

CHAPTER II

LITERATURE REVIEWED

This chapter presents literature reviewed related to morphological awareness, academic writing ability, and lexical richness. This chapter presents the theoretical framework that underpins the concepts in this research. The theoretical framework presented aims to comprehensively explain the variables studied, namely morphological awareness and lexical richness in academic writing skills, as well as the theoretical relationship between the two.

A. Lexical Richness in EFL Academic Writing

Lexical richness is a complex concept in linguistics. This concept examines the quality and diversity of the vocabulary used in a text or utterance. Furthermore, writers who are considered competent are generally expected to produce texts with a greater lexical richness. In the context of academic writing, lexical richness is an important indicator as it reflects the writer's ability to access and use vocabulary that is appropriate, efficient, and in line with the formal register required by the academic community (Ha, 2019). A lexically competent writer is expected to be able to avoid monotonous repetition of words, choose more precise words, and present information concisely without losing clarity of meaning.

Furthermore, lexical richness is regarded as a multidimensional construct that develops in tandem with increasing language proficiency. Research indicates that EFL learners with higher proficiency levels tend to produce texts with greater lexical richness compared to beginner learners, in terms of diversity, sophistication, and lexical density (Schnur & Rubio, 2021;

Yang & He, 2025). Thus, the concept of lexical richness is not only relevant for assessing the quality of writing in general, but also serves as a valid proxy for measuring the development of academic writing skills. In this study, lexical richness is positioned as the dependent variable (Y) correlated with morphological awareness, as theoretically the ability to understand and manipulate word structure (morphemes) contributes directly to improving the quality and diversity of vocabulary used in academic writing.

1. Lexical Richness a Key Indicator of Writing Quality

Lexical richness has been widely recognised in the literature as one of the most sensitive indicators for assessing the quality of writing, particularly in an academic context (Read, 2000; Weigle, 2002). Unlike simple quantitative measures such as text length or word count, lexical richness provides a more in-depth insight into the writer's ability to use language effectively and efficiently. A lexically rich text indicates that the author has access to a diverse vocabulary, is able to choose precise and nuanced words, and can organise information with a density that meets the expectations of an academic reader (Ha, 2019). Conversely, texts with low lexical richness tend to be repetitive, imprecise, and appear academically immature.

2. Dimension of lexical richness

a) Lexical Diversity

Lexical diversity refers to the range of different vocabulary used by an author in a text; it is typically operationalised as the ratio of the number of types (unique words) to the number of tokens (total words),

known as the type-token ratio (TTR) (Read, 2000). The higher this ratio, the more diverse the vocabulary used by the writer, indicating that the writer does not repeat the same words excessively. However, the classical TTR has a weakness as it is sensitive to text length: longer texts tend to have a lower TTR even though the actual diversity is good. Therefore, in modern research, derived measures such as the corrected TTR (CTTR) or mean segmental TTR (MSTTR) are often used, which control for text length (Schmitt, 2014). Lexical diversity is crucial in academic writing because scholarly readers expect a variety of vocabulary that reflects the author's breadth of knowledge, whilst avoiding boredom caused by the constant repetition of the same terms.

b) Lexical Sophistication

Lexical sophistication measures the proportion of vocabulary considered rare, advanced, or academically specific within a text (Read, 2000). In practice, lexical sophistication is often operationalised as the percentage of words not included in high-frequency lists (e.g., outside the 2000 most common words) or the percentage of words included in the Academic Word List (AWL). A lexically sophisticated writer can use words such as 'nevertheless', 'consequently', 'implementation', or 'heterogeneous', which rarely appear in everyday conversation but are highly valued in academic discourse. Lexical sophistication reflects the extent to which a writer has internalised advanced vocabulary and can use it appropriately in formal contexts.

c) Lexical Density

Lexical density refers to the proportion of content words (nouns, verbs, adjectives, adverbs) to the total number of words in a text (Read, 2000). Unlike function words (prepositions, conjunctions, articles, pronouns), which primarily serve grammatical functions, content words carry the main information of a text. The higher the lexical density, the more information is packed into each word, which is a characteristic of formal and concise academic texts. For example, the sentence *The implementation of the policy was successful* has a higher lexical density than *They implemented the policy and it was successful* because it uses more content words and fewer function words (Biber & Grey, 2010). In academic writing, high lexical density is often achieved through nominalisation, i.e. converting verbs or adjectives into nouns, for example, *develop* into *development*.

B. Morphological Awareness

1. Concept of Morphological Awareness

Morphological awareness is broadly defined as the metalinguistic ability to break down complex words, understand their meaning, and reflect upon and manipulate the morphemic structure of a word (Carlisle, 1995, 2000). Carlisle (1995, 2000) emphasises that this construct encompasses the ability to consciously break down and reflect upon the internal structure of words and meaning, as well as the ability to manipulate morphemes, the smallest units of meaning in language. Gombert (1992), as cited by Doherty and Perner (1998), places morphological awareness within the realm of

metalinguistic competence by highlighting the conscious control of morphological operations in word formation. Similarly, Kuo and Anderson (2006) define it as the ability to reflect upon and manipulate morphemes whilst applying the word-formation rules of a language.

In addition to reflection and manipulation, experts also highlight the practical application of morphological knowledge. Nagy, Berninger, and Abbott (2006) emphasise its use in word comprehension and production. Kirby et al. (2012) refer to it as an understanding of word structure accompanied by the ability to manipulate it. Apel (2014) defines it as the conscious ability to reflect on and manipulate morphemes, understand word-formation rules, and apply them in spoken and written tasks. Bowers et al., (2010) add receptive and productive dimensions. Thus, morphological awareness is a reflective, manipulative, and essential metalinguistic skill for analysing and forming morphologically complex words.

2. The Difference between Morphological Knowledge and Morphological Awareness.

Morphological knowledge and morphological awareness are often considered to be the same. However, in reality, these two concepts differ in terms of their level of awareness and operationalisation within the cognitive domain (Kuo & Anderson, 2006; Apel, 2014). Implicit morphological knowledge can be likened to a ‘subconscious intuition’ that develops naturally from the moment a person can speak (Ellis, 2008). It is the innate ability of native speakers to use and understand word structures without needing to think about the underlying rules (Pinker, 1999). In other words,

morphological knowledge is implicit, whilst morphological awareness is explicit, involving the conscious ability to break words down into meaningful units (such as prefixes, suffixes and word roots) and to form new words from these parts.

Based on this conceptualisation, it can be concluded that the fundamental difference between the two lies in the level of awareness and the nature of their use. Morphological knowledge primarily concerns the implicit acquisition of word-formation principles and knowledge of specific morphemes, whilst morphological awareness is defined as the conscious reflection upon and manipulation of morphemic structures. Carlisle (2004) asserts that without knowledge of word parts (such as specific knowledge of prefixes and suffixes), it is impossible to consciously process morphologically complex words. In other words, morphological knowledge serves as the foundation that enables morphological awareness to operate.

Furthermore, this can be illustrated by the following example. EFL learners have learnt that the word ‘predict’ can be transformed into ‘predictable’ or ‘predictive’ and can use these words correctly in sentences. However, they would not be able to explain that this process is called prefixation or that the prefix ‘pe-’ functions as an agent-forming suffix.

C. Correlation: Morphological Awareness and Lexical Richness in EFL Academic Writing

Morphological awareness skills, particularly the ability to break down complex words, are strongly linked to a range of productive and receptive language skills, especially in an academic context. The role of morphological

analysis, specifically through the activities of breaking down complex words and identifying their constituent morphemes in relation to writing skills, lies in enhancing lexical structural awareness. This ability helps writers to avoid word formation errors, grammatical errors resulting from inconsistencies in form, and lexical errors (Green et al., 2003). Furthermore, this ability can reduce the cognitive load on writers during the process of composing a text (Nagy & Anderson, 1999). In other words, mastery of the skill of decomposing complex words forms the foundation that enables writers to construct sentences with more varied structures, morphological precision, and lexical richness in formal written texts. Therefore, decomposition serves a dual function in writing: as a tool to avoid mechanical errors and as a foundation for producing texts that are accurate, efficient, and structurally mature.

Awareness of the meaning of morphemes serves as a cognitive foundation for writers, enabling them not only to recognise word forms but also to understand the nuances of meaning produced by morphological processes. In the context of academic writing, this awareness plays a role in improving the accuracy of word choice, as writers are able to distinguish between the meanings of forms such as ‘difference’ and ‘differentiation’ in accordance with the scientific context. Furthermore, awareness of the meaning of morphemes facilitates the writer’s mastery of productive affixation, so that the formation of derived nouns, adjectives and verbs becomes more accurate and consistent with formal register. In terms of cohesion, an understanding of semantic relationships within a single morphological family, for example, *communicate*, *communication*, *communicative*, helps the writer create a coherent flow of

writing and avoid inefficient repetition. Moreover, this awareness facilitates writing efficiency, as writers can quickly identify the correct word forms without constantly relying on a dictionary, whilst also enhancing independence in editing by detecting morphological errors that could potentially alter meaning. Thus, an awareness of morpheme meanings is not merely passive linguistic knowledge, but a strategic competence that directly underpins the quality and accuracy of academic writing.

Awareness of one's ability to manipulate and produce morpheme structures is of significant relevance to various higher-order language skills, particularly in the context of academic and professional literacy. In writing, such awareness plays a crucial role in enhancing lexical variety, grammatical accuracy, and information economy in academic writing. Firstly, in terms of lexical variation, writers with good morphological awareness can easily form derived words from the same root, for example, turning *analyse* into *analysis*, *analytical*, or *analytically*. Thereby avoiding monotonous repetition and enriching the range of vocabulary in the text (Nagy & Anderson, 1999; Carlisle, 2000).

Secondly, this ability also supports grammatical accuracy because writers explicitly understand how affixes alter word class and syntactic function; they can distinguish between the use of *different* as an adjective and *difference* as a noun, or choose the form *development* after the preposition *of* rather than *develop*, thereby avoiding structural errors commonly found in the writing of EFL learners (Apel & Diehm, 2014; Isma et al., 2023). Thirdly, in the context of academic writing which prioritises conciseness, morphological awareness

enables writers to condense complex ideas into a more compact form through nominalisation; for example, the long phrase the process by which something becomes global can be condensed to globalisation, and the condition of being responsible to responsibility, thereby producing an efficient text without compromising clarity of meaning (Biber & Gray, 2010; Biber et al., 2011). Thus, these three roles synergistically demonstrate that the ability to manipulate and produce morpheme structures constitutes a fundamental metalinguistic competence in producing academic writing that is rich, accurate and concise.

Overall, the three dimensions of morphological awareness- the ability to break down complex words, understand morphological meaning, and manipulate and produce morpheme structures contribute synergistically to an increase in lexical richness in academic writing. The ability to break down words enables writers to recognise and use derived words appropriately; the ability to understand morphological meaning facilitates precise and nuanced word choice; whilst the ability to manipulate and produce morphemes allows writers to create lexical variation and perform nominalisation, which are characteristic of dense and formal academic writing. Thus, theoretically, there is a significant positive correlation between morphological awareness and academic writing ability, particularly in terms of lexical richness.

D. Previous Studies

Asaad (2024) conducted a correlational study with morphological awareness as the independent variable and academic writing ability as the dependent variable, with vocabulary proficiency serving as the mediating variable. The study population consisted of final-year EFL students at a state

university in the Middle East ($N = 210$). The instruments used included the Morphological Awareness Test (adapted from Carlisle, 2000) to measure morphological awareness, the Vocabulary Levels Test (Nation, 2001) to measure vocabulary mastery, and an analytical rubric to assess the quality of academic writing. Data analysis employed path analysis using AMOS. The internal limitations of this study lie in the potential for common method bias, as all data were collected via written tests in a single session without breaks, and there was no control for variables such as prior writing experience. Nevertheless, this study makes an important theoretical contribution by demonstrating that morphological awareness influences academic writing ability through the mediation of vocabulary mastery, thereby reinforcing the theory of metalinguistic awareness (Gombert, 1992) that awareness of word structure plays an indirect role in text production.

Aslan (2024) employed a pre-test and post-test control group experimental design to examine the effects of morphological instruction on writing fluency and grammatical accuracy. The population consisted of beginner-level EFL students at a private university in Turkey ($N = 80$). The instruments used included the Morphological Structure Awareness Test (MSAT) to measure morphological awareness, as well as timed writing tasks to measure fluency and accuracy. Data analysis employed repeated measures ANOVA to examine differences between groups. An internal limitation of this study is the potential for experimenter bias, as the instructor delivering the intervention was also involved in the assessment of the writing, despite the use of double-blind scoring. Its theoretical contribution lies in the evidence that

morphological awareness is not only related to lexical aspects but also significantly enhances fluency and grammatical accuracy, thereby extending the scope of morphological awareness theory into the realm of syntax.

Wahyuni (2025) investigated the relationship between morphological awareness and writing ability among junior high school students in a city in Indonesia. The independent variable was morphological awareness, measured using the Morphological Identification Test (MIT) and the Morphological Production Task, whilst the dependent variable was narrative writing ability, assessed using a holistic rubric. The population consisted of Year 8 pupils ($N = 120$). Data analysis employed Pearson's product-moment correlation. Internal limitations of this study include the use of a holistic rubric, which is less sensitive to changes in specific dimensions of writing, and the absence of inter-rater reliability testing. Furthermore, the fact that the population is still at lower secondary level limits generalisation to the higher education level. The theoretical contribution of this study is to confirm that the positive relationship between morphological awareness and writing ability also applies in the context of EFL in Indonesia, albeit within the narrative writing genre.

Schnur and Rubio (2021) adopted a text analysis approach to measure the development of lexical richness as an indicator of writing proficiency. The variables studied were the three dimensions of lexical richness, diversity, sophistication, and density in argumentative texts written by EFL students in Spain. The population consisted of 95 students with varying levels of proficiency. The instrument used was the Lexical Complexity Analyser (LCA) developed by Ai & Lu (2010), a software programme that automatically

calculates lexical complexity metrics. Data analysis employed a one-way ANOVA to compare across proficiency groups. An internal limitation of this study is that it does not link lexical richness to metalinguistic variables such as morphological awareness; consequently, it remains unclear whether lexical richness is a product of morphological awareness or of other factors such as frequency of language exposure. Its theoretical contribution is highly relevant as it demonstrates that lexical richness can be measured objectively and is sensitive to differences in proficiency, thereby serving as a valid tool for assessing the quality of academic writing.

From the series of previous studies presented, several key points can be drawn. Firstly, theoretically, the relationship between morphological awareness and academic writing ability has been empirically demonstrated through both correlational and experimental studies, across various contexts and levels of education. This indicates that morphological awareness is a metalinguistic construct that plays a fundamental role in supporting writing skills. Secondly, although the relationship between these two variables has been confirmed, there remains variation in how academic writing ability is measured. Most studies still use holistic rubrics or measure writing ability in general terms without breaking down the specific dimensions that characterise high-quality academic writing, such as lexical richness. Thirdly, research specifically linking morphological awareness to lexical richness, particularly lexical diversity, sophistication, and density in the context of EFL students at university level remains very limited.

In fact, lexical richness is a sensitive indicator of the development of writing proficiency and is one of the main requirements in academic writing. Thus, this study aims to fill this gap by specifically examining the correlation between morphological awareness and academic writing ability, focusing on the dimension of lexical richness among EFL students at university level.