consequently, it is logical to hold a point of view that morphological awareness, as well as vocabulary depth, can be seen as an extraordinary factor in empowering one's abilities to determine the meanings of some unknown words and their interactions with other words and in coding various types of complex syntactic structures as elements of good academic writing.

LITERATURE REVIEW

Academic English writing skills, a key dependent variable in this study, can be explained within the context of different theoretical frameworks. For example, the Cognitive Process Theory of Writing (Flower & Hayes, 1981) describes writing as a dynamic, goal-driven process. This framework

concentrates on the mental processes that are at work in writing, focusing on planning, translating the mentally created ideas into writing, and finally revising the writing. This framework highlights how writing is affected by cognitive abilities developed through knowledge, motivation, and previous writing experiences, and it expresses the importance of both knowledge of word structures and the lexical resources for organising a well-formed and coherent academic piece. The Self-Efficacy Theory (Bandura, 1997) also provides insight into the motivational aspect that underlies academic writing and indicates that students' beliefs in their writing abilities are likely to influence their performance and perseverance in pursuing academic writing proficiency. The theory also relates to the student's writing quality in differing self-efficacy, where success depends on whether students believe they can apply the selected vocabulary resources and morphologically appropriate structures. It indicated that to succeed in academic writing, students' perception of their linguistic abilities would increase their performance within academic writing, thereby stressing the importance of both morphological awareness and depth of vocabulary.

Morphological awareness is an essential aspect of an individual's language proficiency and can be explained within the context of the Morphological Structure Awareness Theory (Carlisle, 2000). According to the theory, morphological awareness plays a significant role in reading and writing. The Dual-Route Theory of Word Recognition (Coltheart, 2005) also presented the cognitive perspective that morphological processing occurs through both lexical (whole-word) and sub-lexical (morpheme-based) pathways; both show the complexity of morphological awareness in academic writing. Additionally, while Ouellette (2006) suggested that the ability to recognise how words are built gives learners a tool to think critically and enables them to write strong academic arguments, Goodwin & Ahn (2013) argued that morphological awareness helps writers develop the ability to select precise and varied words, thereby improving the flow and formality of their writing. Ouellette (2006) further highlighted that understanding word structures develops critical thinking, argumentative, and analytical skills required for academic writing. It aids writers in decomposing difficult words, improving their writing fluency, and using vocabulary effectively (Zukowski, 2009). It influences sentence construction by promoting grammatical accuracy and improving sentence quality through the use of a broader vocabulary (Carlisle, 2007; Kuo & Anderson, 2006). In addition, morphological awareness aids self-editing, allowing writers to spot errors and inconsistencies in their drafts, leading to polished revisions and final drafts (Goodwin & Ahn, 2013). Additionally, writing skills are correlated with morphological awareness, as suggested by Carlisle and Feldman (2003), Liu and McBride-Chang (2010), and Silva and Martins-Reis (2017). In terms of academic writing, the writer who is aware of these morphemes may be better able to understand them and their relationship with other words around them and encode them in academic writing. Furthermore, it is argued that morphological awareness is a fundamental aspect of language that impacts various linguistic skills, including reading comprehension (Samaraweera, 2019), vocabulary acquisition (Carlisle, 2000), and writing skills (Goodwin & Ahn, 2013; Wakely et al., 2006), and through them, it influences academic writing skills. However, its direct

influence on English academic writing is less explored and understood.

Besides morphological awareness, vocabulary depth may also influence English academic writing skills. Generally, vocabulary contains two aspects: breadth of vocabulary (number of known words) and depth of vocabulary (how well the words are known) (Qian, 1999; Read, 1988). However, although both aspects contribute to the construction of meaning in a language (Qian, 1999), only depth of vocabulary is considered in this study as it involves multiple intricate dimensions that may influence the academic writing skills of adult language learners. Depth of vocabulary knowledge refers to awareness of different aspects of words, such as multiple meanings, collocations, connotations, semantic change, grammatical function, syntactic elements, and constraints on use, and the ability to manipulate them in constructing a wider range of meaning in a language. In line with this, while Kieffer and Lesaux (2012) and Qian (1999) define depth of vocabulary knowledge as the individual's understanding of the various meanings of a word and how these inter-relate and can be used appropriately in different contexts, Read & Read (2000) and Meara and Wolter (2004) suggest that depth of vocabulary means how well the learner knows the word. Although many studies (Loewen & Ellis, 2004; Masrai & Milton, 2021; Szabo et al., 2021) focused on breadth of vocabulary and academic achievements, it seems that few researches focused on depth of vocabulary and academic achievement, particularly academic writing. However, Qian, (2020) argued that depth is now recognised as crucial for advanced language tasks, including producing precise and sophisticated academic writing. Recent studies are increasingly exploring this dimension, highlighting its importance in enhancing academic success.

Vocabulary is a key element in creating written meanings in a language and is a prime reflection of academic success (Nichols & Rupley, (2004); Naeimi, Soltani, & Damavand, (2013). While deep knowledge of words helps writers choose correct and precise words for accurate encoding, the lexical resource is a critical aspect in assessing the quality of writing. The lack of lexical resources hinders the production of quality writing, as noted by Nation (2001). Vocabulary knowledge is imperative in academic writing since it helps individuals maintain clarity, flow, brevity, focus, coherence, and cohesion and develop arguments in academic writing. Depth of vocabulary knowledge enables a language user to accurately comprehend, interpret, and create meanings, which are essential for effective communication in academic and professional settings. In academic writing, this knowledge may aid in expressing complex ideas concisely, avoiding repetitive language, and enhancing readability. It also may maintain precision, build cohesive arguments, link ideas, and maintain academic standards. In line with this view, Nation (2001), Zwiers (2008), and Schmitt (2010) asserted that well-developed vocabulary knowledge supports the clear and effective communication of complex ideas, enables nuanced analysis, and helps construct logical, coherent arguments in writing. Expanding one's vocabulary enhances writing in academic contexts, enabling writers to present ideas professionally and maintain clarity, while a limited vocabulary can result in vague and imprecise writing.

Vocabulary depth, referring to the relations of a learner's knowledge about meanings and relationships between words, finds an explanation in the Depth of Processing Theory (Craik & Lockhart, 1972). This theory indicates, however, that better cognitive involvement with vocabulary items leads to better retention or usage. The Lexical Quality Hypothesis (Perfetti, 2007) supports this claim with its emphasis on constructing high-quality lexical representations, wherein words with well-integrated orthographic, phonological, and semantic properties greatly assist language use in academic contexts. Primarily, earlier studies conducted by Loewen and Ellis (2004) and Masrai and Milton (2021) indicated a correlation between vocabulary depth and academic achievement. That is to say, greater depth in vocabulary knowledge was associated with typically producing clearer, more coherent and more concise academic texts by students. Moreover, vocabulary depth permits students to express more complex ideas effectively, thereby sidestepping vague and repetitive language (Hyland, 2002; Schmitt, 2010). According to the Nation (2001) and Zwiers (2008), vocabulary depth can contribute to the clarity, flow, and coherence of academic writing. Indeed, depth of vocabulary knowledge is of great importance for constructing logical arguments, linking ideas, and maintaining value in academic writing.

Both linguistic (e.g., grammar, morphology, vocabulary) and non-linguistic aspects (e.g., cognitive abilities, educational background, motivation, organisational skills, psychological factors, attitudes, motivation, beliefs, and writing experiences) were considered in academic writing research. However, the significant factors influencing academic writing skills have not been conclusively identified. For example, while Etherington (2008) argued that explicit teaching influences academic writing skills, Tribble and Wingate (2013) and Ganobcsik-Williams (2004) argued that explicit academic writing teaching is ineffective. Furthermore, while some researchers (Ruegg, 2015; Sritrakarn, 2018) suggested that teacher and peer feedback is important in developing academic writing skills, other researchers (Johns, 1991; Petric, 2002).

demonstrated that learners' attitudes influence their academic writing skills. However, it is argued that feedback is not adequate as the learners do not always apply the feedback given by the teachers and peers (Duncan & Noonan, 2007; Pokorny and Pickford, 2010). In addition, while some studies (Kio & Anderson, 2006; Carlisle, 2010; Samaraweera, 2019) suggested that morphological awareness significantly contributed to the development of language skills, other studies suggested that vocabulary (White, Graves, & Slater, 1990; Sedita, 2005) and attitudes, beliefs, and writing experiences (Leki, 1995) influence academic achievement. Although academic writing has been studied extensively (Ganobcsik-Williams, 2004; Tribble & Wingate, 2013), considering linguistic and non-linguistic factors, it is still difficult to determine the most significant factor(s) that contribute to the development of academic writing skills. Therefore, given that morphological and vocabulary awareness may influence academic writing skills and conclusive evidence is not provided to determine the significant factors that contribute to the development of academic writing skills, this study focuses on whether morphological awareness, vocabulary awareness, or both contribute to academic writing skills.

Furthermore, although both morphological awareness and depth of vocabulary are considered among the important contributors to academic writing, there is still a considerable lack of consensus on how they work together in affecting the sparkle of writing, particularly among non-native speakers of English. Although morphological awareness is recognised for enhancing coherence, clarity, and linguistic formality in writing and for minimising spelling errors (Apel & Lawrance, 2011), the direct influence of morphological awareness on English academic writing is still underexplored. While many studies emphasise its role in grammar and vocabulary development (Kuo & Anderson, 2006; Carlisle, 2007), limited research investigates how it specifically impacts the structure, cohesion, and argumentation of academic writing. Furthermore, the role of morphological awareness in aiding the selection of precise words, improving flow, and enhancing formality (Goodwin & Ahn, 2013) is often discussed, yet its combined effect on various linguistic elements such as coherence and cohesion remains inadequately understood. Vocabulary depth, which entails multiple meanings, collocations, connotations, and grammatical functions (Qian, 1999; Read, 1988), is highlighted as an important trait in academic writing, but many researchers have tended to centralise their efforts around vocabulary breadth in light of its correlation with academic achievement (Loewen & Ellis, 2004). Depth of vocabulary—thoughtful incorporation into academic writing is also minimally addressed for its roles in advancing clarity, coherence, and argument-building in the creation of sophisticated academic texts (Qian & Lin, 2020).

While the relationship between morphological awareness and vocabulary has been examined independently, the integrated effect of morphological awareness and vocabulary depth in academic writing has not been exhaustively investigated, particularly for non-native speakers of English. This research gap inhibits the development of targeted instructional procedures aimed at enhancing academic writing proficiency, with particular emphasis on tertiary education.

MATERIALS AND METHODS

The study deploys a quantitative and explanatory research design to determine the relationship between morphological awareness, depth of vocabulary, and academic writing skills of non-native speakers of English. Following the model 'Research Onion' by Saunders, Lewis, and Thornhill (2016), the quantitative approach is justified as it helps objectively analyse numerical data to examine patterns and relationships. The explanatory design has been chosen to understand through causal relationships how morphological awareness and vocabulary depth impact academic writing proficiency. Using this methodological framework, the study intends to provide empirical insight into developing targeted interventions for better academic writing skills in tertiary education.

The study involved 110 adult English as a Second Language (ESL) learners enrolled in a Bachelor of Arts program at a Sri Lankan state university. The selection criterion was based on their use of English as their second language, ensuring relevance to studying ESL academic writing skills in tertiary education. The purposive selection method provided insights specific to similar higher education settings.

Since the research had specific objectives, purposive sampling was chosen as more appropriate because it ensures the selection of participants most closely aligned with the study. To ensure the most relevant profiles entered the study, purposive sampling admits individuals concerning their linguistic and educational background while avoiding less relevant profiles. Given that the study involved academic English writing within a Sri Lankan public university, purposive sampling enabled the researcher to invite participants enrolled in relevant programs whereby the data collected were sure to respond directly to the objectives. Given the scope of the study and the resources available, purposive sampling became the optimum choice since probability sampling would have necessitated a great amount of time and effort to screen a larger population. The purposive sampling procedure was valid since the study intended to examine the specific relationships existing between certain linguistic variables and the academic writing ability of ESL learners, instead of generalisation. The use of purposive sampling was corroborated as the most practical and efficient method for accessing the study's objectives.

The study employed the measures of Word Structure and Syntactic Structure (morphological awareness), depth of vocabulary, and writing of an academic essay and a demographic questionnaire. Word Structure, Morpho-syntactic Structure, and Depth of Vocabulary are measures used in this study which were determined to represent the research goals while providing the most accurate assessment of the respective contributions of morphological awareness and vocabulary depth towards English academic writing skills. These measures were chosen in accordance with sound theoretical frameworks, and existing empirical evidence for their suitability and relevance in relation to the target population of ESL learners. This selection guarantees that the separate measures provide a detailed and accurate analysis of linguistic constructs critical for academic writing success and an overall understanding of the nature of the interaction among morphological and lexical knowledge with academic writing proficiency.

The Word Structure measure was selected to evaluate students' ability to recognise and manipulate morphemes at the word level, which is one of the most fundamental levels of morphological awareness. Such a measure was consistent with Carlisle's (2000) Morphological Structure Awareness Theory, which suggests how important it is for developing morphological awareness to understand the internal structure of words within a language use and production context. According to Feldman, (1992), this test assesses participants' comprehension of the internal structure of words. Empirical studies (e.g., Kuo & Anderson, 2006; Goodwin & Ahn, 2013) have shown the contribution of word-level morphological awareness toward further vocabulary development and improvement in writing proficiency among ESL learners. Assessment of Word Structure assesses the capability of students to attend to internal morphological structure in the decomposition of words, used in synthesising the whole word back using prefixes, suffixes, and roots, all of which are key features for academic writing. This measure has been used in a number of studies (Derwing, 1976; Curinga, 2014; Samaraweera, 2019). The measure consisted of 40 pairs of words. One half

of the word pairs were semantically connected, while the remainder were not.

Examples

- | | | | |
|----------|-----------|--------------------------------------|-------------------------------------|
| 1. kind | kindness | ☒ YES | ☐ NO |
| 2. break | breakfast | ☐ YES | ☒ NO |

The Morpho-syntactic Structure is an indicator of students' ability in embedding morphological structures into syntactic structures. This indicates that they could compose a more complex, grammatically intelligible sentence. This is examined under the Dual-Route Theory of Word Recognition (Coltheart, 2005), which proposes that reading and writing skills are both developed through whole-word and morpheme-based processing. Research has broadly investigated the relationship between morpho-syntactic awareness in academic writing, as with it comes attention to cohesive devices, syntactic complexity, and formal structures that are required for effective communication (Nagy&Anderson, 1984; Biber, Gray & Poonpon, 2011). The measure used in this research, therefore, assesses the extent to which ESL learners can apply their morphological knowledge in larger syntactic constructions and, thus, in writing for coherence and clarity.

The Morpho-syntactic Structure assessment is undertaken using sentences in a formal register. Such test items with syntactically complex and formally structured sentences should provide a more confident judgment as to participants' ability to apply morpho-syntactic knowledge in academic writing, a vital aspect of the study. The assessment would appropriately reflect the grammatical and structural demands imposed on academic written English; hence, the results would be very meaningful for the inquiry regarding ESL learners' academic writing skills. This measure has been used in several studies, including Carlisle (1995), Curinga (2014), and Samaraweera (2019). There were 30 items in the measure. The participants were required to select the best word out of four options to complete the sentence meaningfully. The root of the four options is the same, but the morphemes are different, and these morphemes provide different grammatical information (e.g., noun, verb, adjective, adverb). See the example below.

The he gave us took us to the wrong street.

- a) directs **b) directions** c) directing d) directed

The inclusion of both word structure and morpho-syntactic structure as measures of morphological awareness adds depth to the analysis, allowing for a more nuanced understanding of how different aspects of morphology impact academic writing skills.

These measures, thus, were selected for a thorough assessment of morphological awareness and an alignment with academic writing's language requirements, reinforcing the study's aim of examining the effect of morphological awareness on English academic writing proficiency. To align the assessment of morphological awareness with the domain of academic writing, the study employs academically familiar words in the testing of morphological knowledge. By relying upon academic vocabulary for such a purpose in the Word Structure measure, the study ensures that the test items reflected the practical influence of the participants' knowledge of word formation and word use in

growing academic writing proficiency. Just as the academic vocabulary is allowed through the measures, so does it solidly cement the connection between morphological awareness and academic writing performance.

The assessment of morpho-syntactic structure has been similarly carried out through the production of sentences embedded in formal registers. As Schleppegrell, (2004 and Nation, (2001) suggested ESL students frequently encounter serious problems with morphological and syntactic complexity, which are critical to the production of coherent academic texts Through the use of syntactically complex and formally structured sentences as test items of the assessment, the study measures the participants' ability to use their morpho-syntactic knowledge within their academic writing more accurately. This satisfied the dual demands of grammaticality and structural completion in academic written English and thus made it possible for the findings and discussion of the study to be more relevant to the postulated research objectives concerning the development of ESL learners' academic writing skills.

The measure of depth of vocabulary (Read, 1993) was used to assess participants' depth of vocabulary knowledge. Qian (1999), Choi (2013), and Samaraweera (2019) have used this measure in some of their studies. The test consists of 40 items, with one item being associated with a particular word from two boxes containing four adjectives and four nouns. The participants must put two adjectives in the first box that are similar to the target word. Another adjective chosen in the second box provided collocation with the noun quarantined.

Example:

general

☐ closed	☐ country
☒ usual	☒ reader
☐ different	☒ idea
☒ whole	☐ street

Participants' demographic information (e.g., age, gender, English language learning experience) was collected through a questionnaire.

Three topics with clear instructions were given as part of the Academic Writing assessment, allowing the participants to choose one of the three. A broad selection was desirable in that it catered for different interests and expertise within the participants and made writing learnable and accessible, appropriate, and inclusive for all. Additionally, given that both general knowledge and language proficiency have an important bearing on writing a good academic essay, the provision of an array of topics was important for participants from various backgrounds to successfully engage in the task. The assessment indicated both word and time limits as motivators that discourage redundancy, focus on important information, and ensure cohesive arguments. Such constraints would further help assessors adhere to different frameworks and depict fairness in marking. The answer scripts were evaluated by two assessors according to one rubric, ensuring inter-rater reliability and treatment of subjects' scoring in a less subjective light.

All the measures were piloted with similar samples to determine their appropriateness for the study, evaluate their feasibility, and identify any practical challenges that could affect their validity and reliability in the main study. The pilot study involved 20 ESL learners, selected to reflect the main study population in terms of demographic characteristics such as age, gender, and educational background. These participants were enrolled in the same degree program and had similar English language proficiency levels. Their selection ensured that the pilot study provided reliable and valid insights into the feasibility and effectiveness of the study measures. The internal consistency reliability (Cronbach's Alpha) indicated acceptable reliability levels for all measures (0.77 or above). Overall, the pilot study results indicated that the measures are valid and reliable to collect data for the study (see Table 01).

Table 1: Internal consistency reliability scores for the measures of Morphology and Vocabulary

Tests		No of items	α
Morphology	Word Structure	30	.756
	Morpho-Syntactic Structure	30	.836
Vocabulary	Depth of Vocabulary	160	.954

Source: Developed by author, 2025

Each participant was given a test booklet containing the assessments of morphological awareness, vocabulary knowledge, and academic essay writing. The purpose and the possible outcome of the study were clearly explained to the participants prior to the assessment. All assessments were administered in group sessions in a quiet, comfortable classroom setting, with participants spaced around the room to avoid copying. The researcher conducted all group testing.

RESULTS AND DISCUSSION

A series of Hierarchical Multiple Regression analyses were performed to determine if both morphological awareness and depth of vocabulary contribute to English academic writing or whether morphological awareness and depth of vocabulary independently contribute to English academic writing. The regression analyses used the Academic Essay Writing measure as the dependent variable, while morphology and vocabulary were used as the independent variables.

The contribution of morphological awareness to English academic writing was assessed by entering morphology into the analyses, while the contribution of depth of vocabulary was assessed by entering depth of vocabulary into the analysis. To determine the combined contribution of both morphology and vocabulary to English academic writing, both were included in the analysis. The variability explained by both together provides an estimate of their combined contribution to English academic writing, whereas the variability explained by each independently provides an estimate of their individual contributions to English academic writing skills (see Table 2).

Table 2: Results of hierarchical regression analysis

Academic Essay Writing					
	R^2	R^2 Change	Sig. R^2 Change		Beta
Morphology	.476	.476	F=12.25 ($p<.000$)	WS	.046, ($p = .784$)
				MSS	.663, ($p <.000$)
Vocabulary	.216	.216	F=7.71 ($p<.010$)	DV	.465, ($p = .010$)
Vocabulary and Morphology	.494	.018	F=8.44 ($p<.349$)	WS	.021, ($p = .903$)
				MSS	.599, ($p = .003$)
				DV	.156, ($p = .349$)

Source: Developed by author, 2025

Note. WS = Word Structure, MSS = Morpho-Syntactic Structure, DV = Depth of Vocabulary

The results showed that the morphology measures produced a statistically significant result, explaining approximately 48% of the variance in Academic Essay Writing. Morpho-Syntactic Structure produced a higher Beta value ($\beta = .663$, $p = .000$) than Word Structure ($\beta = .046$, $p = .784$). This dimension attaches a large effect size, according to Cohen's guide, or $R^2 = 0.26$. This proves that morphological awareness determines a considerable share in academic writing, supporting the notion that competent academic writers are highly dependent on morphological structures like prefixes, suffixes, and root words. Furthermore, the higher Beta for Morpho-Syntactic Structure ($\beta = .663$, $p = .000$) than for Word Structure ($\beta = .046$, $p = .784$) remains consistent with reasoning. This further signal that combining words into sentences must be in a grammatical context that is meaningful; it is more of a strong predictor of academic writing success rather than mere awareness of word structure.

Therefore, the Morpho-Syntactic Structure measure seemed to be more predictive of Academic Essay Writing than the measure of Word Structure, which may suggest that academic writers rely more on Morpho-Syntactic Structure than Word Structure. Among the two morphology measures, Morpho-Syntactic Structure ($\beta = .663$, $p < .000$) was a stronger predictor than Word Structure ($\beta = .046$, $p = .784$), suggesting that academic writers rely more on their ability to manipulate morpho-syntactic elements than on word-level morphological knowledge. The results also demonstrated that vocabulary produced 22% of the variance in Academic Essay Writing. However, the Beta value indicates that morphology, particularly morpho-syntactic structure produced a significant value ($\beta = .663$, $p = .000$) than depth of vocabulary ($\beta = .465$, $p = .010$). Entry of both morphology and vocabulary measures also produced a statistically significant result explaining approximately 49% of the variance in Academic Essay Writing. However, the beta scores in the final model indicated that only the Morpho-Syntactic Structure was

statistically significant ($\beta = .599$, $p < .003$) compared to the Depth of Vocabulary task ($\beta = .156$, $p = .349$).

The results showed that the morphology measures produced a statistically significant result, explaining approximately 48% of the variance in Academic Essay Writing. According to Cohen's (1988) guidelines, this represents a large effect size, indicating that morphological awareness is a substantial predictor of academic writing. Morpho-Syntactic Structure produced a higher Beta value ($\beta = .663$, $p = .000$) than Word Structure ($\beta = .046$, $p = .784$). Therefore, the Morpho-Syntactic Structure measure seemed to be more predictive of Academic Essay Writing than the measure of Word Structure, which may suggest that academic writers rely more on Morpho-Syntactic Structure than Word Structure.

Therefore, morphological awareness seemed to be more predictive of academic essay writing than the depth of vocabulary, which may suggest that academic writers rely more on morphological awareness, combining words within phrases and sentences, than individual word processing in academic writing. This significant contribution suggests that students who can effectively manipulate morphological elements, such as prefixes, suffixes, and root words tend to produce higher-quality academic essays. The study found that morphological awareness is more important than vocabulary depth in academic writing achievement, as it underlies vocabulary and syntax. While a rich vocabulary is essential for precise and varied expression, academic writers primarily rely on morphological awareness. Both morphological awareness and depth of vocabulary contribute to academic writing performance, but academic writers have a stronger reliance on morphological awareness.

The study found that morphological awareness accounts for about 48% of the variance in English academic writing skills. Writers with morphological awareness can better understand the meanings of words and syntactic relationships within sentences, allowing for clearer and stronger writing without vague or meaningless words, thus effectively communicating complex ideas in academic writing. As stated by Carlisle (2000), students who possess an in-depth understanding of morphemic structures are better able to comprehend word meanings and relationships in sentences, leading to higher-quality writing. While Carlisle (2000) further highlighted that morphological awareness influences writing quality by aiding the structure of the language, organizing ideas, and making the transition from simple thoughts toward complex thoughts, Shany and Biemiller (2006) suggested that morphology is important for writing quality improvement. In their view, decoding basic vocabulary, as well as the use of advanced vocabulary, contributes to syntactic complexity. They further reported that writing with varied lexical items also increases syntactic complexity, which is a necessary aspect of good academic writing. Morphological awareness permits students to use their cognitive powers to get clues to the meanings of new words and relates these to academic writing skills according to Nagy and Anderson (1984) and Samaraweera (2019). Morphological awareness allows students to put new language more accurately into their academic writing in relation to meaning and grammar in sentences and paragraphs.

It was found that morpho-syntactic structure proved its significant predictive power in academic essay writing in English by making it clear, coherent, and deep in argumentation. The morpho-syntactic structure could possibly serve as a more powerful predictor for English academic essay writing than word structure, which means that the conception of a good academic writer probably regards complex morpho-syntactic structures as the principal manner of writing. This result is consistent with Biber (1988) noting how academic writing most significantly implements structural syntax over simpler vocabulary features because the syntactic features allow for more dense information and high abstraction, which makes it easier to express complex ideas in a precise and nuanced way. In academic writing, compound-complex sentences are formed with morpho-syntactic structures that are slightly on the complex side to maintain objectivity, impersonality, formality, coherence, and nuanced arguments (Swales, & Feak, 2012; Conrad, & Biber, 2001). Higher levels of syntactic complexity indicate more sophisticated and effective writing, while simpler vocabulary features are more common in conversational language. Morpho-syntactic structure, rather than word structure, plays a critical role in effective academic writing and is a stronger predictor of the quality of academic writing. Although word structure is crucial for the quality of academic writing, it is limited without the ability to integrate words into complex syntactic structures. Studies (Ortega, 2003; Crossley & McNamara, 2012) suggested that focusing on syntactic complexity in language instruction may better equip students for academic writing demands. Morphological awareness helps students develop strong syntactic skills, understand the importance of coherence and cohesion in academic writing, and learn how to construct effective arguments. Therefore, morpho-syntactic structures should be considered as part of a broader set of linguistic skills necessary for effective academic writing.

Furthermore, morphological awareness, not only directly but also indirectly through other linguistic and non-linguistic skills, may contribute to English academic writing skills (they must be investigated in future research). In the literature, it is argued that morphological awareness is a crucial skill that enhances vocabulary knowledge, reading comprehension, and language processing skills, enabling students to understand complex vocabulary, form grammatically accurate sentences, and express nuanced ideas effectively (Carlisle, 2010; Nagy & Anderson, 1984; Samaraweera, 2019). Morphological awareness influences academic writing skills indirectly through links with other language skills, such as syntax and word finding, and non-language skills like flexibility in thinking and memory. For example, Carlisle (2010) emphasised that knowing about word parts helps students understand new words by looking at their roots, prefixes, and suffixes, improving their vocabulary and making more advanced sentences. Moreover, while Nagy, Berninger, & Abbott (2006) argued that this awareness helps in academic writing through reading skills, vocabulary growth, and understanding texts, Deacon (2012) emphasised that it also helps through cognitive skills like solving problems and critical thinking. Future studies should look deeper into how awareness of word structure connects with other language and thinking skills in academic writing, showing how it helps develop advanced skills like forming arguments and analysing critically.

The second research question aims to address how much of the variance in English writing skills can be accounted for by depth of vocabulary knowledge. Vocabulary depth is shown to have a significant role in English academic writing skills. The present finding concurs with previous research (Qian, 2002; Laufer, & Nation, 1995; Schmitt, & Zimmerman, 2002). These studies emphasised that having a good command of vocabulary facilitates more accurate and sophisticated expression, which is important in academic writing. Nevertheless, the results revealed that even though vocabulary depth is important to a certain degree, it is not as determinative as morphological awareness in English academic writing skills. This could be due to the fact that academic writing often involves synthesizing information and building long chains of argumentation that depend on manipulating morphological structures rather than on mere word knowledge. Previous research (Crossley & McNamara, 2012; Nation, 2001) also confirmed such a view by indicating that vocabulary depth relates primarily to understanding and expressiveness and is more often insufficient for producing sophisticated grammatical flexibility or multidimensional structural variety needed for academic pieces of writing. Douglas and Miller (2016) and Schleppegrell (2004) also argued that specific morpho-syntactic transformations in academic writing cannot be achieved solely by enhancing vocabulary depth, as it also removes clarity and formality. Morphological awareness appears to be a stronger predictor of English academic writing than vocabulary depth, and thus the study proposes that morphological awareness may need greater attention in academic writing instruction. Vocabulary does not affect academic writing considerably, as it does not necessarily lead to better grammar, syntax, or coherence. Furthermore, extensive vocabulary depth does not guarantee good academic writing; a student with extensive vocabulary may struggle with incoherent arguments (Laufer and Goldstein, 2004). According to Nation (2001), vocabulary knowledge alone is not adequate enough for academic success, as morphological structure manipulation is more critical. The current study suggests that while vocabulary is necessary in English academic writing, its effectiveness may depend on how well it is integrated with other linguistic skills.

One of the reasons for the results that morphological awareness contributes to English academic writing skills over and above depth of vocabulary knowledge could be that morphological awareness enhances word formation abilities, allows writers to create new words and forms, supports vocabulary expansion, and enhances writing complexity, all of which are crucial in academic writing. Morphological awareness enhances learners' understanding of words' roles in grammatical constructions, enabling the creation of coherent sentences free from errors. It also enhances their ability to manipulate lexis in multi-layered syntactic structures, crucial for maintaining clarity and precision in academic writing. It facilitates vocabulary acquisition and improves comprehension, especially of difficult English words, which in turn improves writing in general (Bowers, Kirby, Deacon 2010; Carlisle 2000). Morphological awareness aids in word decomposition, enabling students to use words more elaborately, especially in academic writing (Nagy, Berninger, & Abbott 2006). Furthermore, awareness of morphemes enhances vocabulary inferencing and reading comprehension, particularly in English language learners (Kieffer & Lesaux 2007). It also helps students adjust words in various parts of

sentences, which is a requirement while writing for academic purposes.

The third research question explores the association between language skills (morphological awareness and vocabulary depth) and English academic writing skills. The study found that morphological awareness and vocabulary depth significantly enhance English academic writing skills. The study suggests that students with good morphological and vocabulary knowledge are more likely to write academic essays in a structured, coherent, and complex manner. Vocabulary and morphological awareness are interconnected, with a strong vocabulary foundation improving morphological awareness and deepening vocabulary knowledge (Nagy et al., 2006; Carlisle, 2000). Both are crucial language processing skills for understanding academic language, and their roles can overlap in predicting aspects of writing, such as lexical choice and structural variety (Kieffer & Lesaux, 2012).

Morphology and vocabulary account for 48% and 22% of the variance, respectively. However, when combined, they do not significantly enhance the explained variance (49%). Morphological awareness is important in academic writing because it allows the integration of words, which provides meaning along with syntactic awareness. A good vocabulary is necessary for good writing, but it is not sufficient without morphological syntactic varieties. According to Crossley and McNamara (2012) and Schleppegrell (2004), while academic writing requires knowledge of vocabulary, it also requires the ability to formulate vocabularies into complex morpho-syntactic structures. English academic writing further requires high levels of nominalisation and complex verb phrases, which are due to the morpho-syntactic structures of the English language. As Douglas and Miller (2016) propose, teaching should focus on the morphological aspects so that learners can develop formal as well as complex writing skills, which in turn will enhance their academic success. Morphological awareness has been referred to as critical in academic writing because it enables clarity of syntax while accommodating various lexical structures simultaneously (Carlisle, 2000; Biber, Gray, & Poonpon, 2011). In conclusion, depth of vocabulary shall not be emphasised too much in academic writing, as awareness of morphology has more prominence. This is because an academic text integrates a wide range of pieces of information and phenomena interconnected with each other within arguments, which could be stem mileage at the cost of vocabulary depth. Therefore, morphological awareness has effective importance in achieving good academic writing.

CONCLUSION

The study investigated the relationship between morphological awareness and depth of vocabulary knowledge in academic writing. The findings indicated that morphological awareness and depth of vocabulary contribute to academic writing performance, but academic writers have a stronger reliance on morphological awareness, particularly, morpho-syntactic structure than depth of vocabulary. This demonstrates that vocabulary knowledge alone cannot guarantee successful academic writing. Part of their implication was that curriculum development should move toward a more comprehensive direction such that vocabulary study would ideally intersect

with morphology and syntax instructions. Such a shift would allow teachers to take into thought this matter not only as making students increase their vocabulary but also to teach them how to become effective users of the vocabulary in the context of academic writing. Furthermore, this is a significant insight in terms of implications for writing pedagogy since it suggests that instruction should be directed not just toward expanding the amount of knowledge to help students widen their vocabulary but also toward teaching them about sentence construction and word combinations instead. Such an approach is crucial for students writing in academic settings, where complex sentence structures and clarity of expression are important.

Morphological awareness is crucial for academic writing, but a comprehensive approach considering non-linguistic factors like motivation, attitudes, and practices is needed. Future research should also explore pedagogical strategies and student challenges in acquiring academic writing. However, limitations related to the size of the sample and the scope of variables considered set forth a need for future studies that will build on these results and explore more deeply the relationships between linguistic and non-linguistic factors in English academic writing skills. This study makes significant contributions to the field of academic writing research, particularly in the context of English language learners and writing development. By highlighting the relative importance of morphological awareness compared to vocabulary depth, the research provides valuable insights that challenge previous assumptions in the field. While both morphology and vocabulary are crucial for writing proficiency, the study reveals that morphological awareness, or the ability to manipulate word structures such as prefixes, suffixes, and roots, plays a far more substantial role in predicting academic writing success. This discovery encourages educators and researchers to reconsider the weight placed on vocabulary knowledge alone and to explore the broader importance of word structure and grammar in enhancing academic writing quality.

In conclusion, this research brings a fresh infusion of knowledge by demonstrating through empirical evidence that morphological awareness is a stronger predictor of academic writing performance than vocabulary depth. The study gives more importance to the morpho-syntactic structure than to word-level knowledge, which will urge gradual changes in teaching and testing methods. These results negate earlier assumptions about the role of vocabulary in academic writing and strongly argue for incorporating both morphology and syntax instruction into writing curricula to enhance support for students in their academic writing pursuits.

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