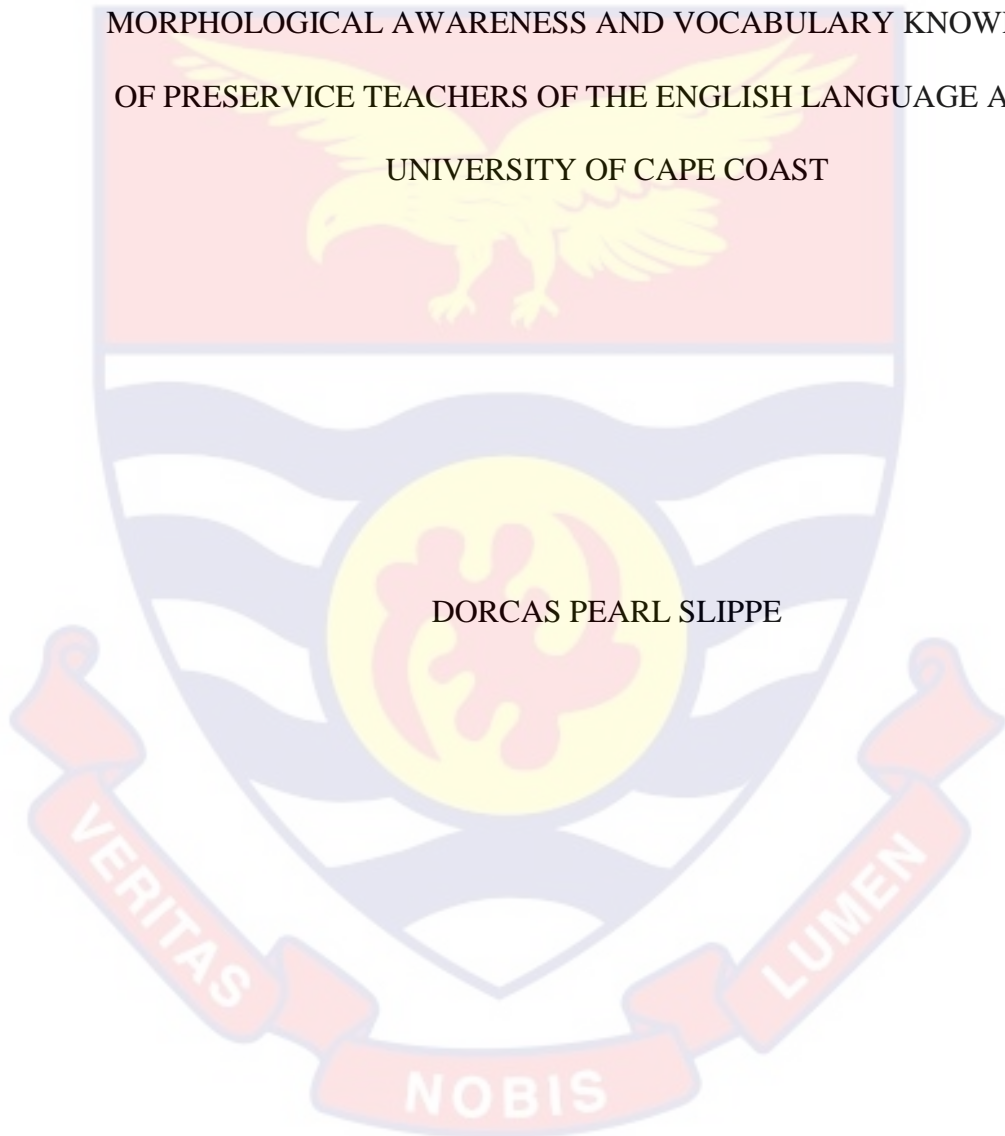UNIVERSITY OF CAPE COAST

MORPHOLOGICAL AWARENESS AND VOCABULARY KNOWLEDGE

OF PRESERVICE TEACHERS OF THE ENGLISH LANGUAGE AT THE

UNIVERSITY OF CAPE COAST

DORCAS PEARL SLIPPE

2023

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UNIVERSITY OF CAPE COAST

BY

DORCAS PEARL SLIPPE

Thesis submitted to the Department of Arts Education of the College of

Education Studies, University of Cape Coast, in partial fulfilment of the

requirements for the award of Doctor of Philosophy

English Education degree

OCTOBER 2023

DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature …………………………Date …………………….

Name: …………………………………………………………………………..

Supervisors' Declaration

We hereby declare that the preparation and presentation of the thesis were supervised by the guidelines on supervision of thesis laid down by the University of Cape Coast.

Principal Supervisor's Signature ………………………..   Date …………...

Name: Professor Joseph Benjamin Archibald Afful

Co-Supervisor's Signature ……………………………   Date ………........

Name: Professor Christine Adu-Yeboah

ABSTRACT

This study examined the morphological awareness and vocabulary knowledge of preservice teachers of the English language at the University of Cape Coast (UCC). The embedded mixed methods design underpinned by pragmatism was utilised for the study. Diagnostic and proficiency tests were administered using the census approach to elicit quantitative data from 152 B. Ed Arts (English) students from the Department of Arts Education, UCC. The datasets were analysed using descriptive (frequencies, percentages, means and standard deviation) and inferential (Pearson Product Moment Correlation, t-statistic, ANOVA and Chi-square) statistics. Overall, findings from the Morphological Awareness Test, Vocabulary Size Test and TOEFL Writing Test revealed that the preservice teachers: (1) possessed *medium* morphological awareness levels, with lower morphological structure awareness, (2) had *low* receptive vocabulary repertoire and (3) possessed *inadequate* productive vocabulary knowledge levels. Again, the study confirmed a linear relationship between morphological awareness and vocabulary knowledge. As part of the study, qualitative data was gathered from the English language curriculum implemented to train preservice teachers of the English language at UCC. For triangulation purposes, the secondary data was to ascertain the comprehensiveness (or otherwise) of provisions made in the existing curriculum to foster English language learning. The outcome of the curriculum evaluation revealed a bias that validated the quantitative findings and provided a more holistic understanding of the observed trends. The input evaluation results showed an imbalance in the pedagogical content knowledge provisions in the existing B. Ed Arts (English) curriculum. The study, thus, recommended that the curriculum be revised to ensure an equal prioritisation of the morpho-phonetics, morpho-syntax and morpho-semantics interface. Again, it suggested the adoption of Ed-tech morphological awareness implementations and vocabulary adjustment pedagogies to scaffold the literacy development and career preparedness of preservice ESL teachers with morphologically related vocabulary deficiencies.

KEYWORDS

Academic vocabulary literacy

English as a Second Language

Morphological awareness

Preservice teachers of the English language

Vocabulary knowledge

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DEDICATION

To Nhyira, Aseda and Adom

TABLE OF CONTENTS

LIST OF TABLES

xiii

LIST OF FIGURES

LIST OF ACRONYMS

ANOVA	Analysis of Variance
AWL	Academic Wordlist
BECE	Basic Education Certificate Examination
B. ED ARTS	Bachelor of Education (Arts)
BNC	British National Corpus
CGPA	Cumulative Grade Point Average
CK	Content Knowledge
DAsE	Department of Arts Education
EAP	English for Academic Purposes
EFL	English for Foreign Learners
ESL	English for Second Language Learners
GATE	Ghana Association of Teachers of English
GPA	Grade Point Average
GTEC	Ghana Tertiary Education Commission
LAD	Language Acquisition Device
L1	First Language
L2	Second Language
MAT	Morphological Awareness Test
NTC	National Teaching Council
NTEF	National Teacher Education Framework
PK	Pedagogical Knowledge
PCK	Pedagogical Content Knowledge
POMAS	Phonological Orthographic and Morphological Assessment of Spelling

SEM	Structural Equation Model
SPSS	Statistical Package for the Social Sciences
TOEFL	Test of English as a Foreign Language
TPACK	Technological Pedagogical Content Knowledge
UCC	University of Cape Coast
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UCCQAP	University of Cape Coast Quality Assurance Policy
VLT	Vocabulary Levels Test
VST	Vocabulary Size Test
WAEC	West African Examination Council
WASSCE	West African Senior School Certificate Examination
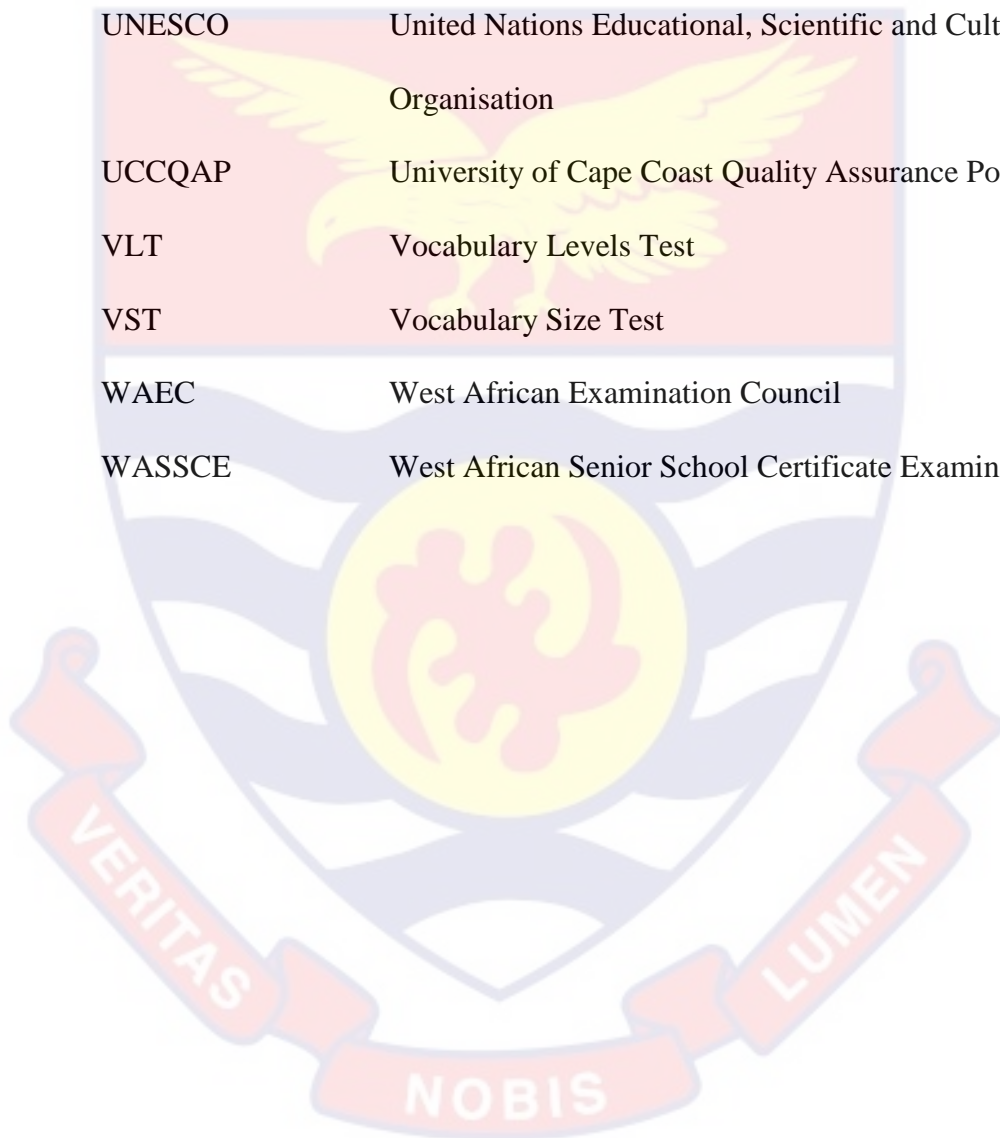
CHAPTER ONE

INTRODUCTION

Evidence in the international and national literature on benchmark assessment indicates that students across secondary and tertiary levels of education in Ghana have not attained the level of proficiency required of them in the English language (Tanaka, 2019). One major factor is 'lack of vocabulary'. Research, thus, spotlights the implementation of varied vocabulary teaching and learning practices to bridge proficiency gaps. Since morphology is the source of English vocabulary, examining the relationship between morphological awareness and vocabulary knowledge could provide theoretical, practical and pedagogical knowledge to foster academic vocabulary literacy development of ESL learners across levels of education.

Background to the Study

Language acquisition research has shown that vocabulary mastery is vital in Second Language (L2) learning (Li, 2022). This is because vocabulary is recognised as the main social interaction tool humans employ to communicate their feelings, ideas, and opinions (Williams (2010).

Neuman and Dwyer (2009) define vocabulary as all the "words we must know to communicate effectively" (p. 386). This definition confirms Wilkins (1972, p. 14) argument that vocabulary is an essential element of language without which "nothing can be conveyed". Therefore, regardless of the physical, psychological, or linguistic context, L2 learners require extensive vocabulary to develop the listening and speaking skills needed for fluent and proficient communication (Nation, 2013).

1

A solid vocabulary base is also fundamental in developing the reading and writing competence required for academic success (Barcroft, 2015; Gyllstad, 2011; Schmitt, 2010). Practically, research indicates that the more familiar L2 learners are with target words, the better they can develop their reading and writing skills. This level of mastery, Roche and Harrington (2013) maintain, is an indicator of the quality and depth of their academic development and performance. Vocabulary learning, thus, remains central in the L2 classroom.

However, a major challenge identified in the literature is that many L2 learners grapple with a 'lack of vocabulary' (Le-Thi *et al.*, 2018; Read & Dang, 2022). Gu (2019) attribute this challenge to the fact that the term 'vocabulary' is a complex construct comprising single and multi-words with multiple facets of knowledge. Hence, L2 learners need a multi-layered understanding of words to attain adequacy and proficiency in all four language skills: listening, speaking, reading and writing.

One facet, Form-Meaning-Use, focuses on understanding word forms, their meanings and contextual usage (Nation, 2013). Another facet, the breadth-depth dimension, also focuses on knowledge of how words are spelt, the grammatical changes that can be made to words, the conceptual and relational meanings of words, and the patterns of word use (Schmitt, 2014). Again, the receptive-productive domain concerns retrieving receptive knowledge (acquired vocabulary) for appropriate use in language contexts (Gass *et. al*., 2020).

In addition, results from L2 research have reported inconclusively on vocabulary size, depth and quality required for native-like competence. In the

English as a Second Language (ESL) context, for instance, it is estimated that learners advancing from learning English for essential communication to learning English for Academic Purposes (EAP) must know about 3,000-word families to understand the target language, 10,000 to be fluent, 17,000 - 20,000 to build native-sized competence and over 100,000 more for academic success (Milton, 2009; Nation, 2011; Rohmatillah, 2017).

Fundamentally, two approaches explain L2 vocabulary learning: the Intentional and Incidental approaches. The Intentional approach operates within the mindset of behavioural psychology. This approach holds that learning results from the explicit efforts of teachers to help students memorise information. Intentional vocabulary learning positions L2 teachers at the heart of the vocabulary learning process and assigns them the mandate of providing learners with the needed vocabulary development support (Lundahl, 2014).

Conversely, the Incidental Approach explains language learning from the 'innatist' perspective of cognitive psychology. This approach attributes L2 vocabulary learning to the cognitive processes within the learners' *Language Acquisition Device* when they engage in extensive reading (Lessard-Clouston & Farrell, 2021). Although the literature highlights both approaches as unique and efficient, controversy surrounds the sole application of either one to facilitate L2 vocabulary learning. Some scholars maintain that L2 learners are not born into L2 input-rich environments. Hence, their exposure to L2 vocabulary without teacher guidance is not likely to yield desirable results.

Others contend that knowledge is not gained through memorising facts or concepts. Instead, they believe knowledge is constructed in the human brain as individuals relate new experiences to existing knowledge. The learning

3

process could, thus, be influenced by factors such as age, sex, level of education, motivation, interest, and the learner's need for words in a language (Kim & Webb, 2022). In essence, both the Intentional and Incidental approaches to vocabulary learning fail to account for complexity, context specificity and dependency.

Accordingly, many studies in Second Language Acquisition have explored learning strategies to foster and manage vocabulary learning (Pavičić Takač, 2008). One strategy recommended for learning vocabulary in languages with *concatenative* morphological systems, such as English, is morphological awareness (Aziz *et al.*, 2019). Kuo and Anderson (2006) refer to morphological awareness as the conscious use of morphological knowledge to manipulate morphemes, to create new words, to employ word formation rules and to understand the relationship between words. Theoretically, research interest in morphological awareness within L2 contexts is rooted in its linguistic and metalinguistic ability to equip L2 learners with two sub-levels of knowledge. These are morpheme identification and morphological structure awareness (Zhang, 2017).

Morpheme identification awareness describes the linguistic awareness that consciously stimulates ESL learners to identify, to analyse and to break English words into their most minor meaningful components (e.g., *motherhood* = mother + hood; *thoughtfulness* = thought+ful+ness). On the other hand, morphological structural awareness empowers ESL learners with sensitivity to the knowledge of morpheme structure that enables them to regulate the relationship between words (e.g., *womanhood* = woman + *hood*)

4

and/or manipulate existing words to produce new ones (e.g., childhood: motherhood, priesthood, fatherhood, womanhood and brotherhood).

Empirically, scholarship is replete with evidence of a positive correlation between morphological awareness and vocabulary knowledge in educational settings across L2 contexts. A meta-analysis of morphological interventions by Goodwin and Ahn (2010, 2013) revealed an overall effect of morphological instruction on linguistic ability and literacy achievement in school-aged ESL learners with and without literacy difficulties. Nagy *et al.* (2014) also sketched out cognitive-related areas in which morphological awareness improves linguistic abilities, including spelling, components of word reading and comprehension.

Similarly, Ke and Shang's (2021) review of causal relationships in L2 literacy studies drawn from China, Egypt, Singapore and the USA (2004-2019) confirmed that morphological instruction and awareness led to positive gains in L2 vocabulary knowledge. Again, Stoffelsma *et al.* (2020) reported a direct association between the morphological-vocabulary-reading mechanism, the reading comprehension and academic achievement of tertiary-level university students in Ghana. Ghana is among the 21 African countries that have adopted English as their official language. As a result, Ghanaian students are among the over 400 billion non-native speakers who study English formally as an L2 or foreign language (The British Council, 2017).

The English language plays a significant role in the political, socio-economic and educational lives of Ghanaians (Adika, 2012). Per the country's language policy, English plays a vital role in facilitating overall learning in Ghanaian schools (Akowuah *et al.*, 2018; Klu & Ansre, 2018). It doubles as

5

the principal medium of instruction and a compulsory subject of study at all levels of education (Nyarko *et al.*, 2018). For these reasons and more, even though English is neither the mother tongue nor the primary language of the majority of the populace, the language wields much power in Ghana.

To this end, English language curricula across the basic, secondary and tertiary levels of education are designed to reinforce the listening, speaking, reading and writing skills needed to develop the receptive-productive vocabulary required for academic achievement (MoE, 2010). Nevertheless, the desired results are yet to be achieved. According to Owu-Ewie (2003), learner proficiency in the English language persists as a significant obstacle to students' literacy achievements from primary schools to tertiary institutions. Mensah (2014) confirms that discussions on the falling academic performance across levels reflect difficulties in reading and writing due to a 'lack of vocabulary'.

A review by Brew *et al.* (2021) pointed to teacher quality as a significant factor influencing literacy challenges in Ghanaian schools. As implementers of the curriculum, it is generally accepted that the success or otherwise of any education depends on the teacher's competence (Fullam, 1996; Gbenu, 2012; Stenhouse, 1975). Kim *et al.* (2019) explain that a teacher without the required content and pedagogical competencies will undoubtedly influence teaching and learning negatively. Several policies, programmes, and interventions have, thus, been implemented to develop the knowledge, skills and competencies of English teachers in Ghana to enable them to embrace their role in the 21st-century ESL classroom.

6

At the teacher training level, for instance, institutions mandated to train English language teachers nationwide continue to run degree programmes designed to equip preservice teachers of the English language with the theoretical and conceptual knowledge needed to ensure the academic success of their learners. Preservice teachers are student-teachers who are being trained in an educational programme to become professional teachers. As such, English teacher education programmes across institutions in Ghana are designed in line with national, regional and international Teacher Education Curriculum and National Teacher Standards.

The objective is to increase the language awareness and linguistic competence of preservice teachers of the English language to enable them to meet the literacy needs of their students to promote quality education. The B. Ed Arts) in English degree programme at the University of Cape Coast (see pg. 95) is a case in point. The programme aims to produce qualified and reflective teachers with the requisite content knowledge and pedagogical skills to teach the English language at the secondary level. As part of their eight-semester training, preservice teachers of the English language at UCC take foundational subject matter-specific content courses, including "Phonetics and Phonology", "The Use of English", "Aspects of the Grammar of English" and "The Sentence and its Parts".

Each course is designed to equip the preservice teachers with the theoretical knowledge and understanding needed to teach the listening, speaking, reading and writing components of the English language syllabus for secondary schools in Ghana (Ministry of Education, 2010). Given that the English language possesses words with distinct morphemes strung together

meaningfully to form words using varied word-formation processes, each course is expected to contribute to the knowledge resource that functions in the *Language Acquisition Device (LAD)* of ESL learners to enable them to address sub-lexical, lexical and supra-lexical deficits in their use of the English language.

Statement of the Problem

Ideally, ESL learners are expected to possess language proficiency and literacy skills that contribute to attaining global Sustainable Development Goals (SDGs). However, results and reports from national checks, tests and examinations indicate that students across primary, secondary and tertiary levels of education in Ghana possess low literacy skills which particularly threaten the attainment of SDG 4: quality education (Buabeng *et al.*, 2020; Owu-ewie, 2015; Tanaka, 2019).

At the Junior High School level, the Ministry of Education's (2018) report revealed that "learning outcomes have been an area of concern, with wide variations in BECE results across regions and by gender" (p. 14). The Chief Examiner's Report (BECE, 2018-2022) attributes the poor performances to candidates' poor writing skills, wrong spellings and poor word construction. The Report, thus, urges English language teachers at the junior levels to make consistent and conscious efforts to help improve the reading and writing competence of students who advance to the senior level. Nonetheless, the situation does not improve at the Senior High School (SHS) level.

At the SHS, the Chief Examiner's Report (WASSCE, 2018-2022) references, in addition to observed morphologically related deficiencies, 'inappropriate' use of vocabulary. Since the senior level serves as the

8

springboard to tertiary education, it is not surprising, that 'lack of vocabulary' is by far the most significant cause of reading and writing deficiencies in over 50% of Ghanaian university-level students (e.g., Annan, 2022; Asante-Nimako, 2019; Stoffelsam & De Jong, 2016).

Globally, several investigations on the language awareness and linguistic proficiency of ESL learners across ages and levels of education (e.g., (Asaad & Shabdin, 2021; Goodwin *et al.*, 2017; Mare *et al.,* 2021; Rabadi, 2019; Zhang, 2017) provide evidence on the relationship between morphological awareness and vocabulary knowledge. However, a scholarship review revealed significant empirical, conceptual and methodological gaps.

Empirically, a search across studies supporting theoretical discussions on the predictive power of morphological awareness in L2 vocabulary knowledge development revealed mixed findings. Whereas some works found no significant correlation between morphological awareness and vocabulary knowledge in their respective samples across different ages, sexes and educational levels, others (e.g., Adam, 2018; Sukying & Matwangsaeng, 2022) reported otherwise.

Again, the majority of previous studies on the phenomenon (e.g., James *et al.*, 2021; Metsala *et al.*, 2019; Kieffer & Box, 2013; Qiao *et al.*, 2021) evaluated the effects of morphological awareness on reading proficiency, even though reading and writing are mutually exclusive concepts. As a result, even though writing is considered to be rigorous and demanding, with learners across levels of education facing difficulties because of their insufficient vocabulary (González, 2017; Singh, 2015), less attention is

9

focused on the relationship between their morphological awareness and productive vocabulary knowledge development.

Contextually, this lacuna is noteworthy. Numerous studies have investigated the reading and writing inadequacies of Ghanaian students. Nonetheless, l found only two studies that have evaluated the effects of the morphological awareness-vocabulary mechanism on their language and literacy developement: Stoffelsma *et al.* (2020) investigated the impact of the mechanism on the academic achievement of tertiary-level students while Quashigah (2021) examined its predictive role in the reading comprehension of basic school students. Given the extensiveness of the phenomenon, however, the two studies cannot provide ample evidence to support (or otherwise) the relationship between morphological awareness and academic literacy development across pre-tertiary and tertiary levels of education in the Ghanaian ESL context.

Methodologically, scholarship on morphological awareness and vocabulary knowledge has been dominated by quantitative, mainly correlational research (e.g. Arviyolla *et al.*, 2022; Asaad, 2021; Syahsurya *et al,* 2022) Few studies (e.g., Jiang, 2015) push methodological frontiers by employing qualitative measures or approaches. Accordingly, most studies only uncover evidence of a relationship between morphological awareness and vocabulary knowledge. Per the nature of correlational research, such works neither provide conclusive reasons to explain identified patterns nor an in-depth understanding to advance (or otherwise) theoretical arguments in favour of developing mechanisms that advance morphological awareness-vocabulary knowledge across the educational continuum in ESL contexts. Hence, Meaux

10

et al. (2020) argued that the effect of the morphological awareness-vocabulary knowledge mechanism on the academic achievement of tertiary-level ESL learners has not been fully explored.

Purpose of the Study

The study examined the morphological awareness and vocabulary knowledge of preservice English language teachers at the University of Cape Coast, Ghana, with the view to exposing their linguistic deficits for focused development. I implemented the embedded mixed methods design to enable me to gather, analyse and triangulate quantitative outcomes from the test with qualitative findings from the curriculum evaluation to provide a deeper understanding of the nexus between morphological awareness and vocabulary knowledge.

Research Objectives

The study specifically sought to:

1. assess the morphological awareness and vocabulary knowledge levels of preservice teachers of the English language at the University of Cape Coast.

2. examine the relationship (if any) between the morphological awareness and vocabulary knowledge of preservice English language teachers at the University of Cape Coast.

3. examine the association between morphological awareness, vocabulary knowledge and background characteristics (sex, age, and levels of study) of preservice English language teachers at the University of Cape Coast.

11

4. analyse the curriculum implemented in the B. Ed Arts (English) degree programme at UCC to ascertain the comprehensiveness of its provisions for English language learning.

Research Questions

Two research questions were formulated to help address the study objectives:

1. What are the morphological awareness and vocabulary knowledge levels of preservice teachers of the English language at the University of Cape Coast?

2. What provisions for English language learning are made in the B. Ed Arts (English) curriculum implemented to train preservice teachers of the English language at the University of Cape Coast?

Research Hypotheses

To establish the nature of the relationship between morphological awareness and vocabulary knowledge as well as determine their relationship with the background characteristics (sex, age and levels of study) of preservice teachers of the English language at UCC, the following research hypotheses were also formulated:

1. H_0: Significant linear relationships do not exist between morphological awareness and vocabulary knowledge.

   H_1: Significant linear relationships exist between morphological awareness and vocabulary knowledge.

2. H_0: There is no significant relationship between background characteristics (sex, age and levels of study) and morphological awareness of preservice teachers of the English language at the University of Cape Coast.

12

H$_1$: There is a significant relationship between background characteristics (sex, age and levels of study) and morphological awareness of preservice teachers of the English language at the University of Cape Coast.

3. H$_0$: There is no significant relationship between background characteristics (sex, age and levels of study) and receptive vocabulary knowledge size of preservice teachers of the English language at the University of Cape Coast.

H$_1$: There is a significant relationship between background characteristics (sex, age and levels of study) and receptive vocabulary knowledge size of preservice teachers of the English language at the University of Cape Coast.

4. H$_0$: There is no significant relationship between background characteristics (sex, age and levels of study) and productive vocabulary knowledge of preservice teachers of the English language at the University of Cape Coast.

H$_1$: There is a significant relationship between background characteristics (sex, age and levels of study) and productive vocabulary knowledge of preservice teachers of the English language at the University of Cape Coast.

Significance of the Study

The findings make theoretical, pedagogical, and practical contributions that help to address a pressing issue in ESL education: 'lack of vocabulary'. Theoretically, the findings contribute empirical evidence on the predictive

13

power of morphological awareness on the vocabulary knowledge development of ESL learners, particularly, preservice teachers of the English language.

The management of English teacher education at the University of Cape Coast lies in the hands of Management. Hence, the findings draw the attention of Management to quality assurance metrics that can implemented to improve the quality and delivery of the B. Ed Arts (English) degree programme. Again, it informs implementers of the curriculum of the vocabulary deficiencies of the programme beneficiaries and alerts them to pedagogical implementations and Ed-tech resources that aid their academic success and career preparedness

The findings also alert preservice teachers of the English language to the significance of morphological awareness in receptive-productive vocabulary acquisition and literacy development. This knowledge has the potential to raise their awareness of tertiary-level literacy development requirements, help them to appreciate the benefits of implementing vocabulary learning strategies and stimulate self-evaluation.

Further, the findings alert curriculum experts to periodically assess existing curricula to help spotlight curriculum deficiencies that stall academic literacy development and/or facets of specific areas that may need to be updated.

Finally, the findings provide a foundation for future researchers to explore further the nexus between morphological awareness and vocabulary knowledge and its effect on English language teaching and learning at Ghana's pre-tertiary education levels.

14

Delimitation

The study was delimited to examine the relationship between morphological awareness and vocabulary knowledge. The contextual foundation of this delimitation is rooted in the fact that although vocabulary learning poses a challenge to learners across pre-tertiary and tertiary levels of education in Ghana, little attention has been paid to investigating the relationship between morphological awareness and vocabulary knowledge, particularly among preservice teachers of the English language in Ghana.

Again, the study was geographically restricted to the University of Cape Coast. However, it is vital to note that the unit of analysis included only second-year, third-year and final-year preservice teachers of the English language at the University of Cape Coast. Accordingly, the quantitative data was collected from respondents in this population segment. First-year students were excluded from the study because they had not taken all the fundamental subject matter content courses at the time of the conduct of this study.

Conceptually, the study was also delimited to examine the two components of morphological awareness (i.e., morpheme identification awareness and morphological structure awareness) and the facets of vocabulary knowledge (i.e., receptive vocabulary knowledge and productive vocabulary knowledge). Further, the study focused on determining the effects of three background characteristics (i.e., sex, age, and level of study) on respondents' morphological awareness and vocabulary knowledge. This is because the language learning process is believed to be influenced by learner factors such as age, sex, level of education, motivation, interest, and the learner's need for words in a language (Dornyei, 2008).

15

Organisation of the Study

The thesis is in five chapters. Chapter One presents the background to the study, problem statement, research objectives and questions, significance and delimitations. Chapter Two reviews relevant literature. The review is organised to discuss theoretical, conceptual and empirical literature that highlights the relationship between morphological awareness and vocabulary knowledge in ESL learners across various contexts. Chapter Three covers the research approach adopted to give the study a methodological framework. It describes the research approach and methods employed to gather data to address the research problem. Chapter Four presents the results of the data gathered and their discussions. First, the quantitative results are presented, interpreted and discussed. Next, the results of the qualitative analysis are presented and interpreted, followed by a discussion that triangulates both quantitative and qualitative outcomes to provide a comprehensive understanding of the phenomenon under study. Chapter Five concludes the study. The chapter highlights the key findings, conclusions, recommendations, contribution to knowledge and suggestions for further studies.

CHAPTER TWO

LITERATURE REVIEW

Overview

Chapter Two discusses the relevant literature related to the study. The discussion is divided into two. The discussion begins with a review of theoretical literature that highlights the philosophical underpinnings, indicators and performance drivers underlying three major language learning theories (behaviourism, cognitivism and constructivism), the TPACK framework and the CIPP Evaluation Model. Next, the chapter presents a conceptual review of Ghana's academic literacy and ESL teacher development. It also discusses the two key concepts fundamental to the study's conceptualisation of the pedagogical content knowledge required for the effective teaching and learning of the English language. The chapter finally concludes with a summary.

Theoretical Perspectives

This section reviews the tenets and rationalisations underpinning the theories and models implemented to provide a framework of understanding to guide ESL education in the present study. Each discussion gives relevance to the application of each theory in the study.

Behaviourist Theory

Behaviourism is the earliest theoretical explanation of language learning. The theory is traceable to the behavioural learning principles advanced by B. F. Skinner, J. B. Watson, Ivan Pavlov and E. L. Thorndike in the early 20th century. The theory grew from the premise that knowledge is derived from learners' sensory impressions through their interaction with the

environment (Ertmer & Newby, 2013). Hence, its assumptions, principles and practices support learning-specific behaviours in response to inputs and their associated reinforcements (Lightbrown & Spada, 2006, 2013).

One elementary assumption of the behaviourist theory is that learning is a mechanical process through which learners form habits due to the stimulus-response-reinforcement they receive in the environment (Meneses, 2013). From the behaviourist perspective, behavioural factors that influence learning are conceptualised as intentional engagements that require language learners to repeat memorised ideas, concepts, and facts, leading to easy recollection. According to the behaviourist theory, humans are "creatures of habit". Hence, the reinforcement learners receive for responding (positively or negatively) strengthens the learning process and increases the probability of its future repetition (Ertmer & Newby, 2013; Lightbrown & Spada, 2013)

In harmony with the tenets of empiricism, behaviourism requires L2 teachers to arrange linguistic input to influence learning, create practice opportunities, to evaluate learner output and to provide appropriate feedback and reinforcement in a repetitive cycle to promote the continued practice of desired language behaviours (Fosnot & Perry, 1996 2005). Given that behavioural learning flourishes in situations where rote learning, repetition and recall are required, behavioural instruction focuses on engaging L2 learners in activities that help them to recall facts, to illustrate concepts or to apply explanations by performing specified procedures. The theory assumes that successful learning needs to be evident in learners' behaviour. Success in such test situations, therefore, results in learner motivation to continue learning, leading to habit formation.

18

Behaviourism has several limitations. Critics argue that the theory considers the learning process as habit formation backed by reinforcement. However, language learning comprises complex neurological processes, many of which cannot be predicted and controlled. Hence, although behaviourism accounts for the learning of observable L2 behaviour, the theory neither considers the role of the mind nor explains the mental processes involved in the language learning process (Canagarajah, 2017). Although the heavy criticism and counter-attacks pushed behaviourist ideologies to a background position after the 1950s, behaviourism remains one of the influential L2 learning theories.

Applying the behaviourist theory in this study explains the English teachers' responsibility to emphasise the linguistic features of the English language (Olivier, 2016). It validates implementing pedagogical techniques and assessment practices that elicit observable outcomes, such as drills and tests across levels, to measure noticeable changes in the language learning process (Baula & Nubua, 2019). This validation directs the designing and structuring of the English curricula to ensure that teachers manipulate environmental conditions to guide learners to map out the proper relationships between a stimulus and the expected form: grammar, mechanics, vocabulary and/or sentence structure.

Cognitivist Theory

Cognitivism is a learning theory based on the cognitive view that learning is a profound, complex psychological phenomenon. The theory was expounded in the 1950s by cognitivist theorists, including Jean Piaget, Allan Pavlov, Robert Gagne, Howard Gardener and Benjamin Bloom. It emerged as

19

a reaction to the inadequacies in the explanations of behavioural learning. The primary hypothesis of the cognitive theory is that learning cannot be successful without the mental processes in the *black box* of the learner's mind (Mergel, 1998).

This assumption is based on the 'innatist' ideology that no human being is a *tabula rasa*. Hence, the L2 learner's mind cannot be considered a "blank slate" upon which linguistic knowledge is imprinted. According to Mcleod (2001), this belief reflects the rationalist perception that metalinguistic awareness enables language learners to reflect on and manipulate the structural elements of language as an object of study and not simply as a medium of communication. Among several others include Anderson *et al.*'s (1978) Schema theory and Krashen's (1985) 5-Hypothesis theory. Krashen's Input theory, for instance, is based on the presumption that language learners can guess the meanings of unknown words when they engage in extensive reading.

Although the principal tenet of the Cognitive Theory has scored low on scientific verifiability (Wheeler, 2019), the theory remains essential in L2 acquisition research. It underlies applying the various *input* and *output* theories (two dimensions of Krashen's 5-Hypothesis Model) applied in works that investigate or specify the cognitive processes underlying incidental and intentional vocabulary learning. According to Yassin (2018), cognitive-oriented principles underlie works that submit to the theoretical and conceptual application of language learning strategies to help learners autonomously manage their learning experiences, leading to enhanced productivity.

20

In the L2 language classroom, the cognitive theory also supports pedagogical implementations aimed at harnessing internal connections and cognitive processes within the *Language Acquisition Device* (LAD) of L2 learners. The focus is to harness L2 learners' thinking, concept generation, reasoning and problem-solving skills to foster effective self-planning, monitoring, and evaluation of vocabulary goals. Sarani and Sahebi (2012) confirm that students who learn vocabulary through a task-based approach are more competent in acquiring and using the new vocabulary than those who do not.

Applying the cognitive theory to this study, therefore, serves as the theoretical basis for ESL language instructors, researchers, curriculum designers and material developers to foster independent vocabulary learning in ESL learners through the development of task-based approaches that thrive on the use of word-learning strategies that enhance the conscious perception and manipulation of word forms (Krashen, 1982).

Constructivism/Socio-Constructivism Theory

Socio-constructivism theory is an outgrowth of the cognitive-constructivist response to behavioural learning traceable to the socio-cultural theory advanced by Lev Vygotsky. The core tenet of socio-constructivism, thus, is that knowledge is actively constructed in the human mind and not passively received. According to the theory, knowledge is acquired through repeated exposure to social interactions, mediation and collaboration between learners and competent others within the *Zone of Proximal Development (ZPD)*

21

Conceptually, the *ZPD* expresses that knowledge construction can only be possible if learners can make meaningful connections between their previous and present learning experiences through engagement with the offerings and constraints of the learning environment under the guidance of a 'knowledgeable other' (Vygotsky, 2019). Hence, the theory, like Krashens's Input theory, operates to explain the amount and type of information a learner can internalise based on their ability to work independently to decode content that is slightly above what they currently know and can understand (Abukhattala, 2013).

Based on the assumption that learning is a self-regulated activity, the socio-constructivist theory delineates the role of language teachers as guides/facilitators. As Alghamdi (2021) explains, the theory exposes ESL learners to language learning situations that allow them to meet, recognise and apply vocabulary knowledge to new situations (*comprehensible input +1*) under the guidance of a knowledgeable other. The sole responsibility of the L2 teacher is, therefore, to engage learners in intentional pedagogic applications aimed at helping learners construct 'meaning' by manipulating and building connections between *what* they learn and *how* they can apply what they know in authentic learning contexts (Taylor, 2018).

The application of socio-constructive theory to the current study provides the theoretical validation for ESL teachers to transfer linguistic information during the language learning process through using instructional, communicative, and assessment "scaffolds" that promote higher-order learning skills to foster self-regulation and autonomy. Taken together, constructivism, behaviourism and cognitivism offer direction and focus on

how issues of pedagogy and assessment have been theoretically and practically addressed to enhance L2 education. Figure 1 presents a diagrammatic summary of their fundamental assumptions.

Behaviorism

Language learning is an instructor-led activity.

The learner is a blank slate.

Learning = Behavior.

Stimulus-Response+reinforcement = habit formation.

Cognitivism

Language learning is a learner-centred activity.

Learning is a mental activity.

Learners incorporate new knowledge into existing ones in their *LAD*.

Learners build and apply knowledge using learning strategies.

Constructivism/socio-construction

Learning is learner-centred.

Instructor provides guidance.

Knowledge is constructed.

Social interaction provides the context for active learning.

Figure 1: Theoretical Perspectives on L2 Learning
Source: Mohamad Nor and Rashid (2018)

TPACK Framework

The TPACK framework was also applied to support the present study. TPACK, as conceptualised by Mishra and Koehler (2006), provides a theoretical understanding of the body of teacher knowledge required for quality teaching and professional development. The framework, illustrated in Figure 2, is an updated version of Shulman's (1987) PCK model, which identified and emphasised the attainment of two separate yet interconnected domains of knowledge: content and pedagogy. The TPACK framework, however, introduces a third component: *Technology*.

23
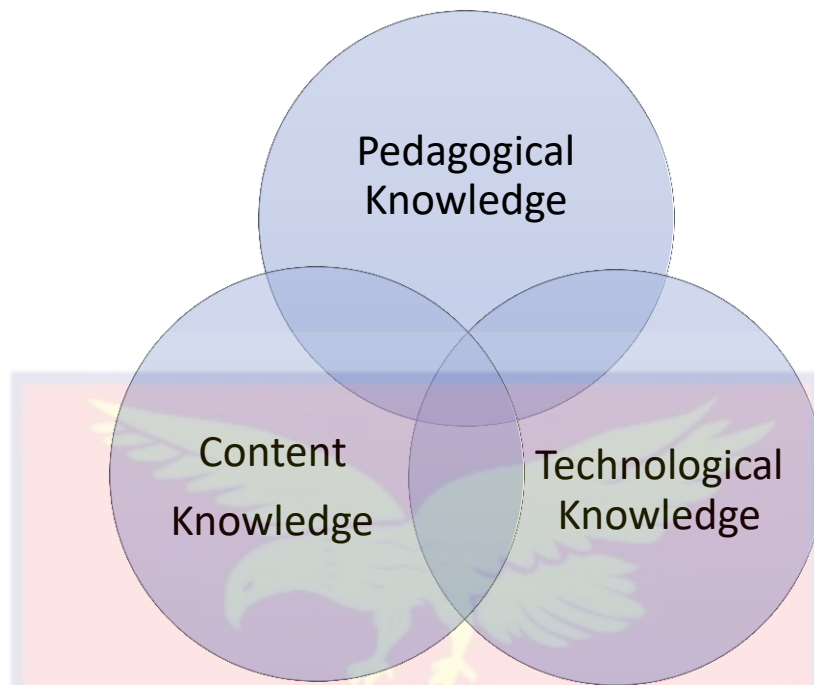
Figure 2: Koehler and Mishra's (2006, 2009) TPACK Model

Content knowledge (CK) refers to the specific subject-matter knowledge that teachers must master to qualify as subject-matter experts. Kankam *et al.*, (2014) maintain that content knowledge includes a deep understanding of the facts, concepts and principles teachers need to teach a specific subject matter. In the field of ESL education, for instance, scholars (e.g., Baumert *et al.*, 2010; Grossman, 1991; Guo *et al.*, 2011; Taylor & Robinson, 2019) conceptually perceive content knowledge as the syntactic, phonological, morphological, semantic and pragmatic understanding that teachers need to teach target language grammar, pronunciation and vocabulary effectively.

On the other hand, pedagogical knowledge involves knowledge about the act of teaching and the learning process. König *et al.* (2022) posit that pedagogical knowledge requires a thorough grounding in the behavioural, cognitive, social and developmental learning theories. It also includes

24

understanding the principles, practices and skills teachers should apply in classroom situations to organise and deliver lessons effectively. Shulman (1986) posited that a teacher's pedagogical knowledge regarding standards, practices and tasks in L2 teaching promotes learning. He further explains that the pedagogical practices that educators demonstrate shape preservice teachers' communicative competence and future teaching habits. Hence, TPACK draws on the behaviourist assumption that the pedagogical practices of ESL teachers shape their learning experience and the experiences of their prospective students.

Technological knowledge encompasses the standard technologies (e.g., books, black/whiteboards, markers) and advanced technologies (e.g., Internet and digital videos) that teachers could implement to scaffold learning. The addition of this dimension to the original model is based on the argument that technology has changed the nature of classroom interaction. Hence, the model draws on the underlying suppositions of constructivist/socio-constructivist science to illustrate how learners can be engaged increasingly using digital and technological resources such as word processors, web browsers, and standard sets of software to foster learning (Harris & Hofer, 2011; Wetzel & Marshall, 2011)

Evidence in the extant literature on TPACK (e.g., Arrosagaray *et al.*, 2019); Bai *et al.*, 2016) emphasises the framework as a contemporary approach to successful learning that sustains its focus on creating multiple pedagogical opportunities to help L2 learners efficiently master content knowledge and self-regulate L2 learning using technology (Valtonen *et al.*, 2023).

25

Researchers argue that incorporating TPACK into the ESL curriculum creates an ideal language programme that meets the needs of 21st-century ESL education (Schenck *et al.*, 2014; Voogt & McKenney, 2017). Its use in this study, as posited by Webb *et al.* (2020), supports the application of instructional practices that enhance the ability of ESL teachers to find, adapt or create materials with the help of technology to provide their learners with opportunities to practice grammar and pronunciation features or learn vocabulary.

CIPP Evaluation Model

Daniel Stufflebeam's CIPP model is the third theory applied in this study. The theory is a management and decision-oriented evaluation approach designed to collect information about different aspects of an academic programme to help policymakers, school leaders, administrators, and lecturers plan, implement and evaluate an academic programme. The model provides a four-stage evaluation approach that provides a systemic framework (see Figure 3) to guide the determination of the overall quality and merit of the B. Ed (Arts, English) degree programme (Stufflebeam, 2007; Stufflebeam & Coryn, 2014; Stufflebeam & Shinkfield, 2007).
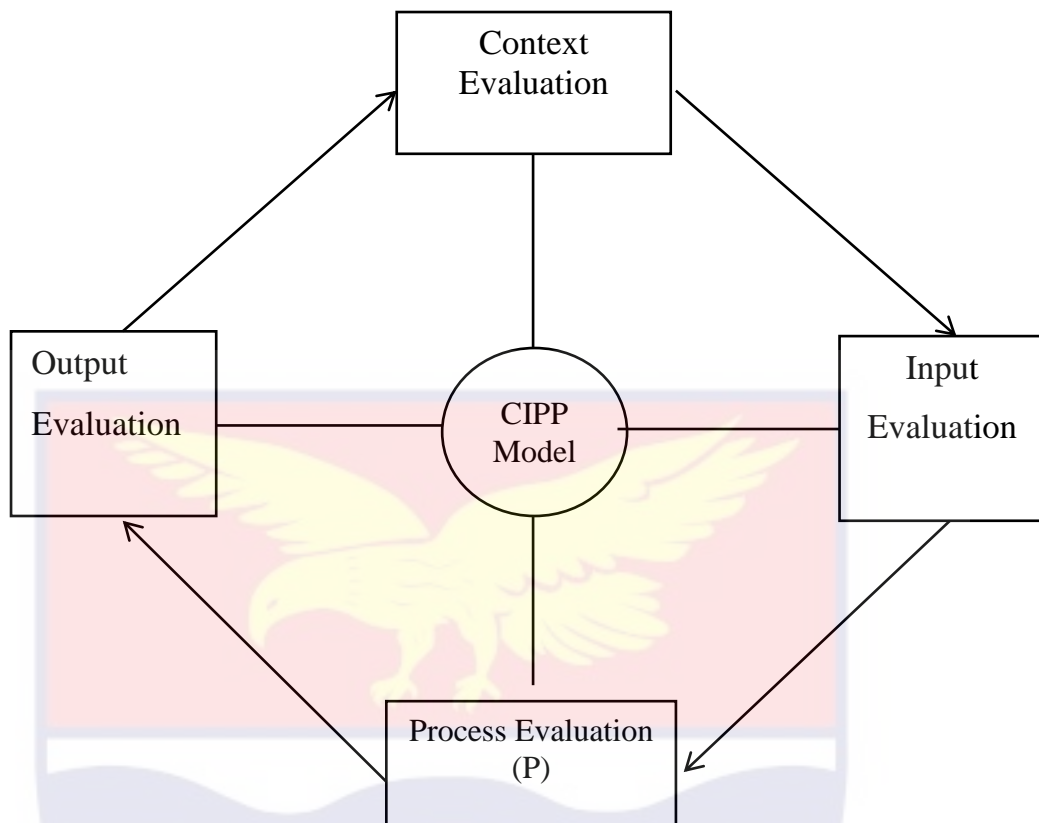
Figure 3: CIPP Evaluation Model
Source: Stufflebeam (2007)

The first stage of the framework, *context evaluation*, focuses on assessing the learning "environment" that portrays the desired and actual conditions of an educational programme. Cobbold (2017) pointed out that one of the essential prerequisites for delivering effective and quality language education is clearly defining various aspects of the curriculum, including its rationale, teaching goals and specific objectives to guide teaching and learning. Within the context of the present study, this stage of the model was applied to evaluate the rationale, goals and objectives of the B. Ed Arts (English) degree programme.

The second stage of the CIPP model is *input evaluation*. This stage provides information on the effectiveness of curriculum content, existing pedagogies and instructional approaches, teacher training, textbooks, and

27

instructional materials. Accordingly, data gathered at this stage in the present study assessed the substance of the language curriculum to identify aspects that should be maintained, strengthened, or added to ensure the successful attainment of programme goals. The application of this dimension of the model in the study was to gather information on the specific content knowledge, skills and competencies prescribed in the language curriculum for Preservice teachers of the English language at UCC.

The third stage of the CIPP model is *process evaluation*. This stage evaluates the implementation of educational activities and programmes. The primary purpose is to provide information on the implementation of academic programmes to help evaluators forecast challenges that need to be overcome, obtain input on significant alterations and assess alternatives (Ornstein & Hunkins, 2009). Data gathered at this stage will help Management, curriculum developers and textbook designers at UCC evaluate the implementation decisions.

The final stage is *product evaluation*. This stage seeks to measure, interpret, and judge the attainment of an academic programme. The purpose is to gather information on the outcome of a teaching activity to direct stakeholders, including Management, curriculum planners, administrators, and policy-makers, to make informed decisions to improve programme elements (Fitzpatrick *et al.*, 2011).

Conceptual Review

This section is devoted to a discussion of conceptual literature related to the specific subject matter knowledge required for academic success and career preparation of English language teachers in the Ghanaian ESL context.

Academic Literacy and Teacher Education in Ghana

English is a global language utilised by native and non-native speakers to convey meaning through spoken or written symbols (Crystal, 2014, 2019). World events, including colonisation, industrialisation and globalisation, have greatly influenced its global status. History shows that English was first implanted in Ghana (former Gold Coast) in the 16th century as a 'mercantile' language and later elevated to the language of diplomacy, law, commerce and education during the colonial era.

Following its adoption as the official language, however, the status and role of the English language in Ghana's political, socio-economic and educational life became further entrenched (Dutta, 2020; Mfum-Mensah, 2005; Rao, 2019) Today, English is inextricably linked with success in the political, socio-economic and educational lives of Ghanaians, even though it co-exists with several indigenous languages (Adika, 2012). Per the country's language-in-education policy, the English language remains the principal medium for instruction in Ghanaian schools. Teachers assume a central role in advancing literacy goals across ESL countries. Hence, the level of proficiency and competence of English teachers define the language and literacy development of learners at the primary and secondary school levels in Ghana.

According to UNESCO (2019), teacher education comprises formal and informal training to mentor preservice and in-service teachers to make them academically and professionally competent. It is driven by an evolving and dynamic curriculum that guides educational stakeholders to ensure high-quality career and professional development regardless of context. Thus, the *Inputs* (e.g., resources used to deliver its content) and *Processes* (how

29

resources are applied in the delivery of content) applied in the implementation are designed to enhance the proficiency and competency levels of its Outputs: the end products, the teacher (Annan, 2020; Asuo-baffour *et al.*, 2019; Taylor & Robinson, 2019).

Based on this conceptual description, ESL teacher education may, therefore, be described as the continued training of English language teachers in countries where the English language has been adopted as an L2 receive to enable them to internalise the required theories, concepts, and methodologies that qualify them to overcome related challenges and improve English teacher quality. "Quality", as defined in the extant literature on curriculum design, implementation and evaluation, comprises two components: quality educational services and quality curriculum programmes (Akareem & Hossain, 2016).

ESL Teacher Knowledge Base and Competence Development in Ghana

English teacher education curricula across institutions in Ghana draw on the National Teacher Education Curriculum Framework (NTECF), National Teacher Education Framework (NTEF), National Teacher Standards (NTS) and the Ghana Tertiary Education Commission (GTEC) guidelines to train Preservice teachers of the English language to master the competencies needed for academic success and future impartation. Mensah *et al.* (2020) aver that the teacher is the ultimate definer of the actuality and success of every educational framework. Hence, in alignment with international goals and best practices, ESL curricula across contexts aim to train quality graduate teachers who have mastered the adequate pedagogical content knowledge and competencies needed to effectively teach English at the pre-tertiary level

30

(Darling-Hammond, 2006; Fenyi & Morrison, 2023; Nyarko *et al.*, 2018; Owu-Ewie, 2017).

Teacher knowledge refers to a teacher's specific subject matter and curricular and pedagogical knowledge (König *et al.*, 2022). Hence, the thrust of teacher education across contexts is to produce teachers knowledgeable in specific subject areas and possess a critical mass of the pedagogic and technological skills essential for 21st-century education. The two conceptually related linguistic components that function as independent and dependent variables to illustrate the conceptual roadmap for successful preservice English language teacher vocabulary education within the present study's context (morphological awareness and vocabulary knowledge) are discussed in the next section.

Morphological Awareness

'Morphology' is the science that studies the forms, shapes, or structure of words (Bauer, 2012). The term has its etymology in the Greek word 'morph': 'shape, form' and -ology (the study of something). As explained by Katamba and Stonham (2018), morphology did not emerge as a branch of linguistics until the 19th century, when it was adopted to refer to the study of *forms* initially traced to a branch of biology. However, since its adoption, the term has been used to refer to a subfield of linguistics concerned with studying word forms (Aronoff & Fudeman, 2011).

As a concept, morphology is perceived as a linguistic analysis of two aspects of language: parts of speech (nouns, pronouns, verbs, and adjectives) vis-a-vis their inflectional suffixes and allomorphs. As explained in Editions and Volume (2014), this implies studying how words interact with other

aspects of grammar to give meaning and function. Carstairs-Mccarthy (2002) elaborated that this is a technical area of grammar that deals with the hierarchical and relational relationship between syntactic constituents. These relationships encompass how words are combined from smaller components and the changes made to those elements to build lexemes. Lexemes are units of speech that differ from words by semantic meaning; e.g., *"talks", "talked", "talking",* and *"talked"* are four distinct words that represent the lexeme *TALK*. Hence, the central points in studying lexeme-based morphology encompass analysing word forms (lexemes and lexicons) and the rules applied to compose them.

According to Yule (2010), morphemes are defined as minor meaningful linguistic units in speech or writing. Morphemes carry lexical and syntactic meanings in languages with concatenative word structures, such as the English language. Here, grammatical morphemes such as *-s* are placed at the end of lexical words such as *"boy", "dog",* and *"pen"* to make grammatical sense. Spencer and Zwicky (2007) state that morphemes have a structural cohesion that does not allow further segmentation into smaller units. The only modification that morphemes allow is the attachment of other morphemes (suffixes and prefixes), leading to a "recursive" merge that builds a hierarchical structure of word constituents (Marantz, 2016). Hence, the primary concern of morphology is studying the structure of words to identify the combination of morphemes that give semantic meaning to their components.

Lieber (2015) identifies two main types of morphemes: free and bound morphemes. Free morphemes are the minor meaningful constituents of

32

language structure. These morphemes can stand independently as words (e.g., "*sit", "throw", "gentle", "gem", "happy", "eat",* and *"rock"*). Typically, all content and function words in the English language are free morphemes. This category of morphemes which carry principal word meanings is further subdivided into lexical and functional morphemes. The first set, lexical morphemes, consists of nouns, adjectives, verbs, and adverbs (e.g., "*boy", "man", "house", "beautiful",* and "*flower"*). These types of morphemes, also known as "free morphemes", "roots," "stems," or "bases", are single words which have semantic meanings in themselves.

The second set comprises grammatical words (conjunctions, prepositions, articles, pronouns) that specify relationships between morphemes. These grammatical or functional morphemes encode relational meanings and signify grammatical categories. Examples of such forms include "*and", "but", "when", "because", "near", "in",* and *"that"*. Alternatively, "bound" morphemes (affixes) are meaningful units of words that cannot stand on their own to convey meaning (Fromkin *et al.*, 2018). They only make meaning when attached to root words (free morphemes). In such instances, they become subordinates that modify 'roots' in a specific way.

Bound morphemes only occur as part of complex words that combine with lexical morphemes or, in some cases, attach themselves to other bound morphemes to form new words. Such bound forms include *-ed, -s,* and *un-* (e.g., fill<u>ed</u>, bag<u>s</u>, <u>un</u>happy). Bound morphemes never occur in isolation because they do not have linguistic meaning. Regardless, it is essential to note that they carry contextual meaning to help readers comprehend morphologically complex words (Oz, 2014).

Generally, affixes are classified in the English language based on their position in word structures or their roles in sentences (Arnbak & Elbro, 2000; Carlisle, 2003). This typology categorises bound morphemes that occupy the front position in words as prefixes. The attachment of these meaningful units of words (e.g., re-, im-, dis-, and il) usually in front of a stem does not change the word's meaning; instead, their attachment changes grammatical class (*im+possible=impossible*). On the other hand, suffixes are bound morphemes attached to the end of a *stem*. Their attachment results in changes that affect the meaning and the grammatical class of root words. Suffixes include –*able, -y, -ment, and -ous* (as in comfor<u>able</u>, dirt<u>y</u>, improve<u>ment</u>, danger<u>ous</u>).

Another taxonomy, based on functionality, classifies affixes as Inflectional and Derivational morphemes. Fromkin *et al.* (2018) hold that Inflectional morphemes are grammatical markers, not syntactic or meaning-changing forms. Spenser and Swicky (2017) explain that when inflectional morphemes are attached to words, they never change the word class of the lexical root. Instead, the only change they indicate in the base identifies a particular grammatical property or function. Since Inflectional morphology reflects linguistic changes associated with grammatical forms and meanings, knowledge of inflectional morphemes is rudimentary. Hence, mastery is accomplished relatively early in life (Mahony *et al.*, 2000). Arnbak and Elbro (2000) list eight inflectional forms that indicate gender, number, tense, and case in English. These are:

"-s" - an indicator of a plural form in nouns (e.g., *days, pens, farms*)

"-s" - indicates the possessive form of nouns (e.g., *Kofi's, people's*)

"-s" - added to verbs in the third person singular (e.g., *drives, eats, plays*)

"-ed" - an indicator of past tense (*talked, walked, laughed*)

"-ing" - indicates the present participle of verbs (*e.g., eating, cleaning*)

"-en" - marks the past participle of verbs (*e.g., taken, broken, spoken*)

"-er" - a comparative indicator (*e.g., taller, sweeter, brighter*)

"est" - shows superlative comparison (*e.g., fairest, longest, wisest*)

On the other hand, derivational morphemes are the class of suffixes whose attachment to the end of lexical morphemes creates new vocabulary items (Verhoeven & Perfetti, 2003, 2011). There are two categories of derivational morphemes.

One sub-category triggers grammatical changes in words. These include suffixes such as *-ty, -ive, er, -ous. When added to lexical words such as mature, produce, work, and danger* become "matur-ity", "product-ive", "work-er", and "danger-ous". The other sub-category causes functional changes in the lexical morphemes to which they are attached. Such suffixes include "*-ness", "-less", and "-full"* (as in ful-ness, meaningless, dangerous). Carlisle (2010) posits that mastery in derivational morphology develops progressively with cognitive maturity. The morphological composition of the English language is illustrated in Figure 4.
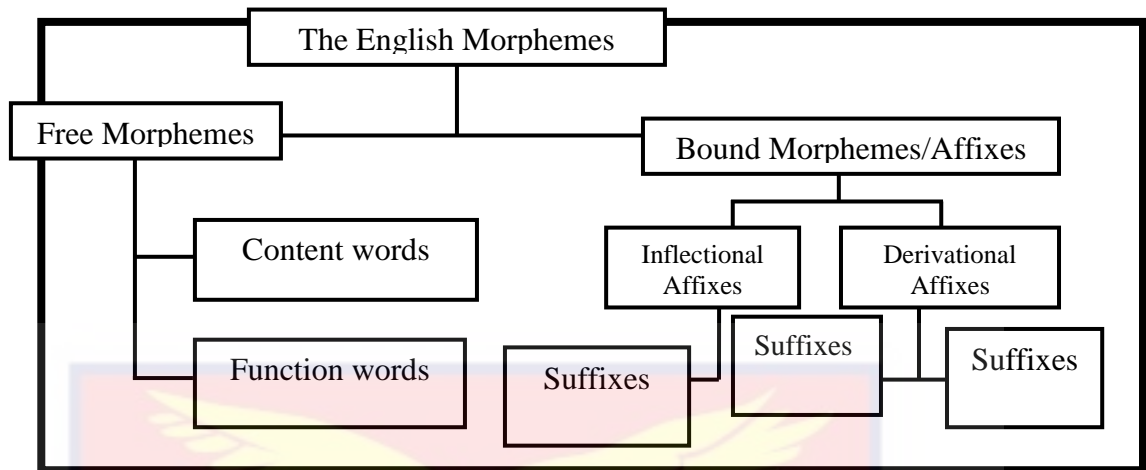
Figure 4: Morphological Composition of the English language
Source: Plag *et al.* (2011)

Given that most English words have complex structures, morphological instruction empowers ESL learners with relational, syntactic and distributional awareness that makes them more conscious, capable and intentional in their production and use of English words (Kieffer & Box, 2013 ; Zhang & Koda, 2013).

Kuo and Anderson (2006) maintain that relational awareness involves identifying and understanding the relationship between stems and suffixes in morphologically complex words (e.g., *instructive* = instruct+ive) whereas syntactic awareness relates to understanding how derivational suffixes change word class and influence the functions of derived words (e.g., *instruct* = verb, *instructive* = noun). Contrastively, distributional awareness enables the understanding of how the linguistic constraints mapp onto affixes in harmony with the grammatical category of their stems. Put simply, morphological awareness improves ESL learners' ability to comprehend the composition of English vocabulary and structures better.

Nagy *et al.* (2014) confirm the metalinguistic awareness underlying morphological awareness as impacting both receptive and productive abilities.

36

Receptive awareness enables learners to recognise unfamiliar words by segmenting words into their meaning units (e.g., recognising the morpheme "act" from the word *react*), while productive awareness helps learners to manipulate morphemes (Goodwin *et al.*, 2017; Kuo & Anderson, 2006). Thus, morphology-based instructional interventions, according to Carlisle (2010), emphasise teaching lexical patterns to 1) heighten student awareness of the morphological structure of words, 2) teach the meanings of affixes and bases, and 3) foster morphological problem-solving through morphological analysis strategy application

Measuring Morphological Awareness

Historically, morphological awareness competence has been measured with various usage-based methodologies. On the basis that successful language learning and development paralleled behavioural learning, early works (e.g., Berko, 1958; Derwing, 1976; Fowler & Liberman, 1995; Freyd & Baron, 1982; Wysocki & Jenkins, 1987) employed experimental methodologies and tasks that required precision and differentiation to establish vocabulary development and illustrate its automaticity. Carlisle (2000), for instance, utilised a sentence close test which instructed respondents to manipulate morphemes to change words to fit given sentences, derive new forms from given bases or supply base forms from given derivatives (e.g., *teach*: he was a very good_____; *runner*: How fast can she _____?).

However, on the theoretical supposition that learning strategies offered a better potential for L2 learning, mastery of morphological analysis skills became the focus of later works. Accordingly, many researchers have implemented varied adaptations of the McBride-Chang *et al.* (2005)

Morphological Awareness Test. These adaptations apply the analytic and synthesis approaches to assessing word meaning and structural awareness to ascertain the morphological awareness of ESL learners of different ages, backgrounds, and educational levels.

Aronoff and Fudeman (2011) outline the analytic and synthesis approaches as distinct yet complementary approaches to studying morphology. Their fundamental distinction lies in the dimension of morphological knowledge and the pattern of word formation each assesses. The analytic approach is the primary step to morphological understanding. Its concern is with morpheme identification. Theoretically, the analytical approach assumes the structuralist notion that language is made up of patterned morphemes. Therefore, if L2 could successfully identify and isolate words into their most minor word constituents, they would be able to form new lexical words and subsequently identify words that they may not be familiar with (McBride-Chang *et al.*, 2005; 2008)

The principle behind the analytic approach is to implement analytic methods to decompose words into specific grammatical particles to understand their internal structure and interactions between them. For example, the word *development* can be recognised as *develop* (base) + *ment* (suffix). On the other hand, the synthetic approach is concerned with the productivity of morphological structures. Its skill focus is, thus, related to creating new word forms and meanings by re-assembling the smallest morphemes. Booij (2019) hold that since morphology and orthography interact on many levels to affect literacy outcomes, understanding morphology is associated with developing a

38

broad vocabulary knowledge base that facilitates successful listening, speaking, reading, writing, and thinking skills.

Vocabulary Knowledge

Vocabulary is the crucial element of language that develops speaking, listening, reading and writing competencies that both L1 and L2 learners need to master (Faliyanti & Sari, 2018; Susanto, 2017; Wen, 2014). Therefore, vocabulary knowledge encompasses the depth of knowledge that determines the extent to which a word is understood by speakers, including pronunciation, meaning, spelling, frequency, sound structure, syntax and collocation according to context (Godfroid, 2019; Masrai, 2019; Milton, 2009; Nation, 2013)

In L2 vocabulary research, scholars have established different classifications that illustrate the multifaced nature of the term (Richards, 1976), for instance, outlines seven aspects of word knowledge. These are form, grammatical features, register characteristics, collocation, networks of relationships, meanings, and semantic features. Contrariwise, Henriksen (1999) lists three dimensions, Again, Read and Chapelle (2001) outline a four-dimension framework comprising vocabulary size, characteristics of words, lexical organisation, and lexical access, while Nation (2013) distinguishes between three aspects: form, meaning, and use. Nonetheless, a close reading of the literature on L2 acquisition revealed that regardless of the varied classifications, vocabulary knowledge is categorised along two trajectories: breadth vs. depth and receptive vs. productive (Das, 2023).

Anderson and Freebody (1981) distinguished between breadth and depth as two aspects of vocabulary knowledge that delineate how many word

39

language learners know and how well they understand the words they use. According to them, breadth of vocabulary knowledge signifies "the number of words for which the person knows at least some of the significant aspects of meaning". In other words, breadth of vocabulary is "the sum or number of words that students know at a given level of language proficiency" (Nation, 2001 cited in Nemati, 2010, p.46). This definition describes vocabulary breadth as the total size or quantity of lexical units a language learner has acquired either some superficial or complete knowledge about (Henriksen, 1999; Qian, 2002; 2004); Teng, 2016).

On the other hand, word depth of vocabulary knowledge is conceptualised as the "quality" or depth of understanding a learner has of the diversified constituents of a particular word (Anderson & Freebody, 1981; Teng, 2016). This knowledge encompasses "a learner's knowledge level of various components such as pronunciation, spelling, meaning, register, frequency, morphological, syntactic, and collocational properties" (Qian, 2002, p. 514, 2006).

According to scholars in the field (e.g., Beck *et al.*, 2013; Nation, 2013; Tannenbaum *et al.*, 2006), this definition connects depth to more profound tenets of word knowledge (semantic, syntactic and paradigmatic relations) that determine the *quality* of lexical words in the English language and the various contexts within which they could be used. Another distinction in the literature on vocabulary knowledge exists within the scope of vocabulary use and function. Receptive vocabulary knowledge refers to learners' ability to recognise word forms and perceive their meaning during a reading or listening activity (Milton, 2009). Receptive knowledge is usually

40

associated with the words that language learners can successfully recognise and comprehend when they occur in listening and reading contexts but might not necessarily be able to produce correctly (Nation, 2013).

Milton (2009) elaborates that a sizeable receptive vocabulary knowledge base is fundamental to developing the vocabulary level for effective and competent communication. Within the L2 context, receptive vocabulary knowledge is encountered passively when teachers intentionally give the meaning of new words or use them in a sentence (Zhou, 2010). It can also be encountered when learners engage extensively in listening and reading activities. Productive knowledge, however, is associated with correctly recalling word forms and deploying them appropriately in meaningful contexts (Fan, 2000).

Laufer and Nation (1995) elaborate that if learners possess a significant range of productive vocabulary, they can display more sophistication in their choice of lexical items in speech and writing. Thus, productive vocabulary can be regarded as the *active* words language learners can use to express their thoughts and feelings (Webb, 2005). Laufer (1998) divided productive vocabulary into *controlled and free*. Controlled productive vocabulary knowledge indicates the capacity to produce and use words when given a cue. In contrast, free productive vocabulary knowledge refers to the ability to use words spontaneously and without specific encouragement to produce certain words, such as writing independently (Schmitt, 2010).

Although scholars (e.g., Schmitt 2010; Webb, 2008) conceptually 'atomise' breadth-depth and receptive-productive vocabulary knowledge as

41

distinct aspects of knowledge, empirical evidence demonstrates these two are interrelated. Meara (1996) asserts

> all other things being equal, learners with extensive vocabularies are more proficient in a wide range of language skills than learners with smaller vocabularies, and there is some evidence to support the view that vocabulary skills make a significant contribution to almost all aspects of L2 proficiency (p. 37).

Ab Manan *et al.* (2016) explain that receptive and productive vocabulary knowledge develop progressively along a continuum, providing a long-term vocabulary use and efficiency threshold. This is because the receptive learning of words solely impacts meaning during listening/reading, while the productive study of vocabulary is often accounted for during speaking/writing (Hofstetter, 2019; Wu *et al.*, 2021).

Studies (e.g., Ab Manan & Asisan, 2016; González-Fernández & Schmitt, 2020; Shou, 2010) on the developmental nature of receptive-productive vocabulary knowledge reported that receptive vocabulary translates to productive vocabulary at higher language levels where students are required to write extensively. The scholarship reveals that (1) the growth rate for receptive and productive vocabulary knowledge in L2 differs, (2) the receptive vocabulary knowledge size of L2 learners is generally larger than their productive size, (3) receptive vocabulary knowledge becomes productive knowledge over time as learners consistently pronounce words intelligibly, spell them correctly and put them into various syntactically correct sentences

and (4) learners have a great and broad range of productive vocabulary display more sophistication in their choice of lexical items in speaking and writing.

Measuring Vocabulary Knowledge

Scholars (e.g.,Graves, 2004) believe that to master vocabulary successfully, L2 learners need to develop proficiency in the various aspects of word knowledge, including knowledge of word characteristics, vocabulary size, word fluency and automaticity. The majority of scholarship reports that there is a positive correlation between vocabulary size and academic success. Hence, vocabulary assessment remains a meaningful way to ascertain vocabulary knowledge level, to monitor progress and to assess the adequacy (or otherwise) of L2 learners in meeting their communication needs (Read, 2000).

Several controversies and inconsistencies, however, exist in the multiple standards, measures, and methods used to measure vocabulary knowledge. One controversy concerns the exact vocabulary size L2 learners in English-medium settings must possess for effective communication (Milton, 2009). The literature reveals many disparities in estimated sizes. Nation (2013), for instance, estimated a vocabulary size of 8,000 to 9,000-word families as required for unassisted text reading and comprehension vis-a-vis a magnitude of between 6,000 to 7,000. In contrast, Read (1990 cited in Nation, 2013) approximates a threshold between 17,000 - 20,000 word-families. This size differs from Milton's (2009) proxy of between 9,000 to 10,000 as needed to enable advanced ESL students to cope with university-level education.

Milton attributes these inconsistencies to the different measures of word count and sources of word pool (*tokens, lemmas, types and word*

43

families) used to determine vocabulary size. *Tokens* are the individual words that make up a piece of writing. Hence, measuring vocabulary knowledge using *tokens* usually helps to determine the number of words that make up the length of a written text, regardless of the number of times a particular word is repeated. *Types,* like tokens, constitute individual words in a text. However, measuring vocabulary using types involves counting words upon their first appearance in a text. On the other hand, counting words using *lemmas* implies counting headwords and inflectional forms only, while word families include both inflected and derived forms.

Another crucial factor involves the kind of words that L2 learners need to acquire, their importance, the frequency with which they occur and how they are assessed (Meara, 1992). Nation (2013) identifies four kinds of vocabulary: *high-frequency, low-frequency, academic,* and *technical*. High-frequency vocabulary comprises the most frequent words in the English language. These words constitute the first 1,000 - 3,000 lexical words that appear the most in texts. Low-frequency words, on the other hand, are words of moderate frequency. This category comprises words that did not get into the high-frequency list. Academic and technical vocabularies appear around 9% and 5% in academic works.

According to W. Nagy *et al.* (2012), mastery of academic vocabulary is vital for academic achievement and understanding of concepts taught across academic disciplines. (Coxhead, 2000 p. 218) defined academic vocabulary as "lexical items [that] occur frequently and uniformly across a wide range of academic material". Nagy *et al.* (2012) elaborate that this domain includes words that 1) are used as tools for academic purposes, 2) carry multiple

44

meanings that reference abstract concepts that relate and connect directly to targeted content areas, 4) are polysemous, 5) include cross-disciplinary words as well as discipline or domain-specific words, and 6) are used for grammatical metaphor.

Regarding measurement, vocabulary size is usually used as a proxy measure "for educational attainments and abilities" of L2 and foreign language learners of English (Hirsh, 2013). Nation (2013) outlines two ways of determining the vocabulary knowledge size of ESL/EFL learners: "One is based on a sampling from a dictionary, and the other on a corpus or a frequency list derived from a corpus" (p. 363). The second method determines vocabulary knowledge size quantitatively by measuring the number of sample words that learners can recognise or qualitatively by measuring the corpus of high/low-frequency words extracted from authentic language use (Levitzky-Aviad & Laufer, 2013).

Among the multiple measures, two tests whose validity and reliability have been proven have been widely used to estimate ESL learners' vocabulary knowledge size. These are the Vocabulary Size Test (Nation & Beglar, 2007) and the Vocabulary Levels Test (Schmitt *et al.*, 2001). The tests have been used to accomplish educational assessments of the comprehension and production of English words used in speaking or writing (Nation, 2006). Between trade-offs regarding purpose and efficiency, the two tests measure knowledge of the most frequent 1,000 to 14,000-word families on the British National Corpus' highest frequency wordlist and Coxhead's (2000) Academic Word List.

45

The Vocabulary Level Test, developed by Nation (1983) and later modified and validated by Schmitt *et al.* (2001), assesses knowledge of words on the 2,000, 3,000, 5,000, and 10,000 word-frequency bands. The test provides empirical evidence of vocabulary knowledge size for either placement or diagnostic purposes. In contrast, the Vocabulary Size Test (VST) is used to determine, compare and chart the growth of vocabulary size of individuals and groups as they progress through educational programmes.

Again, the VST is used to select individuals displaying specific levels of vocabulary knowledge for particular educational experiences, make mastery decisions, determine the degree to which a course or programme meets lexical objectives, and better understand the impact of educational reform on vocabulary growth. Figure 5 illustrates the three different yet interrelated aspects of vocabulary knowledge that ESL learners need to progressively master to fully and appropriately use English words for successful learning and academic achievement.
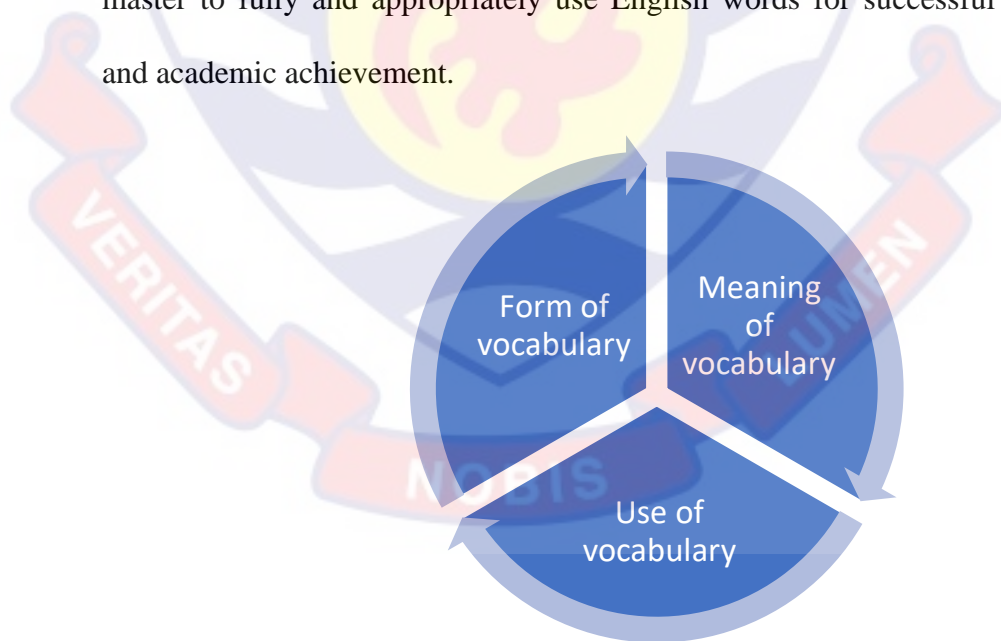
Figure 5: A Model of the three aspects of Receptive-Productive Vocabulary Knowledge (Coxhead, 2007; Nation, 2013)

46

Conceptual Framework

A conceptual framework represents a researcher's synthesis of the literature on how to explain a phenomenon. According to Regoniel (2015), a conceptual model is a "rudder" or synthesis of the actions required during the research based on previous knowledge and observations on the research subject. The theoretical and conceptual literature reviewed in this study, therefore, assisted in developing this conceptual framework (see Figure 6) to examine the relationship between the independent variable (morphological awareness) and the dependent variable (vocabulary knowledge) in the study.
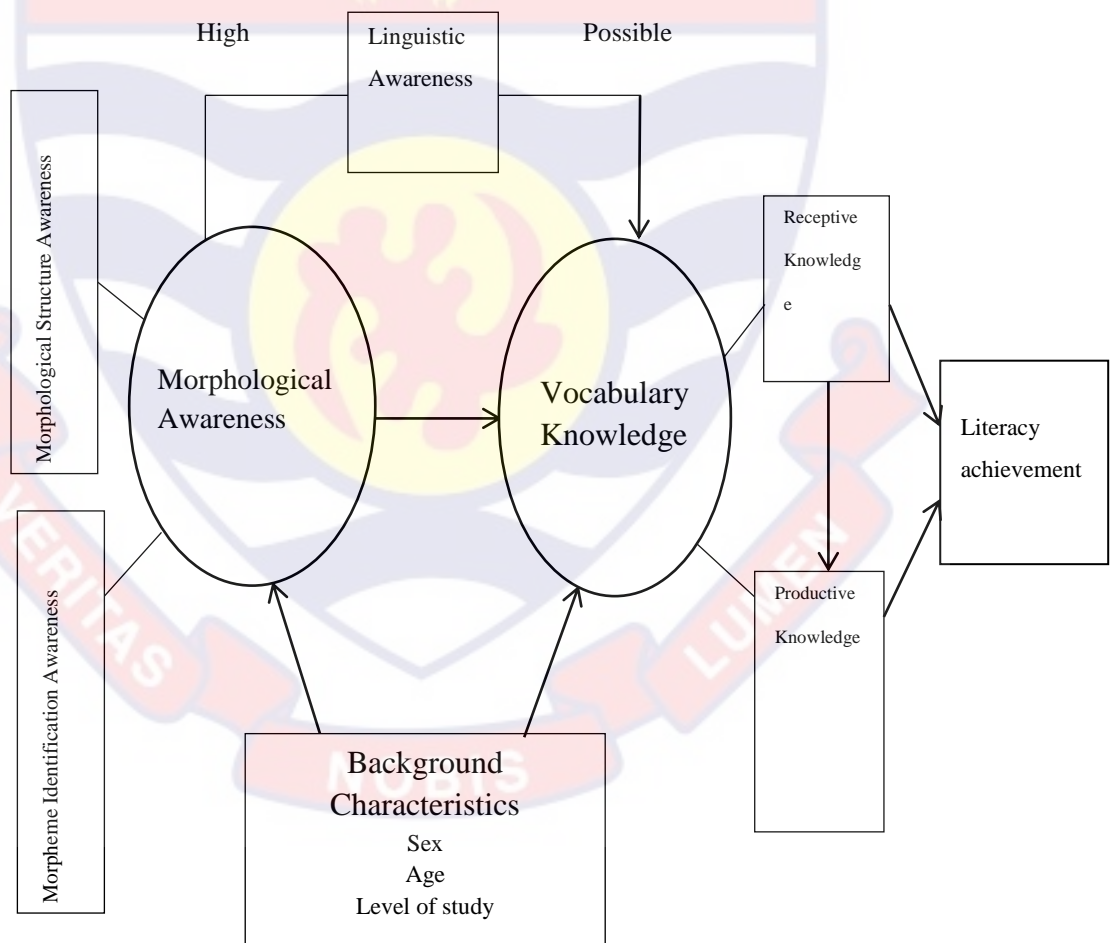
Figure 6: Conceptual Framework of the Present Study
Source: Author's Construct, (2023, based on Wang & Zhang, 2023)

47

The framework, as illustrated in Figure 6, assumes a predictive perspective. It predicts the independent variable (morphological awareness) with its sub-variables to directly influence the dependent variable (vocabulary knowledge with its sub-variables). However, since students' background characteristics such as age, sex, and level of study are likely to account for variations in L2 learning, the study hypothesises that learners' background characteristics (sex, age and level of study) influence their morphological awareness and vocabulary knowledge.

Empirical Review

This Chapter discusses empirical literature on morphological awareness and language proficiency in L1 and L2 learners across the globe. The presentation covers a review of related works, their implications for the current study and a summary of identified gaps.

Studies on Morphological Awareness as an Indicator of L2 Proficiency

Scholarship (e.g., Chung *et al.*, 2019; Fejso, 2016; Fowler *et al.*, 2003; Ke, & Koda, 2021; Mahony *et al.*, 2000; Majsub & Abu, 2010; Levesque *et al.*, 2017;) indicates that morphological awareness is a significant contributor to the receptive-productive process that activates linguistic schemata to foster listening, speaking, reading and writing proficiency in L2 learners across levels of education.

Listening

Many researchers have reported the impact of morphological awareness on listening proficiency. Listening is a complex process that allows language learners to receive, to process, to understand and to negotiate meaning conveyed through speech (Rost, 2015; Yurko & Styfanyshyn, 2022).

48

According to Gottardo *et al.* (2018), listening is fundamental to understanding linguistic details (e.g., syntactical knowledge, morphological knowledge, and vocabulary knowledge) expressed in authentic language tasks.

An experimental study by Saeidi and Mirzapour (2013) investigated the relationship between morphological awareness and listening comprehension ability of ESL students at Islamic Azad University in Tehran, Iran. Forty (40) undergraduate students were randomly sampled and divided into two groups. Each group took a pre-test comprising four listening comprehension passages with 30 tokens of words with morphemic structures. With a respective mean of 57.5063 (SD = 8.0150) and 55.7690 (SD = 5.5357), the independent sample t-test results indicated no significant difference in the listening abilities of the experimental and control group. After the pre-test, four one-hour instructional sessions on characters in English morphology such as "-ness", "-tion", "–ing", plural "–s" and possessive "–s" were held for the experimental group but not for the control group after which the passages were re-administered to both groups.

The outcome was analysed to ascertain whether learners increased morphological awareness affected the experimental group's listening ability. The post-test analysis revealed a significant relationship between the experimental group's morphological awareness and listening comprehension ability (*M* = 62.4040, *SD* = 2.5966) and the control group (*M* = 57.1712, *SD* = 8.1692). Consistent with previous works (e.g., Karimi & Gheintury, 2009; Karimi, 2013; Koda & Zehler, 2007; Koda, 2008; Nation & Newton, 2009), the results illustrated the contribution of morphological awareness to the

49

development of practical word recognition skills that predict listening transcription performance.

Similarly, Karimi and Gheintury (2009) found a positive relationship between morphological awareness and listening transcription ability in the pre-tertiary Iran students who participated in their experimental study. The 40 participants were put into control and experimental groups, and each group was assigned to transcribe three short listening comprehension passages. Findings from the independent-sample T-test conducted on the pretest indicated no significant difference in the transcription ability of the two groups. However, after receiving five 1-hour briefing sessions on the morphological character and realisation of English words over five days, the t statistic result (t = 2.82, df = 38. p< 0.5) from the post-test analysis indicated a significant difference in the experimental group's performance. Based on this outcome, the study's null hypothesis (*morphological awareness does not significantly affect listening transcription ability)* was duly rejected.

In alignment, Koda (2008) recommended the incorporation of explicit morphological awareness into L2 learning programmes. In theory, Koda's (2008) position that knowledge of morphology assists EFL/ESL students to guess the meaning of unfamiliar words (an activity that aids listening comprehension) is supported by Kashen's (1982, cited in Rost, 2015) claim that both L1 and L2 learners develop the skill when they are exposed to "comprehensible input" including new vocabulary, grammatical patterns and phonological items that permit them to move from one language level to another.

50

Again, Xie *et al.* (2021) examined the contribution of morphological awareness to text-listening comprehension. The data for the study were gathered from 142 blind early graders (1-3) and late graders (4-6) in an elementary school in China. After controlling for age, phonological awareness, rapid automatised naming and working memory, the researchers ran muti-linear regression analyses to assess the extent to which morphological awareness and vocabulary knowledge accounted for variance in accuracy. The results converged with theoretical arguments and findings in prior studies (e.g., (Florit *et al.*, 2014; Koh *et al.*, 2022) that show the direct and indirect role of morphological awareness in predicting text comprehension through the mediation of vocabulary knowledge. Therefore, the researchers suggested consistent teaching of morphological awareness to aid oral text comprehension in blind children.

In another study, Hasan and Nomian (2021) randomly sampled and investigated 171 Bangladesh undergraduate EFL students from the United International University, Dhaka. A morphological awareness test on the four major derived word classes in English and a listening comprehension test were used to gather data from the respondents. The data was analysed using a two-tailed Pearson correlation in a multiple regression analysis to determine the possible inter-correlations and predictions between the variables. The outcome revealed positive and statistically significant inter-correlations at the 0.01 level between the scores of the crucial four derivative word forms and listening comprehension: noun word class and listening comprehension, $r = .371$; $p < .01$; verb word class and listening $r = .566$; $p < .001$; adjectival word class and

51

listening comprehension, r = .484; p < .001; and adverbial word class and listening comprehension, r= .489; p < .001.

Similar to the correlations, predictions and effects reported by Yakub and Hossain (2018), the findings highlighted the immense contribution of the four derived word classes that represented morphological awareness (*nouns, verbs, adjectives* and *adverbs*) and listening comprehension proficiency. The researchers, thus, recommended that multiple studies be conducted to test the effect of morphological awareness on the speaking, reading and writing skills of ESL/ EFL learners in other contexts. Another study that recommended further investigations into the relationship between the knowledge of morphology and linguistic abilities among non-native English-speaking learners was Kieffer *et al.* (2013). However, unlike the majority of works reviewed in this study, their study found contradictory results concerning the relationship between listening comprehension and morphological knowledge. Their findings revealed a relatively weak correlation between listening comprehension and morphological knowledge (a low-average range of approximately two-thirds of a standard deviation below the national average of 5).

Speaking

Speaking is a productive skill that involves the overt use of oral language to communicate meaning (Nunan, 2003). It is a language skill that involves knowledge of phonology, the component of language that enables language users to achieve fluency and accuracy through speech. On the basis that the basic units of words (morphemes) are bundles of phonemes, the practical value of the effects of morphological awareness on ESL learners'

understanding of the relations between oral and written English is captured severally in reports from experimental studies on early graders. This observation explains Xue *et al.* (2013) conclusion that morphological awareness entails a metalinguistic awareness that influences fluency at the oral language level.

The results from Casalis and Colé's (2009) experimental training design study of the relationship between phonological and morphological awareness confirmed a reciprocal metalinguistic relationship between the two variables. Data for the study were collected from three groups of 30 pre-readers randomly assigned into two experimental and a control group. Experimental group M received morphological awareness training, while experimental group P received phonological awareness training. The control group, however, did not receive any training. After the intervention, the study similarly reported a reciprocal influence indicating a correlation between phonological and morphological awareness. However, even though the training was efficient at the kindergarten level, the researchers acknowledged the need to determine if a similar connection exists in older ESL participants.

Like most existing research, Marinova-Todd *et al.*'s (2013) examination of the relationship between the morphological structure and L1 vis-à-vis L2 acquisition also found a correlation. 888 native English grade six students and 244 Chinese, Filipino, Germanic, Korean, Persian, Romance, and Slavic ESL learners participated in the study. A series of standardised tests were conducted to gather data, which was analysed using a series of ANOVAs with language group as the between-subjects variable. The study revealed that phonological and morphological awareness are highly intercorrelated because

53

both domains manipulate parts of speech which encode a morpho-phonological and syntactical relationship. This finding is consistent with early works (e.g., (Baayen & Schreuder, 2011; Kuo & Anderson, 2006) provided correlational data to support the theoretical hypothesis that phonological awareness and morphological awareness are linked. However, the researcher acknowledged the limitations of correlational research and suggested that future studies use research designs that provide further information to explain the theoretical connection.

In a pilot experimental study, Tijms *et al.* (2020) also evaluated the mediation effect of 'Lexilogy-Greek' (an online computer-based training programme) on reading and spelling abilities. Data was gathered from poor readers and spellers (nine boys and six girls) from 15 primary school children (2 from Grade 5 and 13 from Grade 6) from two private schools in Athens. The participants received 25-minute online training intervention sessions weekly for 24 weeks. Using the single-group cross-over design, the intervention effects were repeatedly assessed at pre-test, mid-test and post-test intervals with the 6-month experiment: the initial measurement at the no-intervention period and subsequently during and after the intervention period.

The results from the repeated measures ANOVAs revealed substantial treatment effects on spelling, word reading fluency and text reading fluency that align with Deacon and Kirby (2004). Their study reported that manipulating morphemes necessitates the manipulation of the phonology of lexical bases, thereby enhancing the development of phonological awareness, morphological awareness and syntactic awareness. This supports the theoretical assertion that phonological awareness and morphology awareness

facilitate the crystallisation of word-specific orthographic representations, including awareness and understanding of fundamental print-to-sound correspondence, morpho-graphemic patterns and conventional spelling rules that foster the acquisition of efficient reading skills (Deacon *et al.*, 2019; Ehri, 2020; Levesque *et al.*, 2021)

Reading

Reading is essential for lifelong language learning and literacy development (Lone, 2011). According to Grabe (1991) as cited in Ediger (2001), the process requires learners to apply linguistic knowledge (grammar, vocabulary and pronunciation) and skills (including automatic recognition, structural and content background knowledge, synthesis and evaluation strategies, metacognitive knowledge and monitoring skills) to derive meaning from print. Kuo and Anderson (2006) acknowledge that the positive effect of morphological awareness is reflected in L2 learners' ability to decode morphologically complex academic vocabulary and synthesise information from various academic sources, which is supported in theory and practice.

Nagy *et al.* (2014) also identified two potential contributions to literacy development. One involves the conscious and strategic application of morphological awareness to unfamiliar morphologically complex words, enabling L1 and L2 learners to approximate word meaning from morphological units. The other concerns the tacit contribution of morphological processing to learners' ability to infer lexical meanings, decode syntactic signals encoded in derived suffixes, parse complex sentences and infer the meaning of words in comparable structures.

55

Theoretically, morphological knowledge encompasses studying the morphological processes that help language learners monitor errors and self-evaluate their progress. Thus, many scholars (e.g., Kieffer, 2014; Levesque & Deacon, 2022; Metsala *et al.*, 2019) justify the incorporation of morphological awareness into models of reading in languages with morpho-phonological writing systems.

Concerning the correlation between morphological awareness and reading in ESL learners, Guo *et al.* (2011) confirmed a structural relationship between morphological awareness, syntactic awareness and reading comprehension mediated by vocabulary knowledge. One hundred fifty-five students (131 undergraduates and 24 graduates) enrolled in three tertiary institutions in northwest Florida were sampled to participate in the study. The data was collected using achievement six tests (Peabody Picture Vocabulary Test, Expressive Vocabulary subtest of Comprehensive Receptive and Expressive Vocabulary Test, Grammatical Application Test–Revised Wug Test, The Syntactic Awareness Questionnaire, Nelson-Denny Reading Test and Gates-MacGinitie Reading Test).

A SEM analysis of the data revealed a finding consistent with previous research (e.g., (Carlisle, 2007; Nagy *et al.*, 2006) that morphological awareness contributed to reading in adults and children. However, unlike the correlations (.59 to .76) and path weights (.38 to .86) recorded by Nagy *et al.* (2006), the study's observed correlation (.33) and path weights (.16) between morphological awareness and reading comprehension were lower compared to. Given the difference in the ages of the study populations recruited by Nagy *et al.* Grades (4 to 9) and Guo *et al.* (18 – 45 years), the results seem to have

56

been influenced by the variable age. The study, therefore, suggested that future studies separately measure the two aspects of morphological awareness that are developed with age: inflectional and derivational knowledge.

Bahr *et al.* (2012) also confirmed a relationship between phonology, morphology and orthography. The authors applied the Phonological, Orthographic and Morphological Assessment of Spelling (POMAS) to identify errors, determine the number and types of errors, discover themes, and describe the pattern of errors in a narrative and expository writing test administered to 888 students from Grades 1 to 9. A total of 41 linguistic error features emerged in the qualitative analysis. These errors were first coded into categories and further classified into specific linguistic features. Morphological errors were, for instance, analysed in terms of inflectional and derivational morphology to show specific linguistic features (e.g., prefixes and suffixes) that the participants had difficulty dealing with.

A correlational analysis to determine the linguistic patterns and correlational value for each pair of error types revealed notable results. The one-way ANOVA revealed significant effects: phonological errors, $F_{(8, 886)} = 7.004$, $p < .001$; orthographic errors, $F_{(8, 886)} = 8.272$, $p < .001$; morphological errors, $F_{(8, 886)} = 12.159$, $p < .001$). In addition, a linear trend effect indicating a decline in phonological and orthographic error rates with grade and age but a reverse for morphological error rates was observed: phonological errors, $F_{(1, 886)} = 47.986$, $p < .001$, orthographic errors, $F_{(1, 886)} = 50.357$, $p < .001$, and morphological errors, $F_{(1, 886)} = 77.866$, $p < .001$.

57

Kieffer and Lesaux (2012) investigated the effect of morphological instruction on vocabulary and reading comprehension. The data for the study was collected from 952 Spanish, Filipino, Vietnamese and native English speakers using three independent measures: Reading Comprehension Task, Reading Vocabulary Test and Morphological Awareness Test. The researchers controlled for reading vocabulary and word reading fluency, after which multiple-group structural equation modelling was used to determine the contribution of morphological awareness to reading comprehension. The outcome revealed the existence of an indirect contribution via reading vocabulary.

Kieffer and Box (2013) also examined the role of morphological awareness in academic vocabulary and fluency development. The data on the morphology of English derivations, complex academic vocabulary, silent word reading fluency, and reading comprehension was gathered from Spanish-speaking (n = 88) and native English-speaking (n = 55) sixth graders. The findings from the multiple-group path analyses indicated direct relations between morphological awareness and comprehension via both academic vocabulary and word reading fluency across language groups. In addition to confirming the importance of morphological awareness in the development of reading and reading comprehension, the results extended prior research by specifying the particular role of morphological awareness in academic vocabulary and fluency development.

Tighe and Schatschneider (2016) applied the meta-analytic approach to investigate the importance of 10 component reading skills to reading comprehension in struggling adult readers in 16 independent studies. Random

58

effects models generated 76 predictor-reading comprehension effect sizes among the ten constructs used in assessing a total of 2,707 participants. The results indicated that six component skills (morphological awareness, language comprehension, fluency, oral vocabulary knowledge, word decoding, and working memory) exhibited strong relationships with reading comprehension ($r \geq .50$). Out of the six, the study revealed that was morphological awareness proved to be the most significantly correlated to reading comprehension.

Metsala *et al.* (2019) also investigated the contribution of morphological awareness to the reading achievement of university students. The population comprised students with self-reported histories of reading difficulties. Data on the nonverbal reasoning skills, history of reading difficulties, phonological awareness and morphological awareness of the study subjects (n = 211) were analysed. Measures from six reading-related skills tests, including Woodcock Reading Mastery Tests (Woodcock, 1998), Wechsler Abbreviated Scale of Intelligence (Wechsler, 1999), ARHQ-R Elementary-School Scale (Parrila*et al.*, 2003), Test of Word Reading Efficiency (Torgesen, Wagner & Rashotte, 1998) and Nelson Denny Reading Test (Brown, Fishco & Hanna, 1993) were implemented to collect the data.

Initial regression results from a one-way MANOVA that compared the participants' performance across the six reading-related tasks revealed statistically significant differences: $F (6, 101) = 5.57, p < .001$; Wilks's $\Lambda = .751$. Further analysis (MANCOVA) conducted using word identification scores as the covariate equally yielded a statistically significant difference $F (2, 104) = 3.35$; Wilks's $\Lambda = .940, p <.05$) The outcome, after phonological

awareness, orthographic processing skills and word-reading accuracy of students with self-reported histories were statistically controlled, indicated moderate to significant gaps in the reading achievements of the two observed groups (with versus without reading difficulties).

Similarly, James *et al.* (s2021) examined the contribution of morphological awareness to reading comprehension. However, unlike Metsala *et al.*, the researchers worked with school children (9-11 years, N = 126; and 12–13 years, N = 147) from three schools in northwest England. The objective was to determine when and for which age group morphological awareness would be most important. The participants completed individual and group-administered judgement and production tasks that measure reading comprehension, word reading, phonological awareness, receptive vocabulary, nonverbal reasoning and morphological awareness. Results from the component analysis yielded a single primary factor of morphological awareness for each age group. Separate hierarchical multiple regressions also revealed that morphological awareness accounted for significant unique variance in reading comprehension for groups of 6-8 and 12-13 years, beyond age, nonverbal reasoning, vocabulary, phonological awareness and word reading.

The study further revealed that vocabulary uniquely predicted reading comprehension in all three age groups. Quantile regression analyses at three points in the reading comprehension distribution (0.1, 0.5 and 0.9) showed that morphological awareness and vocabulary predicted reading comprehension similarly across the ability range. The findings align with contemporary models of reading that posit phonological and morphological awareness as

60

essential to reading and reading comprehension across levels of readers. The researchers, therefore, recommended the teaching of morphological awareness across levels of education.

Qiao *et al.* (2021) also examined the direct and indirect effects of morphological awareness on reading comprehension in elementary school children. Data for the study was collected from 156 participants in Hong Kong. The study aimed to test theoretically driven predictions regarding the impact of morphological awareness on reading comprehension in Chinese and English. Measures of morphological awareness, word reading, expressive vocabulary and reading comprehension were administered. The results revealed a sequential mediation pathway that showed that morphological awareness directly affected reading comprehension beyond mediators and control variables in both languages.

In addition, Qiao *et al.* revealed that morphological awareness had significant indirect effects on reading comprehension mediated by word reading (indirect path 1) as well as vocabulary and word reading in sequence (indirect path 2) after taking control variables into account. The study, thus, suggested that morphological awareness in English and Chinese reading instruction be emphasised to enhance vocabulary development, word reading and comprehension. The authors also recommended the implementation of morphological interventions that teach morphology in the context of rich vocabulary and word recognition contexts to strengthen their relationships through writing.

Writing

Writing is a productive skill purported in language acquisition research to be the highest and most prestigious skill. Its acquisition requires creating textual evidence that demonstrates mastery of language features such as grammar, vocabulary, spelling, and creative yet quality sentence production. Scholars have traced scientific research into the relationship between specific linguistic elements and writing quality and proficiency, as determined by theoretical models since the 1970s, to interest in the predictive ability of linguistic features to enhance literacy. Crossley (2020), for instance, provides an overview of how analyses of linguistic features found in L1 and L2 writing samples predict and influence vocabulary development, writing proficiency and text quality in languages with shallow and deep morphological systems.

Crossley *et al.* (2011) examined a corpus of argumentative essays written by 315 ESL undergraduate freshmen at Mississippi State University, USA. Their objective was to identify the analytical features of essays most predictive of overall writing quality. The timed essays were read and scored by expert raters. Regression analysis conducted on six (6) indices taken from Coh-Metrix indicated that text structure, semantic coherence, lexical sophistication, and grammatical complexities explained 38% of observed variances. Like (Crossley & McNamara, 2010), the study reported that L2 students' proficiency is related to their awareness of lexical features rooted in morphological knowledge. The finding confirms Yucel-Ko's (2015) classification of morphological awareness as a subdivision of metalinguistic knowledge that can be developed when learners become familiar with the morphological processing that enhances lexical knowledge.

Similarly, McCutchen and Stull (2015) examined the relationship between morphological awareness and the production of accurate morphological derivations in writing. The study aimed to provide a perspective for interpreting erroneous morphological forms in elementary students' writing. One hundred and seventy-five (175) 5th-graders drawn from five public schools in an urban area in the Pacific Northwest, U.S.A., were sampled to complete two writing tasks. Respondents' compositions were analysed after examining for accuracy and errors in spelling. Although not all students were included in all analyses due to incomplete data, the multiple regressions showed that morphological awareness aids accurate, complex word/sentence structure production.

A linear regression run to determine the relationship between morphological awareness, morphological accuracy, and spelling accuracy revealed that morphological awareness predicted the generation of accurate morphological derivations. Next, a logistic regression was run to determine the probability of morphological awareness predicting "morphological inventions" (inappropriate manipulation of morphemes). The result provided an improved understanding of morphological knowledge's significant role in assisting elementary students with spelling, word production, and sentence generation during writing.

Similarly, Dobbs and Kearns's (2016) study addressed a research gap concerning word-level knowledge and writing outcomes related to academic language proficiency. One hundred and sixty-seven (167) sixth, seventh, and eighth graders participated in the academic vocabulary intervention. The participants were assigned to learn 25 academic

vocabulary words and use them in an argumentative essay. A cross-classified random effects model was used to assess the contribution of word characteristics (orthographic, phonological, and semantic) and literacy-related characteristics to students' control and willing use of complex morphological vocabulary in productive writing tasks.

The study findings provided detailed accounts of the effects of morphologically-focused vocabulary instructional intervention on the binary and continuous use of high and low-frequency words in writing. However, although the outcome informed the design and implementation of a vocabulary-embedded curriculum with a morphological focus, the study was without limitations. First, the study did not explore learner factors that are known to contribute to word-level and writing outcomes. Second, it did not assess how appropriately words were used in the student compositions.

To extend Dobbs and Kearn's (2016) study, Northey (2017)) tested the direct effects of morphological instruction on students' ability to manipulate and use morphologically complex words in writing. Four Hundred and Ninety-nine (499) 6th, 7th and 8th graders and 22 teachers were recruited from the Pacific Northwest, U.S.A., to participate in a 12-week instructional program. The study provided insight into one measure of language production quality (how accurately words are used, word standard frequency). The study provided evidence of an untapped effect of morphological and vocabulary instruction on appropriate word production in spontaneous writing tasks, suggesting the need for further research to help understand the value of word-level instruction in students' lexical and sentence-level writing development.

Studies on the Relationship between Morphological Awareness and Vocabulary Knowledge

Several correlational studies on the ability of ESL learners to use the English language correctly and appropriately have accentuated a predictive relation between morphological awareness and vocabulary knowledge. A longitudinal study conducted in China by McBride-Chang *et al.* (2008) tracked the development of morphological awareness and vocabulary knowledge of 45 Chinese and Korean-speaking ESL preschoolers. The researchers reported that after controlling for vocabulary knowledge, phonological processing skills, and other related skills across the two language groups, the participants' Time 1 compound awareness predicted their Time 2 vocabulary knowledge.

Another study conducted in China by Shang and Koda (2013) studied the effect of morphological awareness on vocabulary knowledge in 130 university students (97 males and 33 females) in Shanghai, China. To gather data, the researchers utilised the Vocabulary Levels Test designed by Schmitt *et al.* (2001) and a self-constructed morphological awareness test. The data were analysed using SPSS. The outcome showed that morphological awareness, directly and indirectly, affected vocabulary knowledge via lexical inferencing. However, in line with observed variations in the lexical exposure of learners across ages, genders and learning stages, the researchers suggested that future studies consider comparing learners' performance across groups to see if the observed pattern would hold or be invariant.

In Iran, Khodadoust *et al.* (2013) randomly sampled 86 English major undergraduate students between the ages of 19-27 at the University of Sanjan

for their study. Before the main test, however, the researcher administered the Nelson proficiency test to control homogeneity and language proficiency in the subjects. Based on the S distribution results on the test scores, 73 students were selected to participate. Those selected were students whose scores fell within one standard deviation above and below the mean. Data on the selected participants' vocabulary knowledge and morphological awareness were subsequently gathered using Nation's (1990) Vocabulary Levels Test and McBride-Chang et al.'s (2005) Morphological Awareness Test.

The results from both tests were analysed using descriptive and inferential statistics to establish possible relationships and differences in the participants' performance. The Pearson correlation coefficient result (r = .601, p<.05) showed a significant correlation between participants' morphological and vocabulary knowledge. This finding harmonises with previous works (e.g., McBride-Chang et al., 2005; Nurhemida, 2007) that underscore the close relationship between L2 language learners' morphological awareness and specific aspects of vocabulary knowledge. Hence, the researchers advocated incorporating synthesis and analytic aspects of morphological awareness into their classes to increase students' vocabulary and morphological knowledge. However, the study did not indicate the extent and degree to which attention should be placed on each aspect.

Another study conducted in Iran to examine the extent to which knowledge of affixes related to vocabulary learning was Hasani et al. (2014). Forty-three (43) intermediate ESL students in Qasvin Province were randomly selected and tasked to answer a proficiency and vocabulary recognition test. The study reported that the participants did not prefer the word-building

66

approach due to their lack of affixation knowledge. Based on its findings, the study concluded that ESL learners needed to pay more attention to affixation to increase their vocabulary knowledge. However, the study acknowledged the need for ethnographic research to investigate the specific needs of larger populations.

Varatharajoo *et al.'s* (2018) quasi-experimental study also investigated the effect of explicit morphological instruction on L2 vocabulary development. The researcher collected data from a total of 140 secondary school students. The participants were randomly distributed into four groups (three experimental and one control). The control group was taken through 'treatment' to test the assumption that explicit morphological awareness instruction would foster L2 vocabulary development. The outcome showed that inflectional morpheme instruction was significantly correlated with learners' morphological awareness. The researcher, therefore, recommended that language instructors and curriculum designers include morphemic analysis strategy instruction in vocabulary lessons to facilitate vocabulary development, particularly in low-proficiency ESL learners.

In Turkey, Akbulut's (2017) experimental study also explored the relationship between morphological awareness and vocabulary knowledge in fifty-two (52) participants. Two widely used tests, Nation's (2001) Vocabulary Levels Test and Morphological Awareness Test, were administered to gather pretest and posttest data from the control and experimental groups. After 12 weeks of vocabulary instruction, the outcome of the post-test analysis indicated a significant positive correlation between the morphological awareness and vocabulary size of the experimental group. Based on the study

67

findings, the researcher noted the need for English teachers to consider adopting instructional methodologies and strategies that develop morphological awareness to teach academic vocabulary and develop metalinguistic awareness in university-level ESL learners.

Similarly, in Jordan, Rabadi (2019) investigated the nexus between morphological awareness and vocabulary knowledge. The study subjects were 3rd and 4th year BA English language and Literature students from three private universities. The participants (n = 90) aged between 19 and 25 were randomly sampled. Data was gathered using the Vocabulary Size Test (Nation & Berglar, 2007) and Morphological Awareness Test (McBride-Change *et al.*, 2005) and analysed using descriptive statistics and corresponding correlations. Overall, the study found a moderate positive correlation (r = 0.571, 0.509, 0.461, p < 0.05) between morphological awareness and vocabulary knowledge. Notably, the study recorded an overall mean score of 41.21 (SD = 11.79) out of 68 for morphological awareness, with a significant correlation index (r = 0.651, p < 0.05) between participants' analytic aspect and synthetic aspect scores. This finding indicated that participants had medium (67%) morphological awareness.

Regarding vocabulary size, the study's outcome revealed that the participants possessed a mid-frequent vocabulary size. A positive relationship was also noted between the participants' inability to form and use complex words. This finding underscored the need for more pedagogical implementations to improve vocabulary learning. The study, thus, suggested that future research connection between morphological awareness and the development of other language skills, mainly writing. It also recommended a

study of the mediation effect of learner characteristics such as age, gender, learning motivation, preferred style and strategies of ESL learners.

In Thailand, Tarat (2019) attempted to extend the boundaries of existing knowledge by determining the probable relationship between morphological awareness and vocabulary gains of male and female English major university students in the lower northern region of the country. Data was gathered using a morpheme identification test adapted from the Nelson-Denney Reading Test (a reading survey test designed to measure vocabulary development, comprehension, and reading rate for high school students, college students and adults). The results revealed that the participants possessed adequate morphological awareness to break those vocabularies into their morphemic units. The Pearson Correlation Coefficient was also used to find out the relationship between morphological awareness and vocabulary knowledge of the first-year students. However, with mean scores of 30.58 (SD = 4.50) and 27.74 (SD = 6.84), the findings revealed no significant difference in the performance of the male and female participants. The researcher, nevertheless, acknowledged the generative nature of the study and recommended that further research be conducted into the effect of gender on the vocabulary learning of L2 male and female students.

Abdillah's (2020) investigation on the relationship between morphological awareness and vocabulary mastery also found that increased morphological awareness results in better overall vocabulary mastery. 37 (n=30) seventh-semester students at the University of Islam Malang were selected using the cluster random sampling technique and given a morphological awareness and vocabulary mastery test to answer. outcome

indicated a mean score of 55.33 ($SD = 20.90$) for morphology and 78.97 ($SD = 16.16$) for vocabulary. With a significance level of .000 (indicating that p< .05) and a Pearson Correlation coefficient of r = .613, the outcome pointed out a significant correlation between morphological awareness and vocabulary mastery of the study subjects. The study, thus, concluded that higher morphological awareness resulted in vocabulary mastery. It provided some suggestions to help develop the morphological awareness of students and lecturers at the English Education Department, University of Islam Malang. It further recommended that future researchers apply the study as a reference in related studies that aim to cover areas that were not explored.

In Ghana, Stoffelsma *et al.* (2020) also provided empirical evidence of a serial multiple-mediator model that supports the relationship between morphological awareness, vocabulary knowledge, reading proficiency and academic achievement in tertiary-level ESL contexts. Comparisons were made at two levels: general English and academic English. Data for the study was gathered from 454 second and third-year English L2 university students in Ghana, West Africa. The study produced significant evidence for a two-mediator model at both levels using two different mediation analyses. Morphological awareness was modelled as affecting academic achievement through four different pathways: indirectly through vocabulary, indirectly through reading comprehension, indirectly through vocabulary and reading comprehension sequentially, and directly. Thus, the study, in line with White *et al.*'s (1989), recommended its exploration through educational interventions to enhance the teaching of morphology in tertiary-level ESL settings.

In an experimental study, Mare *et al.* (2021) examined the effect of morphological awareness on vocabulary knowledge of 10 English major students from Saweelah College of Education at Sebha University, Libya. The study confirmed that morphological awareness instruction improves vocabulary learning at the university level. The vocabulary knowledge and morphological awareness were assessed before and after the 'treatment'. Two Morphological Awareness tests adopted from Bauer (1988) were utilised. The outcome revealed that the experimental group performed better than the control group.

Based on their findings, the researchers presented recommendations to help raise the morphological awareness level and develop the vocabulary skills of university students. One was for advanced-level ESL teachers to pay more attention to teaching derivational morphology. This recommendation aligns with literature recommending incorporating receptive and productive vocabulary instruction into L2 programmes to boost literacy development. According to Zhang (2017), derivational morphology is foundational in building vocabulary depth, predicting breadth and consolidating understanding in advanced ESL learners.

Generally, receptive vocabulary knowledge is linked with and required for listening and reading, while productive knowledge of vocabulary is linked with writing and speaking (Laufer & Goldstein, 2004). However, despite its recognised potential, results on the nature of the connection between morphological awareness and the receptive-productive facets of vocabulary knowledge across ESL contexts vary. This next section reviews evidence of

71

the nexus between morphological awareness, receptive vocabulary size and productive vocabulary knowledge.

Morphological Awareness and Receptive Vocabulary Size

In Oman, Farsi (2008) sought to determine the relationship between morphological awareness and receptive vocabulary size. The researcher adapted McBride-Chang *et al.*'s (2005) morphological awareness test and a modified version of the Vocabulary Levels Test (Nation, 2001) to collect data from 54 Ibri College of Applied Sciences students. The morphological awareness test assessed the synthetic and analytical facets of respondents' morphological knowledge, while the vocabulary test assessed the effect of morphological knowledge on their complex vs. simple vocabulary development.

Descriptive and correlational findings reported in Farsi's study did not indicate a statistically significant relationship between the two variables, making it impossible to establish a relationship between morphological awareness and vocabulary knowledge. However, owing to several limitations in the research method and instrument implemented, the researcher recommended replicating the study in another ESL context using a larger sample, different design, or instrument to help gain more insight and understanding into the relationship between morphological awareness and receptive vocabulary knowledge.

In Saudi, Alsalamah (2011) also investigated the relationship between morphological awareness and receptive vocabulary size. The study population comprised 89 female university students majoring in Translation at King Saud University. The researcher adopted Nation and Beglar's (2007) Vocabulary

72

Size Test and McBride-Chang *et al.*'s (2005) Morphological Awareness Test. The findings of this study likewise failed to establish a statistically significant relationship between the scores of participants with relatively low levels of morphological awareness and their vocabulary size.

Similar to this study was the one conducted in Iran by Tabatabaei and Yakhabi (2011). The researchers investigated the relationship between morphological awareness and breadth of receptive vocabulary. A cross-section of senior high school students selected through random sampling participated in the study. The researchers applied the Nation's Vocabulary Level Test and two morphological awareness tasks (a morpheme identification task and a morphological structure awareness test) to collect data. The VLT assessed the participants' knowledge of words drawn from 2000, 3000 and 5000 of the most frequently occurring word families in the English language. The VLT results indicated that the study subjects performed better at the 2000 level than at the 3,000 and 5,000-word frequency levels. The findings showed a significant relationship between the learners' performance on the vocabulary level test and the morphological awareness tasks. Drawing on the study findings, the researchers underscored the importance of facilitating ESL learners' morphological awareness in vocabulary learning.

Latifi *et al.* (2012) examined the correlation between morphological awareness and vocabulary size. 60 Iranian students studying English language teaching at the University of Qaemshahr participated in the research. The instruments implemented were the Vocabulary Level Test and Morphological Awareness Tests (analytic and synthetic aspects). The study reported findings similar to previous studies regarding performance in the analytic test

(Identification test) than they did in the synthetic test (Morphological Structure Test). However, the results showed that the participants' synthetic knowledge had more impact on their morphological awareness than the analytic knowledge. Another finding was related to the non-existence of differences between students' simple and complex word knowledge.

In Canada, a longitudinal study by Sparks and Deacon (2015) focused on determining the direction of the relationship between morphological awareness and receptive vocabulary knowledge. Their objective was to clarify the nature of the relationship between morphological awareness and vocabulary knowledge. 100 participants from rural public schools were recruited to participate in the study. Two instruments were implemented to gather data for the study. The Peabody Picture Vocabulary Test tested respondents' receptive vocabulary knowledge, whereas the Word Analogy Task was used to gauge their morphological awareness. The analysis revealed that while morphological awareness predicted receptive vocabulary knowledge, receptive vocabulary knowledge did not predict morphological awareness. However, although the study focused on monolingual English-speaking children in grades 2 and 3, the outcome adds to existing knowledge and understanding of the direction of the relationship between morphological awareness and vocabulary knowledge.

Sumarni (2020) studied the correlation between morphological awareness (measured by the Morphological Identification and Morphological Structure Test) and receptive vocabulary size (measured by Nation & Beglar's 2007 Vocabulary Size Test). The data for the study was gathered from 43 sixth-semester EFL students at Mataram Teacher Training and Education

Institute, IKIP Mataram. The correlation analysis based on Pearson's Product Moment co-efficient confirmed a significant relationship between morphological awareness and receptive vocabulary breadth. The results revealed that the participants performed better in the morphological identification than in the morphological structure test.

Again, whereas a significant correlation was found between receptive vocabulary breadth and the morphological structure test, the participants' receptive vocabulary breadth was significantly correlated with the morphological identification test. The study, therefore, suggested that future studies investigate contextual factors that affect the relationship to foster the design of English language syllabi that integrate morphological and vocabulary instruction into the ESL learning process more effectively. Add your voice

Morphological Awareness and Productive Vocabulary Knowledge

In Malaysia, Mokhtar (2010) evaluated the relationship between vocabulary size and productive vocabulary knowledge levels. The data for the study was collected using a Vocabulary Levels Test comprising Passive Vocabulary, Controlled Active Vocabulary, and Free Active Vocabulary subtests. The purpose was to test a hypothesised effect of vocabulary knowledge level on the frequency of receptive-productive vocabulary knowledge growth of 360 first and second-year students from a public university. The outcome showed that the majority failed to achieve the 5,000-word families passing level 'Passive' and 'Controlled Active Vocabulary Test', indicating minimal receptive and productive vocabulary knowledge even though they had experienced more than 12 years of formal exposure to

75

the English language. The findings showed a receptive vocabulary growth rate of 440-word families per year for semester one and a productive vocabulary average of 459-word families per year. Therefore, the researchers concluded that the sampled participants' receptive and productive vocabulary knowledge level was weak, with productive knowledge characterised as weaker.

Again in Malaysia, Nur *et al.* (2016) also measured the productive vocabulary knowledge in 136 diploma-level students at a public university The Vocabulary Levels Test (Nation, 1990) and Vocabulary-Size Test (Laufer & Nation, 1999) were administered to measure receptive and productive vocabulary. The tests were chosen based on the estimates made by Nation (1990) that advanced (tertiary-level ESL learners should have acquired a minimum productive English vocabulary of 2000 to 3000-word families for use in speaking/writing and a slightly more extensive receptive repertoire of 3000 to 5000-word families for practical academic discourse. The results from the Pearson Correlation analysis indicated a significant positive linear relation (r = 0.521) between vocabulary knowledge and general proficiency. Again, the regression analysis evidenced that more proficient students had larger vocabulary sizes. It is, therefore, not surprising that the researchers suggested that ESL educators conduct vocabulary enhancement activities to facilitate vocabulary learning at the tertiary level and improve their students' vocabulary size.

In Tunisia, Zrig (2020) examined the effectiveness of awareness of morphology on receptive and productive vocabulary knowledge. Participants of the experimental study were sixty (60) final year Arts students in Ain Drahem. Two instruments, morphological awareness and vocabulary size

76

tests, were purposefully adapted and administered to the control and experimental groups. A modified version of Chang *et al.*'s (2005) Morphological Awareness Test was adopted and utilised to assess the respondents' morphological awareness. A 2-part (receptive and productive) vocabulary size test was also used to measure vocabulary size. The receptive component comprised Nation's (2001) Vocabulary Size Test, while the productive measure was an adaptation of Laufer and Nation's (1999) Productive Vocabulary Levels Test.

Overall, the study findings confirmed that morphological awareness relates positively to receptive and productive vocabulary knowledge. Pretest and post-test scores on both variables within and between groups (experimental vs. control) revealed differences attributable to the 2-week morphology 'treatment' given to the experimental group. First, the experimental group performed better in the receptive and productive tasks, indicating a higher vocabulary size. Again, scores on the morphological awareness task were higher. Henriksen's (1999) receptive-productive continuum model explains this relationship to mean that high morphological awareness predicts high receptive and productive vocabulary knowledge.

Alghamdi (2021) equally measured the breadth of receptive and productive vocabulary among 68 male and female Saudi students studying abroad in the UK. The study used a questionnaire to elicit information on various factors related to improving vocabulary acquisition. There were two tests used to measure receptive and productive vocabulary breadth. Both tests measure the ten most frequently used words in English. After analysing data using SPSS, the approximate mean scores for receptive and productive

77

knowledge for both cohorts were 6557 and 6016, respectively. The finding revealed that the sample had sufficient vocabulary knowledge. Also, the findings show that studying abroad positively affects vocabulary knowledge.

Contrary to previous findings in investigations on gender differences at different ages and educational stages in the Saudia Arabian context (e.g., Aldheferi, 2013; Alqarni, 2017; Masrai, 2009), no statistically significant differences were found in the breadth of both productive and receptive vocabulary knowledge to indicate the female students as superior to male students. This finding harmonises with Asaad and Shabdin (2021) study which illustrated the correlation between morphological awareness and academic writing in L2 postgraduate students. Although Asaad and Shabidin did not consider the influence of gender, the results showed a significant correlation with the synthetic dimension contributing more strongly. Further, the results showed the benefit of morphology instruction to the postgraduate students' productive writing ability (text production and meaningful conveyance of their ideas). Add your voice

Studies on the Linguistic Competence of Preservice ESL Teachers in Ghana

It is a prevailing belief that students across levels of education in the Ghanaian ESL context face a variety of language and literacy problems attributable to linguistic deficiencies, including pronunciation, punctuation, syntax, structure, and vocabulary (Tabiri *et al.*, 2019). Evidence of this challenge is seen in the growing number of studies investigating the sources, determinants and effects of language deficiencies on the academic performance of Ghanaian students. In response, several works focused on

78

language policy, learning outcomes and learner self-efficacy, among others, have been conducted (e.g., Acquah *et al.*, 2013; Agor, 2014; Owu-Ewie, 2006).

One area that is constantly receiving research attention involves teacher competence. Given that the English language teacher's proficiency and expertise are crucial for the success of every ESL educational agenda, recent research attempts have, over the years, evaluated the language competence of preservice teachers of the English language in Ghana using the Chief Examiners' reports, pedagogy and learning environment assessments, entry grade assessments, tutor qualification evaluations and language programme structure reviews.

Poku (2008) employed the mixed methods approach to investigate the determinants of the language deficiencies of 500 English teacher trainees in Ghana. Primary data on the structure of the English language courses, English language entry requirements, language skills and competence of the teacher trainees was gathered using questionnaires, face-to-face interviews and observation. Secondary data was also gathered from the Chief Examiner's Report on performance in end-of-semester English language examinations. The study revealed that the language curriculum implemented at the College did not pay equal attention to the domains of linguistics.

Again, the findings are in harmony with Borg (2005) report that preservice English teachers perceive mastery of the linguistic intricacies and peculiarities that affect the cultivation of language awareness and the application of the knowledge about language lessons, especially in teaching English grammar as "torture'. Thus, the study recommended equalising

attention and resources to teaching grammar and vocabulary to help teacher trainees develop the language skills for effective English language teaching and learning.

A study by Anku & Klu (2017) also reviewed the structure of the English language teacher education syllabus implemented at a college of education in Ghana. The study supports arguments advanced in works (e..g., Attardo & Brown, 2005; Balocco *et al.*, 2005 etc) that support the inclusion of linguistics in language education programmes to firmly ground preservice English teachers in the linguistic theories imperative for effective language teaching in multilingual classrooms. The authors suggested that further studies explore initiatives that promote knowledge about language for both language teachers and preservice teachers in the country.

Asante-Nimako (2019)) purposively sampled 3 English tutors and 21 English teacher trainees from Wesley College of Education, Kumasi, Ghana, to participate in a qualitative study. The study was aimed at investigating the problems related to pronunciation teaching at the preservice training institution. Data gathered through interviews revealed that pronunciation was taught less than other aspects of the English language. The interview results indicated that the teaching of pronunciation was conspicuously missing from the course programme. Hence, the preservice teachers had less opportunity (within and outside the ESL classroom) to correct their mispronunciations even though they had less intelligible pronunciation. Thus, the study recommended that curriculum planners and language educators factor pronunciation into the curriculum to "build up" the pronunciation of student-teachers being trained to teach younger ones.

80

A related study by Kpeglo and Mortey (2021) also examined the learning techniques teacher trainees at a public College of Education in the Volta Region in Ghana use to learn English. Forty-eight (48) 1st and 2nd-year pre-service teachers offering Bachelor of Education (JHS) participated in the research. The study was premised on VanPatten and Williams' (2007) concept that students need instruction from their instructors to master appropriate techniques and strategies for language learning. Data for the study was gathered quantitatively using a questionnaire and analysed descriptively. The results showed that metacognitive and compensatory strategies were the most used of the strategies assessed.

In line with the underpinnings of Vygotsky's (1978; 2019) sociocultural theory, Kpeglo and Mortey proposed a shift from conventional lecture-based instruction to teaching strategies and techniques that direct language learning, processing and storage of linguistic information. This recommendation harmonises with Wu and Li's (2011) assertion that language teachers should, as subject facilitators, help their students to have a correct understanding of the importance of language awareness and persevere in the use of language learning strategies.

Again, the findings support Amua-sekyi *et al.* (2015) emphasised the need for explicit modelling to help build the confidence and self-efficacy of the teacher trainees in using comprehension strategies. The self-reported study explored the comprehension strategies employed by teacher trainees in Colleges of Education in Ghana. The stratified sampling technique was used to draw 400 students from three Colleges in Ghana. The study recommended

81

bridging the gap between awareness and the use of language learning strategies in teacher trainees.

In a very recent study, Annan (2022) assessed the proficiency levels of final-year preservice English teachers in a college of Education in Ghana to ascertain the strengths and weaknesses of their listening, speaking, reading and writing skills. The mixed methods research design was adopted to gather quantitative and qualitative data from the three hundred and seventy (370) participants. Results from the study revealed that apart from reading, the proficiency levels of the participants were low, with speaking recording the lowest. The study, thus, suggested that institutions mandated to train English teachers ensure quality education. However, out of the 48 Colleges of Education in Ghana, the study findings could apply only to the two investigated. The researcher, therefore, suggested that the study be replicated across colleges. Add your voice

Summary of Research Gaps

The extant literature reviewed in the study provides evidence that much research has been conducted on the significant contribution and practical value of morphological awareness to L2 learning and literacy development. However, in line with the foci of observed attempts to address the linguistic incompetence of ESL learners, the review revealed theoretical, conceptual, methodological, contextual and population gaps in the relationship between morphological awareness and ESL vocabulary knowledge development.

Theoretically, available literature revealed inconsistent research findings on the relationship between morphological awareness and vocabulary knowledge. Whereas some studies (Assad & Shabdin, 2021; McBride-Chang

et al., 2008; McCutchen & Stull, 2015; Shang, 2017; Varatharajoo, 2016) found a predictive relationship, others reported otherwise. Further, although vocabulary knowledge could be determined using qualitative and quantitative methodologies, most existing works relied on quantitative approaches underpinned by the positivist paradigm. Hence, several researchers have recommendations in the literature for contextualised investigations that employ qualitative and mixed methods approaches to provide a nuanced understanding of the phenomenon across ESL settings.

Conceptually, studies on language acquisition indicate four language skills. However, the review revealed that the concentration of research on the effect of the relationship between morphological awareness and vocabulary knowledge is on reading, a receptive skill that fundamentally thrives on receptive vocabulary knowledge (Metsala *et al.*, 2019; Qiao *et al.*, 2021; Tighe & Schatschneider, 2016). Besides, from the gender perspective, researchers who evaluated the sensitivity of learner variables confirmed by cognitive theory to influence linguistic abilities (such as sex, age, and study programme) on morphological awareness and vocabulary knowledge development obtained contradictory findings. Hence, there are several recommendations in the existing literature for further research.

In terms of context, the review revealed that much research has been conducted on the morphological awareness and vocabulary knowledge of ESL learners across L2 contexts. Notably, many of the works reviewed in the study were conducted in Asia (e.g., Hasani *et al.*, 2014; Khodadoust *et al.*, 2012; Lafiti *et al.*, 2012). In Ghana, however, available literature indicates that

limited research has been conducted on the phenomenon. A search revealed two studies: Stoffleman *et al.* (2020) and Quashigah (2021)

To address the identified gaps, the present study contributes valuable evidence to the theoretical, conceptual and empirical scholarship on the relationship between morphological awareness and vocabulary knowledge on the academic literacy development of ESL learners in tertiary settings, particularly preservice teachers of the English language. Theoretically, it adds to existing information on the refined role morphological awareness plays in advancing ESL language and literacy development. Conceptually, it adds empirical evidence to the literature on the influence of age, sex and level of study on the nexus between morphological awareness and vocabulary knowledge. Methodologically, it employed the embedded mixed methods approach to gather quantitative and qualitative data to provide a comprehensive assessment and understanding of the phenomenon.

Chapter Summary

The chapter presented a discussion of scholarship on the three major theories of language learning (Behaviourism, Cognitivism and Constructivism), the TPACK Theory and the CIPP Evaluation model to provide pedagogical implementations and indicators for effective ESL education. Next, the key concepts (morphological awareness and vocabulary knowledge) that provide ESL teachers with the content knowledge needed to foster vocabulary learning in the present study are reviewed. The logic in the conceptual connections is diagrammatically illustrated in a framework to guide the study. Finally, empirical works conducted across ESL settings on morphological knowledge's role in developing the receptive and productive

84

skills fundamental for L2 development and literacy achievement are reviewed. Conceptual, methodological, population, and contextual gaps identified in the experimental and correlational evidence on the relationship between morphological awareness, receptive vocabulary and productive vocabulary knowledge are highlighted. The next chapter deals with the research methods and methodology adopted for the study.

CHAPTER THREE

RESEARCH METHODS

Overview

Chapter three examines the relationship between morphological awareness and vocabulary knowledge of preservice teachers of the English language at the University of Cape Coast. The discussion highlights the research approach underlying the study and describes the research procedures used. This includes research philosophy, approach, design, study context, population, participants and data collection instruments. It also covers the validity and reliability of instruments, the data collection procedures, the ethical considerations, data processing and analysis processes. The chapter ends with a summary.

Research Philosophy

Creswell and Plank (2018) describe research philosophy as the philosophical framework that guides a researcher to understand and address research problems. Historically, three philosophical paradigms (Positivism, Interpretivism and Pragmatism) have regulated the conduct of social research with their distinct ontological, epistemological and methodological assumptions.

Positivism espouses an ontology that the world exists in an objective reality independent of humans (Creswell, 2018). This belief shapes the positivists' epistemology of a single reality. Hence, they use methodological approaches that objectively measure causal relationships (Hesse-Biber & Leavy, 2011; Pring, 2015). Interpretivism operates under the nominalist ontology that reality is socially constructed (Babbie, 2020). Hence, its

86

advocates espouse an anti-positivist epistemology that drives their use of non-statistical methodological procedures in conducting research. Pragmatism, the paradigm with which the present study is associated, is informed by ontological, epistemological and methodological assumptions that permit the 'blending' of quantitative and qualitative research approaches, concepts, techniques, methods, or language in a single study (Tashakkori & Teddlie, 2015).

For this study, I considered the pragmatist philosophy the most appropriate. The justification for this choice was based on the fact that L2 learning occurs in a social learning context that embraces the diverse objective and subjective ways of 'knowing'. Accordingly, there is no single way of investigating its different layers of objective and subjective realities. Ontologically, pragmatism espouses the belief that all social research represents an attempt to understand human beings and the world around them. Pragmatism, therefore, embraces a dialectic approach tied to the existence of multiple realities corresponding to multiple ways of 'knowing' (Tashakkori & Teddlie, 2010). This plurality guided my pragmatic study of the objective (quantitative) and subjective (qualitative) realities informing the morphological and vocabulary knowledge of Preservice teachers of the English language at UCC.

Epistemologically, pragmatism sidesteps the contentions surrounding the nature of truth and reality underlying the positivist epistemology of empiricism and the anti-positivist epistemology of interpretivism (Hesse-Biber & Leavy, 2011). Instead, it argues that knowledge exists along a continuum of understanding and awareness. Hence, pragmatists ascribe to the notion that

research questions should drive the application of a philosophical paradigm in a study. In harmony with this belief, I focused on the nature of the research problem under investigation to formulate four research questions that could help to solve the problem appropriately and efficiently (refer to p. 12).

Further, pragmatists apply methods that 'work best' in line with the methodological standards and ethical considerations guiding the conduct of both quantitative research (e.g., tests) and qualitative research (e.g., document reviews) to collect multiple strands of data, as implemented in the present study (Johnson & Onwuegbuzie, 2007; Kaushik & Walsh, 2019). They then apply a combination of inductive analytic processes (e.g., document analysis) and deductive techniques (e.g., hypothesis testing) to analyse the data, as aptly reflected in the present study (Creswell, 2014; Morgan, 2014).   These applications were intended to give rigour to the study. They also enabled the researcher to drive a more comprehensive knowledge and understanding of the problem, resulting in positive consequences for those who will benefit from the study.

Research Approach

Considering the nature of the problem under investigation, the mixed method approach was used for the study. The core characteristic of this approach is embedded in its pragmatist orientation that supports the 'mixing' of quantitative and qualitative approaches in a single study. In cognisance of this, the objective behind mixing the approaches in the present study centred on its offer of a practical alternative to gather data on the morphological awareness and vocabulary knowledge of preservice teachers of the English

language at UCC in a way that mitigates the weaknesses in quantitative and qualitative approach to research.

For one, it enabled me to gather both quantitative data on the morphological awareness and vocabulary knowledge levels of preservice teachers of the English language at UCC (using the morphological Awareness Test, Vocabulary Size Test and a TOEFL writing test) and qualitative data from the language curriculum implemented to train these preservice teachers. Again, the mixed method approach offered a legitimate way of analysing, interpreting and integrating quantitative and qualitative findings to provide a more comprehensive understanding of complex human phenomena under investigation (Tashakkori & Teddlie, 2015).

Careful consideration of the logic behind the issues of data priority, implementation, and integration in mixed methods research guided the selection of the appropriate research design for the study (Creswell & Plank, 2018). Priority relates to which of the two research approaches (qualitative or quantitative) will be prioritised and given more weight in the study. Implementation is characterised by deciding whether the qualitative and quantitative datasets will be collected and analysed chronologically (in sequence) or in a concurrent (parallel) manner. Integration concerns the phase in the research process where the 'mixing' of derived qualitative and quantitative data (through merging, embedding or connecting) occurs to strengthen the rigour and enrich the study findings.

Research Design

The research design adopted for the study was the embedded mixed methods. The design, situated in the pragmatist paradigm, is widely known

and has been extensively used in mixed-method studies across disciplines for triangulation purposes.

The rationale for using this design for the study was to enable me to simultaneously collect two sets of complementary data on the morphological awareness and vocabulary knowledge of preservice teachers of the English language at UCC. Using quantitative and qualitative procedures to gather data helped to enhance rigour. The datasets were analysed separately. The results were, however, triangulated to strengthen the study's findings and conclusions with richer information that could have been missed if a single method had been used (Bryman, 2006; Creswell & Cresswell, 2018).

On the one hand, the positivist orientation underpinning quantitative research allowed me to measure respondents' level of knowledge without any manipulations or external influences. It also allowed the determination of a hypothesised linear trend as reflected in the correlation coefficient of the relationship between morphological awareness and vocabulary knowledge (Asamoah, 2014; Creswell, 2014; Leedy & Ormrod, 2015). Further, it afforded the study scientific insight into the relationship between background characteristics (sex, age and level of study), morphological awareness and vocabulary knowledge of preservice teachers of the English language at UCC.

On the other hand, the interpretivist orientation underlying qualitative research allowed the collection and analysis of qualitative data that provided in-depth knowledge regarding the comprehensiveness (or otherwise) of the pedagogical content knowledge provision made in the curriculum to foster the vocabulary knowledge development of Preservice teachers of the English language at UCC. As explained by Creswell and Creswell (2018), the intent of

using embedded designs is to triangulate methods, data or findings. Within the context of the present study, this "triangulation" purpose allowed me to compare the quantitative and qualitative findings for convergence and corroboration.

As is typical of the embedded design, this comparison helped to increase the study findings' validity and credibility. Again, it enriched the study with a complete understanding of the problem and insightful observations to influence policy and pedagogical practice at the University of Cape Coast (Creswell, 2012; Tashakkori & Teddlie, 2010). Despite its flexibility, implementing this design presented several challenges. First, much effort was required to collect and analyse multiple data sets concurrently. This challenge was mitigated with the help of a research assistant. The research assistant was a national service person who had been oriented and trained to assist in conducting examinations and marking examination scripts at UCC with minimal supervision. I assigned the research assistant the responsibility of distributing the test questions, supervising the tests and assisting in its marking. l then cleaned the data for inconsistencies and entered the data into the SPSS software for analysis.

Second, blending the distinct logic of qualitative and quantitative research and ensuring that equal weight is given to each data type added significant complexity to the study. However, this challenge was addressed with the help of two colleagues who are adept at applying the philosophical orientations of pragmatism in gathering and analysing quantitative-qualitative streams of data. For the content analysis, the colleagues cross-checked the

codes and themes I generated from analysing the B. Ed Arts (English) curriculum to ensure an unbiased and transparent review of its provisions.

Context

The University of Cape Coast is a public university located in Cape Coast within the Central Region of Ghana. Its vision is to be a university with worldwide acclaim for innovative teaching, research, outreach and professional development. Accordingly, its mission is to provide quality education through comprehensive, liberal and professional programmes that challenge learners to be creative, innovative and responsible citizens.

UCC was established by ordinance in October 1962 as a University College to train qualified and skilled teachers to meet the workforce needs of the Ministry of Education and the country's accelerated education programme. From an initial student population of 155, the University now has an enrollment of about 78,000 undergraduate and postgraduate students. Again, the two pioneer departments (Arts and Science) have also been upgraded and expanded into five Colleges: (1) Agriculture and Natural Sciences, (2) Social Sciences, (3) Humanities and Legal Studies, (4) Education Studies, and (5) Health and Allied Sciences. These colleges offer diversified education and research in Health Care, Legal, Agriculture and Business Administration to meet the human resource needs of other ministries and industries, besides the Ministry of Education.

In terms of education, UCC conducts its continuous and initial teacher education through four faculties in the College of Education Studies. These are the Faculties of Humanities and Social Sciences Education, Science and Technology, Educational Foundations, and Educational Development and

92

programme at the University of Cape Coast for the 2021/2022 academic year since they had not taken all the compulsory content courses prescribed in the four-year English teacher education programme at the time of the study. The distribution of male and female preservice teachers from the different age groups and levels of study who comprised the study population is presented in Table 1.

Table 1: Distribution of Study Population

Level of study	Males	Females	Total
200	15	47	62
300	27	70	97
400	21	66	87
Total	63	183	246

Source: Department of Arts Education (2021-2022), University of Cape Coast

Participants

The census approach was employed to include all Level 200, 300, and 400 Preservice teachers of the English language at the Department of Arts Education, UCC, to participate in the quantitative data collection. The census approach was deemed appropriate because engaging all population elements enables researchers to collect accurate and reliable data without sampling errors (Kothari, 2004). Ogah (2013) elaborates that the census method provides an accurate measure of data based on which statistical inferences and conclusions from data could be made. Since participation in the study was voluntary, valid data gathered from the 152 participants in Levels 200, 300 and 400 who took part in all three tests were used in the study.

Next, the language curriculum implemented to train preservice teachers enrolled in the B. Ed Arts (English) degree programme at the University of Cape Coast (UCC) was purposively sampled and systematically

analysed to provide data on its provisions for vocabulary learning. According to Yin (2014), documents are essential qualitative data sources for 'triangulation schemes' implemented in mixed methods research. The rationale for the purposive sampling of the language curriculum was to enable me to provide invaluable qualitative data on the morphological awareness and vocabulary knowledge of preservice teachers of the English language at UCC. In confluence with the quantitative data gathered from the diagnostic and proficiency tests, both sets of data function in corroboration to breed credible findings to answer the research questions and hypotheses formulated to guide the study (Bowen, 2009).

Data Collection Instruments

The instruments used to gather data for the study were tests (comprising a combination of diagnostic and proficiency tests) and a document analysis guide. In line with the embedded mixed methods research design implemented in the study, the two instruments enabled me to gather complementary primary (quantitative) and secondary (qualitative) data to answer the research questions and hypotheses guiding the study.

Quantitative Instruments

Quantitative data for the study was collected using three standardised tests. The first test was Farsi's (2008) Morphological Awareness Test. The second test was Nation and Beglar's (2007) Vocabulary Size Test. The third was Gear and Gear's (2006) TOEFL Writing Test. In the field of language learning, the rationale for using tests is to enable the evaluation of knowledge level or measurement of language ability, especially in writing (Arikunto, 2010). The use of tests in this study was considered appropriate since it

95

allowed me to quantitatively assess the morphological awareness and vocabulary knowledge levels of the study participants.

Morphological Awareness Test

The Morphological Awareness Test implemented in the study was initially developed by McBride-Chang *et al.* (2005) to investigate the strength of association among phonological awareness, morphological awareness and vocabulary in 400 second-grade ESL learners from Hong Kong, Beijing, Korea and the United States. The test was designed to explore the importance of early morphological structure awareness for reading development based on striking features of the orthographic compositions of the languages. The original test presented the children with oral pictures with a word or phrase containing the target morpheme and tasked the children to select the most appropriate picture that matched the word/phrase. The test results indicated that phonological and morphological structure awareness were associated with one another and vocabulary knowledge across the four languages.

After the successful implementation of the original test, the instrument has been adapted by several ESL researchers to suit their research objectives and interests. The researchers argued that all ESL learners (beginners to advanced learners) apply morphological structure knowledge and awareness to access and create new word forms. For instance, Farsi (2008) modified the original test and implemented his adapted version to assess the relationship between morphological awareness, vocabulary size and word complexity in 54 first-semester Arabic students attending a two-semester intensive EFL program at Ibri College of Applied Sciences, Oman.

96

Unlike the original instrument, which tasked respondents to match given words or phrases containing target morphemes with appropriate pictures, the morpheme identification aspect of Farsi's version required test-takers to break 14 de-contextualised English words into their morphemic components and give the meaning of each part. According to Farsi, de-contextualising the target words helped to "control for the possible effect of context in guessing the meaning of words" (p. 40). Figure 8 presents a sample of the Morpheme Identification (analysis) sub-test in English.

Instruction: Please segment the following words into meaningful chunks and state the meanings of the chunks.

e.g., Childhoods: Child: little human being, -hood: the state of being, -s: to indicate plural

1. Washing machine:

2. Freedom:

Figure 8: A Sample from the Morpheme Identification Test
Source: Farsi (2008)

The second part of Farsi's Morphological Awareness Test (Morphological Structure) was meant to test respondents' morphological productivity: their awareness of lexical structure, their knowledge of the relationship between words in a sentence and their ability to create new meanings. Each sentence frame contained the usage of a target morpheme. Test takers were expected to synthesise the inflected words in the sentence frames to create descriptive words to complete the following sentence. A sample of the Morphological Structure (synthesis) Test. Figure 9 presents

97

Instruction: Using only one word, come up with names of objects or actions that are described below.

e.g., A ballpoint pen that is blue in colour. We call that **blue ballpoint pen**.

1. Ahmed lived longer than Ali. Ahmed **outlived** Ali.

   James performed better than Juliet in the reading test. James ………….. Juliet.

2. There is a kind of train that runs **under the ground**. We call that an **underground train**.

   There is another kind of train that **runs over the ground**. What do we call that?

Figure 9: A Sample from the Morphological Structure Test
Source: Farsi (2008)

For this study, Farsi's version of the test was considered appropriate because the instrument has been modified in line with the conceptual intentions of the present study. Hence, its implementation adequately assessed the study's independent variable morphological awareness (with its morpheme identification and morphological structure sub-components) clearly and concisely. Another rationale for using the instrument was that the test items diverged from the original items to suit the age and level of the respondents who participated in the study. Thus, the information the instrument captured accurately reflected the conceptual relations between the morphological awareness and background characteristics (age, sex and levels of study) of its respondents.

Vocabulary Size Test

The Vocabulary Size Test created by Nation and Beglar (2007) to measure the vocabulary size of non-native speakers of English was used to assess the receptive vocabulary size of the sampled respondents. The test, validated by Beglar (2010), provides a reliable measure of ESL learners'

receptive vocabulary size in line with the 14,000 word-family frequency bands extracted from the British National Corpus (BNC). Version A implemented in this study comprised ten items sampled from the representative 100-word families that provide coverage for the 3,000, 5,000 and 10,000 word-frequency levels and words extracted from Coxhead's (2000) Academic Word List. The 3,000 comprised high-frequency words. These words provide the bulk of lexical resources needed for basic oral communication in English. the fifth 1,000 contained words that sit at the boundary between high-frequency and low-frequency. These words are needed to comprehend most of the content in texts or infer the contextual meaning of unfamiliar words; the tenth 1,000 comprised the low-frequency words required to cope with ESL university education; the academic word level was made up of words from the 570 specialised words that students need to excel in their academic disciplines.

The test required test-takers to choose from options lettered A-D, the letter with the closest meaning to keywords highlighted in each question. I selected the Vocabulary Size Test over the Vocabulary Levels Test because it measures and profiles learners' vocabulary from distinct frequency levels rather than providing a single-figure estimate representative of a student's overall vocabulary size. Besides, it is more demanding than the Vocabulary Levels Test, as the correct answers and distractors provided share elements of meaning. Hence, to successfully choose the correct answer from the four options, the test-taker must have a well-developed knowledge of word meaning (Elgort, 2011). A sample of items from the 3,000, 5,000 and 10, 000 word-frequency levels is presented in Figure 10.

Instruction:

Third 1,000

1. Soldier: He is a soldier

(a) a person in a business (b) a student (c) a person who uses metal

(d) a person in the army

Fifth 1,000

1. DEFICIT: The company had a large deficit.

(a) spent more money than it earned (b) went down in value

(c) had a plan for spending that used a lot of money   (d) had a lot of money in the bank

Tenth 1,000

1. AWE: They looked at the mountain with awe.

(a) worry (b) interest (c) wonder (d) respect

Academic Word List

1. AWE: They looked at the mountain with awe.

(a) worry (b) interest (c) wonder (d) respect

Figure 10: Samples from the Vocabulary Size Test
Source: Nation and Beglar (2007)

Writing Proficiency Test

A 300-word essay-writing task from Gear and Gear's (2006) TOEFL iBT was selected for the participants to write on: Do you agree or disagree with the statement, "*People today spend too much time on personal enjoyment and not enough time on more serious duties and obligations*"? The TOEFL Writing Test is a widely accepted English for Academic Purposes (EAP) test used to measure the reading, listening, speaking and writing skills of EFL/ESL learners in higher educational establishments. The writing tasks measure the ability of advanced learners to write in English in an academic setting with ideas presented in a clear, well-organised way.

According to Laufer and Nation (1995), for a free active vocabulary test to be valid and reliable, the essay should be beyond 200 words. Hence, the instrument, which required test-takers to give specific reasons and examples to support their answers in an essay of 300-400 words, was deemed reliable. In line with the objectives of this study, the writing test provided the context and

communicative purpose that enabled me to measure the productive vocabulary of the respondents objectively. It also presented the preservice teachers with an opportunity for self-evaluation and reflection. However, the use of tests in this study was not without drawbacks.

The major disadvantage was that it neither provided insight into nor gave reasons to explain the sampled respondents' mind processes, abilities or performances. I compensated for this weakness with an evaluation of the language curriculum for its provision for vocabulary learning and development. The rationale was to gain an in-depth understanding, through a parallel qualitative inquiry of the curriculum to explain respondents' performance.

Qualitative Instrument

A content analysis guide was developed following protocol from Stufflebeam's (2002) CIPP model checklist to gather qualitative data for the study. The protocol's purpose was to enable the efficient collection and analysis of complementary information from the B. Ed Arts (English) curriculum on the provision made therein to foster morphological awareness and vocabulary knowledge of preservice teachers of the English language at UCC. Every curriculum is designed to provide information on its general aims and specific objectives, the prescribed content and pedagogy course to be taught to students and how these are to be taught (Button, 2021). Accordingly, the content analysis guide was developed to access information reflecting the model's 4-part dimensions: Context, Input, Process and Product.

Validity and Reliability of Data Collection Instruments

Validity and reliability are measures and indicators of quality in research that ensure that instruments implemented in a study gather credible data (Merom & John, 2018). As indicated by Burns and Grove (2011), validity refers to the extent to which the instruments (tests and content analysis guide) implemented to collect data in the study measured the concepts and variables they were intended to measure. On the other hand, reliability refers to the dependability and stability of the data measured using the same instrument over time (Johnson & Christensen, 2019). To ensure their validity and reliability, the quantitative and qualitative instruments used in the study were subjected to validity and reliability tests before their final implementation.

Quantitative Instruments

My supervisors thoroughly vetted the Morphological Awareness Test and the Vocabulary Size Test adopted for the study to ascertain their face and content validity. Each instrument was scrutinised, in line with the objectives of the current study, to ensure how well they measured the items they were intended to measure and how appropriate the interpretations and inferences made based on the test scores would be (Saunders *et al.*, 2019). After the instruments were vetted and approved by my supervisors, further validation was carried out to test the reliability of the instruments to measure through a pilot study.

Douglas (2014) emphasised that adopted language testing instruments must be submitted for testing to measure their internal consistency and reliability. Hence, the adopted instruments were pilot-tested on 40 randomly selected Preservice teachers of the English language at the UCC. The results

from the pilot test for the Morphological Awareness Test and the Vocabulary Size Test indicated a Cronbach alpha coefficient reliability index of 0.86 and 0.80, respectively. Pallant (2013) postulates that for a research instrument to be reliable, it should record a Cronbach's Alpha value of 0.60 - 0.70. The instruments were deemed highly reliable in line with this threshold. A similar procedure was followed to establish the 'trustworthiness' of the qualitative instrument.

Qualitative Instrument

Lincoln and Guba (1985) assert that qualitative bias research needs to meet four (4) criteria of authenticity and trustworthiness: credibility, confirmability, transferability and dependability.

Credibility or 'trustworthiness' refers to the extent to which the authenticity and credibility of data collected are tested using strategies such as member checking, peer debriefing and triangulation to determine the reliability and validity of the findings of a study (Creswell, 2014). In this study, I relied on the triangulation of data gathered using quantitative and qualitative instruments, methods and findings. The findings enabled me to uncover convergences that ensured the "trustworthiness" of the conclusions drawn (Denzin & Lincoln, 2018).

The dependability criterion emphasises the extent to which the outcome of a study is 'true' and consistent and could be repeated when replicated under a similar context (Guba & Lincoln, 2005). To ensure dependability, I provided detailed documentation that traced the methodological steps taken to develop the final propositions made in the research report. The purpose was to allow fellow researchers to 'audit' the

level of agreement between the data collection procedures, analysis techniques and study results.

Confirmability is determined by the degree to which the outcome of a study is shaped by participants' perspectives and not the inquirer's biases (Guba, 1981). To mitigate bias and strengthen confirmability documented the entire curriculum evaluation process (data collection, analysis and interpretation) and engaged two faculty members to audit the trail of the evidence gathered. This way, the study findings were corroborated or confirmed by others in the research field.

Transferability emphasises the degree to which the outcome of a study can be transferred or applied to future settings. I provided descriptions of the phenomenon, research context, participants, and assumptions underlying the study to enhance the replication or transferability of findings to similar contexts to aid informed decision-making.

Data Collection Procedures

Datasets for the study were collected between 20th November and 20th December 2022. The procedure was organised in three stages: preparatory, fieldwork and post-field activities.

The first stage required that I engage in several preparatory activities. This involved seeking consent from my supervisor, seeking permission from the Department of Arts Education and obtaining approval from the Institutional Review Board (IRB, UCC) to enable me to undertake the fieldwork for the study. Next, I applied for an introductory letter. Upon satisfying all requirements, approval was given by the IRB for the data collection to commence.

104

Quantitative Data Collection

Pilot Testing

The quantitative instruments were pilot-tested on 40 randomly selected preservice teachers of the English language at UCC, based on the guideline provided by Baker (1994), to determine the primary outcome of the tests before their implementation in the substantive study. Baker indicated that 10-20% of the actual study population could be selected for a pilot study. The main reason for conducting the pilot test was to enable me to ascertain the need to revise the instruments to increase their reliability, practicality or validity before their implementation in the final study. The results did not indicate a need to revise any of the tests. The respondents were encouraged to answer the questions at their own pace to reduce anxiety, to eliminate the possibility of guessing and to gauge how long they would take to answer the tests (Fraenkel *et al.*, 2019). It took approximately 20 minutes for the respondents to complete each test. Following the pilot test results, preparations were made to begin the fieldwork.

Field Work

Quantitative phase

The fieldwork for the quantitative phase began in the week of 24th - 30th November 2022, with me giving consent forms to the study participants to indicate their willingness to participate. This was followed by the administration of the Morphological Awareness Test, the Vocabulary Size Test and the Writing Proficiency Tests a week later. The three tests were administered separately at the New Lecture Theater (NLT) over three days. The aim was to minimise fatigue and carry-over effects on the part of the

105

respondents. I conducted each test personally with the help of a research assistant from the Department of Arts Education, UCC.

Before each session, I introduced myself to the respondents, explained the purpose of the study and gave clear instructions on how to respond to the tests. I also reminded the respondents not to write their names or index numbers on any part of the question paper or answer booklet. I assigned each respondent a numerical code (identifier) that was to facilitate the data cleaning (sorting, identifying and mapping) and analysis processes. At the end of the twenty (20) minutes duration allotted to each test, I collected the scripts and dismissed the respondents.

Field Challenges

Given that every empirical research is likely to be faced with one field challenge or another, the present study was no exception. One challenge was that the respondents were initially suspicious of the tests implemented in the study. They presumed that their non-performance in any of the tests could affect their GPAs. For that matter, they were reluctant to participate in the study. To address this challenge, I explained the research objective to the respondents and assured them that their participation was purely for academic purposes. I also assured them of their anonymity and emphasised that no pressure, fear or intimidation would be exerted to elicit compliance.

To add, I admitted that the 300-word limit prompt could restrict respondents to how much they could write thereby imposing feelings of pressure and anxiety that could affect the quality, variation and sophistication of respondents' lexicon. I, therefore, assured the respondents of a supportive

106

writing environment which would permit them to ask for further clarifications on task requirements.

Due to these assurances, the major challenge I encountered during the quantitative data collection concerned voluntary participation. Upon realising that the test scores would neither contribute to nor affect their final CGPAs, many of the preservice teachers did not show much enthusiasm about participating in the study. Some of them outrightly declined the invitation to participate in the study. At the same time, others who volunteered to participate later exercised their right to withdraw their participation. As a result, quite a number of the volunteers did not turn up to write the tests while some also sat for only one or two of the three tests.

This could be because the preservice teachers did not consider an assessment of their morphological awareness and vocabulary knowledge levels as crucial for their academic success and career preparedness. The low turnout, however, did not affect the reliability and validity of the study. The 152 respondents (out of 180) who turned up to write all three tests (the Morphological Awareness Test, the Vocabulary Size Test and the TOEFL Writing Tests) gave a response rate of approximately 85 per cent, exceeding Ankomah *et al.* (2015) recommended threshold of between 5 and 20 per cent of the total population.

Qualitative Data Collection

The qualitative data was gathered concurrently and analysed using content analysis to address Research Objective 4. The Objective required an analysis of the contents of the English language curriculum designed for the B.

107

Ed (Arts, English) degree programme at UCC to ascertain its provision for vocabulary instruction.

Ethical Consideration

Ethics in research refers to the rules governing the conduct of the research study (Denzin & Lincoln, 2011). All ethical procedures instituted by the University of Cape Coast were strictly followed. Upon obtaining approval from the Institutional Review Board (UCC), consent forms outlining the rights and obligations of participants were sent to respondents to seek their consent and voluntary participation. At each stage of the data collection process, the purpose and nature of the study were explained to respondents.

The respondents were also assured of utmost confidentiality and anonymity. Accordingly, the respondents were reminded not to write their names or index numbers on any part of the answer booklet. In addition, the respondents were assured that the study was solely intended for research purposes. Hence, they were allowed to ask questions for clarification. Again, they were reminded that participation in the study was voluntary. Thus, they were free to withdraw from the study at any time.

Data Processing and Analysis

Quantitative Data

Datasets from the morphological awareness, vocabulary size and proficiency tests were sorted, filtered and reviewed for completeness. Only scripts with corresponding serial numbers (identifiers) were processed for analysis. The diagnostic test scores were entered into the Statistical Product for Service Solution (SPSS version 23) for processing. As the analysis was quantitative, parametric test statistic assumptions of normality and

homogeneity were tested to determine the shape of the distribution and the statistical tools to be used to analyse the data and test the research hypotheses (e.g., frequencies and percentages; arithmetic means and standard deviations; chi-square/cross-tabulations; independent sample t-tests; and one-way ANOVA).

The assumption of normality states that the data on the variable of interest must be normally distributed. Hence, meeting this assumption meant that morphological awareness and receptive vocabulary size test scores were normally distributed. Ghasemi and Zahediasl (2012) posit that data is normally distributed when the magnitude of the constructs' skewness is less than 1.96 (p>0.05) or when the mean and the median are equal. As indicated in Figures 11 and 12, the test for normality results indicated that the data from both tests were normally distributed.
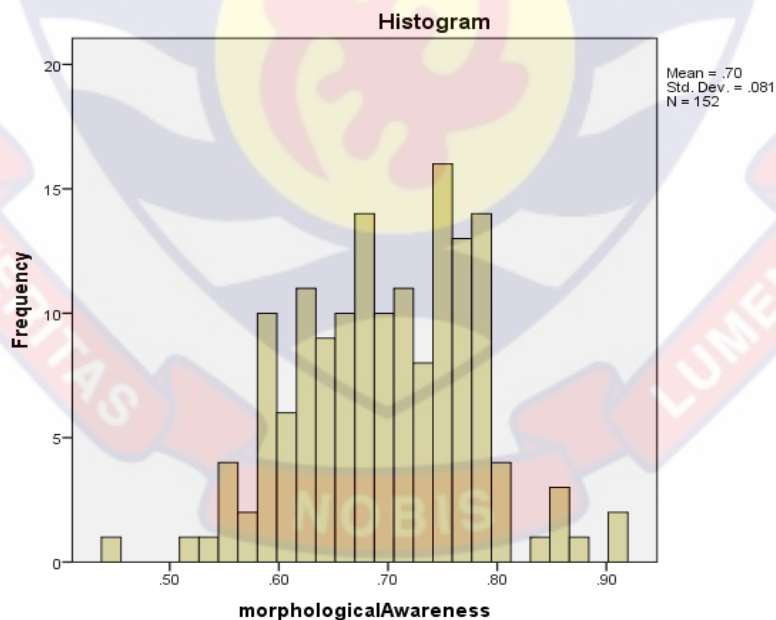
Figure 11: Normality Test for Morphological Awareness Scores
Source: Field Data, 2023

109
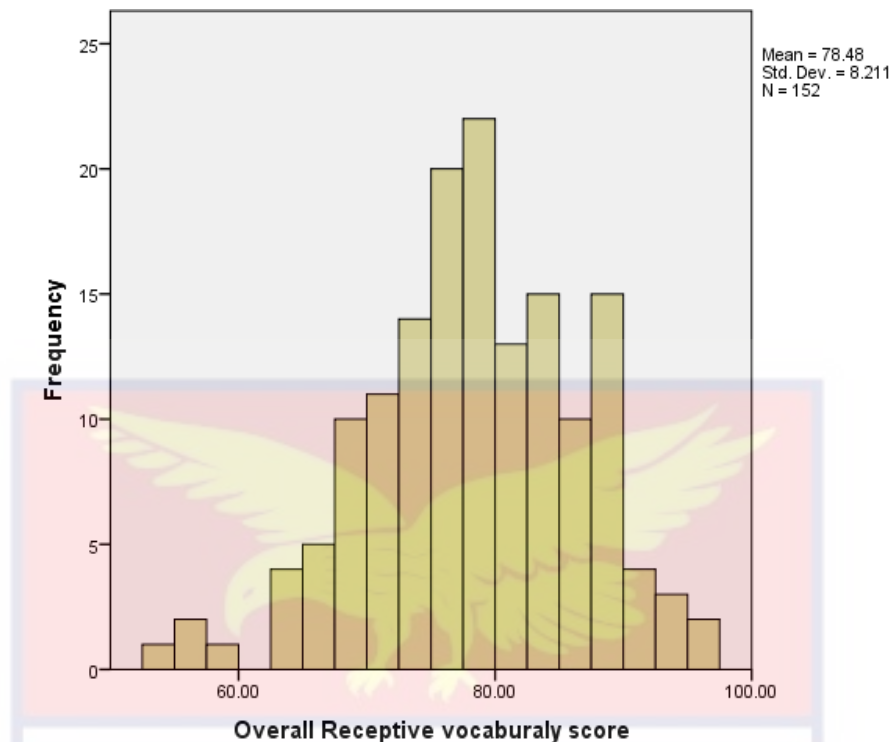
Figure 12: Normality Test for Written Receptive Vocabulary Knowledge Size Scores
Source: Field Data, 2023

Before the main analysis, a preliminary analysis was conducted on the data gathered on respondents' background characteristics. The variables of interest (sex, age and level of study) were all categorical. Therefore, only frequencies and percentages were generated to provide information on the characteristics of the respondents. However, inferential statistics were also generated to report some results of the tests for the main study (Creswell, 2012).

Research Objective 1 required the determination of respondents' morphological awareness, receptive vocabulary and productive vocabulary knowledge levels. Hence, an average score of respondents' performance in the morphological awareness and receptive vocabulary knowledge test was required. This called for the use of descriptive statistics. According to Creswell, descriptive statistics describe, summarise and compare data

110

distribution on a given population using mean, median, standard deviation, skewness, kurtosis, minimum, and maximum scores. Since statistically, the mean is a composite score that represents a distribution of scores measured on the interval scale, it was considered to be the best tool to apply.

In statistics, whenever the mean is reported as the best measure of central tendency, the standard deviation is considered the best measure of dispersion that helps to understand the degree to which test scores are clustered or dispersed in form. Accordingly, means and standard deviations of aggregated scores were calculated to ascertain, compare and provide average summaries of respondents' performance in each test. Usually, when test scores are the same across respondents, the standard deviation is expected to be low, indicating that the score distribution is homogenous (at the same level). However, standard deviations are high (usually above one) when the scores in a distribution vary significantly.

Following the descriptive analysis of the morphological awareness test, Nur Rahim, Tambunan, and Rohmana's (2021) criteria for ascertaining morphological awareness level were used to categorise respondents into *excellent, good, medium, poor* and *very poor*. The analysis of the overall scores was followed by disaggregation of results across sex, age and levels of study. The details provided a comprehensive picture that helped me to make generalisations about the respondents' morphological awareness, receptive vocabulary knowledge, and productive vocabulary knowledge levels. A similar analysis was made on the vocabulary size test results, and Schmitt *et al.*'s (2001) threshold score of 80 per cent or more was applied to determine the adequacy or otherwise of respondents' receptive vocabulary knowledge

111

level. The results revealed that the vocabulary knowledge level of the preservice teachers was below the recommended percentage.

The self-composed essays written by the respondents were analysed quantitatively with the help of two software: Vocabprofile and TestInspector. Since the essays were handwritten, they were first digitised by typing into Microsoft Word to enable entry into the "VocabProfile' software for analysis. The software analysed the compositions by profiling the words to indicate the frequency with which the participants used words in each of these categories of academic vocabulary ((Morris & Cobb, 2004):

1. K1 Words (words of high frequency)

2. K2 Words (words list of low frequency)

3. Academic Word List (AWL)

4. Off-list Words (words that do not belong to any of the three levels, such as acronyms and specialised registers).

Before the analysis, the digitised essays were screened for grammatical inconsistencies. All misspelt words and punctuation errors were corrected during the screening. This was necessary because aside from capitalised words that begin sentences, the software will not label words such as proper nouns (e.g., Kofi, Sonia, Allen) that begin with capital letters regardless of where they appear as productive vocabulary (Laufer, 1998). Means and standard deviations were then used to summarise the results, and Coxhead's (2000) 70-10-10-10 criteria were applied to determine their productive academic vocabulary knowledge level.

Data gathered for Research Objectives Two and Three required the computation of inferential statistics to the four (4) research hypotheses

formulated to guide the study. Two parametric tools, Pearson Product Moment Correlation and chi-square, were used. Like every parametric tool, these two can only be applied to data after several assumptions have been met. Accordingly, after the assumptions of normality and homogeneity had been met, I tested the hypotheses at the 0.05 alpha level. Based on the results, I concluded on the morphological awareness and vocabulary knowledge of the population of interest (preservice teachers of the English language at UCC).

Hypothesis 1 presumed a linear relationship between morphological awareness, receptive vocabulary knowledge and productive vocabulary knowledge. A multi-linear correlation was, therefore, run to describe the relationship. Pearson Product Moment Correlation was used to determine the nature of the relationship. A correlation coefficient (r) ranging from -1 to 1 was used to indicate the strength of the relationship between the variables being correlated: if r = 0, no relationship exists; if r ≤ 0, the relationship is inversely proportional; if r ≥ 0, the relationship is directly proportional.

Hypotheses 2, 3 and 4 examined the *relationship between the respondents' background characteristics on one hand and morphological awareness, receptive vocabulary knowledge and productive vocabulary knowledge*. Chi-square, a common inferential statistic used to test for relationship between variables measured on a ratio scale, was considered appropriate. Crammer's V and Phi-coefficient were then applied (where necessary) to determine the magnitude of observed relationships.

Qualitative Data

Research Objective Four (4) required that I examine the English language curriculum for the B. Ed (Arts) programme to ascertain its provision

113

for vocabulary teaching and learning. An observation protocol was developed in line with Stufflebeam's (2007) 4-part CIPP model to gather data on the curriculum's rationale, structure and content to achieve this objective. The purpose is to identify potential programme design, input and/or implementation biases that could explain the measured outcome of the preservice teachers in the Morphological Awareness Test, the Vocabulary Size Test and the TOEFL Test. In addition to offering possible explanatory information, the information was also to inform decision-making and continuous improvement. Part one of the protocol highlights environmental factors that define and inform curricular goals. The major objective of this context evaluation was to emphasise stakeholder challenges and constraints that the curriculum seeks to meet. The second part assessed the quality and relevance of the materials and resources implemented in the programme. In addition to quality, the input evaluaton assessed resource adequacy (or otherwise) and resource alignment to curricular goal attainment. The third dimension of the model, product evaluation, enabled the the determination assessment of the teaching methods and strategies implemented to ensure the smoot execution of the programme. To foster the successful execution of the programe the focus of this process evaluation also includes identifying implementation issues. A summary of the techniques used to analyse the data is presented in Table 2.

Table 2: Summary of Data Analysis Techniques

S/N	Research Objective	Data Collection Instrument	Analytical Technique
1.	Ascertain the levels of morphological awareness, receptive vocabulary knowledge and productive vocabulary knowledge of preservice teachers of the English language at the University of Cape Coast.	MAT VST TOEFL iBT Writing test	Frequencies, percentages, means, SD
2.	Examine the relationships among morphological awareness, receptive vocabulary size and productive vocabulary of preservice teachers of the English language at the University of Cape Coast	MAT VST TOEFL iBT Writing test	Pearson Product Moment Correlation, T-Test, One-way ANOVA
3.	Examine the relationship between background characteristics (sex, age and levels of study) and levels of morphological awareness, receptive vocabulary knowledge and productive vocabulary knowledge of preservice teachers of the English language at the University of Cape Coast.	MAT VST TOEFL iBT Writing test	Pearson's Chi-square test
4.	Analyse the English language curriculum for the B. Ed (Arts) programme to ascertain its provision for vocabulary teaching and learning.	English language syllabus for B. Ed (Arts, English) degree programme	Document analysis

Source: Fieldwork (2022)

Chapter Summary

Chapter Three discussed the research methodology used for this study. The chapter demonstrated a clear understanding of pragmatism to show why I considered the embedded mixed methods design appropriate for the study. Further, the strategies, the techniques and the instruments employed to gather and analyse data were discussed to justify the methodological choices. The approaches, procedures, tools and indexes used to collect data and interpret results were also described. Finally, information on the considerations taken to ensure the validity and the reliability of the quantitative data collected as well as the trustworthiness of the qualitative data.

CHAPTER FOUR
RESULTS AND DISCUSSION

Overview

The chapter presents and discusses the results of the quantitative and qualitative data gathered from 152 preservice teachers of the English language at UCC. Chapter Four is divided into two sections. Section one is devoted to quantitative results from the Morphological Awareness Test, the Vocabulary Size Test and the TOFEL Writing Test administered to the respondents. Section two focuses on the qualitative results from an evaluation of the B. Ed. Arts (English) curriculum. The chapter's presentation of both results is preceded by a description of the respondents' background information. The chapter ends with a summary.

Background Information of Respondents

The background information of the respondents which covered sex, age and levels of study is captured in Table 3. The respondents' sex was measured on a nominal scale, while their age and their levels of study were measured on an ordinal scale. Hence, frequencies and percentages were the appropriate descriptive measures to analyse the data (Vogt, 2007). It should be noted that these variables formed the basis for data disaggregation and discussion of results in each section.

Table 3: Respondents' Background Information

Variable	Sub-scale	Freq (No.)	Percentage (%)
Gender	Female	105	69.1
	Male	47	30.9
Age (in years)	20-22	75	49.3
	23-25	49	32.2
	26-28	10	6.6
	29 and above	18	11.8
Level of Study	200	53	34.9
	300	45	29.6
	400	54	35.5

Source: Fieldwork (2022)

116

Concerning the sex of the respondents, 105 (69.1 per cent) of the respondents, as summarised in Table 3, were females, whilst the rest were males. This distribution reflects the distribution of the study population at the Department of Arts Education at the University of Cape Coast. Again, the observed gender imbalance testifies to the fact that the programme of study (English Education) is female-dominated. Hence, there is a need to recognise gender as part of students' identities and include gender perspectives in language education and research (Tarrayo *et al.*, 2021).

Another background information examined in the study was the age group of the respondents. Also, the data, as can be seen in Table 3, shows that a little over 49 per cent of them were in the 20–22 age group, followed by the 23-25 (32.2%), 29 and above (11.8%) and 26-28 age group (6.6%) in that order. It can be seen that most of the respondents were between the ages of 20-22. Generally, most students in Ghana enter university at 18 or 19 years, so it is expected that most students in Levels 200, 300 and 400 will be within this age bracket. Therefore, the diverse demographic landscape indicated the possibility of gaining a blend of potentially innovative insights from the respondents (Hammer, 2011).

Aside from the sex and age range of respondents, the number of years that the respondents had spent studying at the university level was measured by levels of study. Rubio (2022) states that language learning experience influences proficiency. The data, as presented in Table 3, again shows that the students who willingly took part in the study were almost evenly distributed across Level 200 (34.9%), Level 300 (29.6%) and Level 400 (35.5%). This

distribution was placed in the context of the number of students enrolled in the programme.

Section 1: Quantitative Results

Levels of Morphological Awareness and Vocabulary Knowledge

Morphological Awareness Knowledge

The morphological awareness of the study respondents was determined using Farsi's (2008) version of the Morphological Awareness Test. The test had two sub-tests: morpheme identification and morphological structure. Each test had 14 items. The scores were then scaled up to 100 using the formula $\frac{-}{n}x100$ (where x = respondents' score and n = total number of items). The distribution of the respondents' overall morphological awareness scores was then described using descriptive statistics and further disaggregated based on the background characteristics of respondents.

Next, the morphological awareness level of the respondents was determined using Nur Rahim *et al.*'s (2021) criteria for ascertaining morphological awareness level. Respondents' scores were categorised into *excellent, good, medium, poor* and *very poor* based on their performance in the test to determine their level of morphological awareness. The results of the Morphological Awareness Test Table are presented in 4 presents.

118

Table 4: Descriptive Statistics of the Morphological Awareness Test

Category	Mean	SD	Median	QD	Skewness	Min	Max
Overall	69.6	8.07	69.6	5.4	-.027	44.64	91.07
Females	69.8	8.6	69.6	5.4	-.188	44.43	91.07
Males	69.1	6.6	69.6	5.4	-.027	55.36	80.36
20-22 years	69.4	8.0	69.6	5.4	-.143	44.64	91.07
23-25 years	70.1	8.7	69.6	7.2	.203	51.79	91.07
26-28 years	70.9	3.7	70.5	3.8	.227	66.07	76.79
29 and above	68.1	8.3	68.7	6.92	-.203	53.57	80.36
Level 200	69.1	8.5	69.6	5.4	-.188	44.6	99.07
Level 300	68.8	7.6	69.6	6.3	-.182	51.79	85.71
Level 400	70.8	8.0	70.5	5.8	.268	58.93	91.07

Source: Field Data (2022)

According to Table 4, the minimum morphological awareness score is 44.64 compared to a maximum of 91.07. The distribution of the scores approximated normality with a mean score of 69.6 (median = 69.6, skewness = -.027) and a standard deviation of 5.4.

This result indicates that the mean morphological awareness test score was almost evenly distributed across males and females. By implication, that both male and female respondents possessed almost the same level of knowledge and understanding needed to decode and manipulate English words and structures. Similar results were found across the different categories of age groups and different levels of study, with scores varying from 68.1 to 70.9. This outcome is possible because all the respondents, irrespective of sex, had successfully taken "The Sentence and its Parts" (a Second-Year course designed to expose preservice teachers of the English language at UCC to the elements that come together to form a sentence in the English language).

119

Disaggregation of Overall Morphological Awareness Scores

The overall morphological awareness score was disaggregated by Morpheme Identification and Morphological Structure test results and further disaggregated based on respondents' background characteristics to gain more insight into the morphological knowledge of the respondents. The results are presented in Table 5.

Table 5: Descriptive Analysis of the Morpheme Identification Test

Category	Mean	SD	Median	QD	Skewness	Min.	Max.
Overall	73.1	8.7	75	5.3	-.566	32.14	100
Females	72.5	8.9	71.4	5.3	-.876	32.14	96.43
Males	74.4	8.2	75.0	5.3	.352	53.57	100
20-22 years	71.2	8.5	71.4	3.5	-1.349	32.1	89.2
23-25 years	73.9	8.6	75.0	5.5	-.233	53.5	96.4
26-28 years	76.0	4.7	75.0	4.0	1.059	71.4	85.7
29 and above	77.1	9.8	75.0	7.6	.650	60.7	100
Level 200	71.9	9.2	71.4	5.6	-1.546	32.1	89.2
Level 300	71.8	6.8	71.4	3.6	-.453	53.5	85.7
Level 400	75.3	9.2	75.0	7.2	.115	53.5	100

Source: Field Data (2022)

Concerning morpheme identification, the minimum score (as captured in Table 5) was 32.14, and the maximum was 100. The median score was 75 (mean=73.1, skewness = -.566), with a quartile deviation of 5.3. This outcome indicates that many respondents (M = 73.1, SD = 8.7) performed well in the Morpheme Identification Test: the respondents who performed well possessed robust morpheme identification awareness. This result is not surprising since morpheme identification is a fundamental component of the language knowledge and awareness needed for the successful identification and

120

segmentation of English words into their most minimal, meaningful units (Goodwin *et al.*, 2013; Mahnoosh *et al.*, 2017; McBride-Change *et al.*, 2005).

Regarding sex, the males (median = 75) performed relatively better than the females (median = 71.4). This disparity did not come as a surprise, given that the cognitive theory accounts for performance variabilities resulting from the mediating effect of demographic variables such as sex and age (Shi & Qu, 2021). This outcome confirms the influence of background characteristics such as sex, age and level of study on L2 learning as established in the literature (Tannenbaum *et al.* 2016), signifying the variable sex as significant and worthy of investigation.

In terms of age groups, the performance of respondents aged between 20 and 22 (median =71.4, skewness = -1.349) was lower than their counterparts in the other age group. Across levels of study, Level 400 (mean=75.3) respondents appeared to have performed better than those in Levels 200 (median=71.4) and 300 (mean=71.8), as depicted in Table 8. The observed gap could be attributed to the fact that the Level 400 cohort has comparatively spent more years learning the English language at the University of Cape Coast than the other respondents. As such, they might have read other English courses (as part of their programme requirements) that had emphasised or reinforced their linguistic awareness, leading to more excellent knowledge and understanding of the morphological composition of English words. Thus, they performed better than the respondents in Levels 200 and 300.

The other component of the Morphological Awareness Test examined was the Morphological Structure Test. The Morphological Structure Test

121

scores, as presented in Table 6, varied from a minimum of 35 to a maximum of 100. The overall Morphological Structure Test score approximated normality (skewness= .045).

Table 6: Descriptive Analysis of Morphological Structure Test

Category	Mean	SD	Median	QD	Skewness	Min	Max
Overall	66.1	14.4	64.2	10.7	.045	35	100
Females	67.1	15.5	64.2	10.7	.039	35.7	100
Males	63.8	11.4	64.2	7.3	-.540	35.7	78.5
20-22 years	67.7	14.3	71.4	10.8	.133	42.8	100
23-25 years	66.3	15.3	64.2	10.7	-.021	35.7	100
26-28 years	65.7	9.4	64.2	8.0	-.088	50.0	78.5
29 and above	59.2	13.8	57.1	11.8	-.223	35.7	78.5
Level 200	66.3	14.9	64.2	10.7	0134	35.7	100
Level 300	65.8	14.0	64.2	10.7	-.212	35.7	100
Level 400	66.1	14.6	64.2	10.7	.136	35.7	100

Source: Field Data (2022)

Compared to the Morpheme Identification Tests, as summarised in Table 6, the respondents' mean Morphological Structure Test score was comparatively lower, 66.1 (median =64.2), with a standard deviation of 14.4. Across age groups and different study levels, the respondents' scores also appeared to be similar. However, Table 6 showed that the mean morphological test score was higher for females (67.1) than for males (63.8). This finding suggests that socio-psychological factors such as interest in course content could mediate the extent to which gender predicts learner performance.

Overall, the respondents who were 29 years and above scored lower (mean = 59.2) than their counterparts in the other age groups. This finding is similar to Farsi (2008), Carlisle (1995), Chang *et al.* (2005), Khodadoust *et al.* (2013) and Latifi *et al.* (2012) who observed better performance in the

122

morpheme identification test. According to Bloom's (1965) Taxonomy of Learning, synthesis is a critical thinking skill fundamental for knowledge creation, evaluation and application in real-life situations. As such, unlike morpheme identification, which requires lower-level language skills such as identifying and segmenting morphemes, morphological structure awareness requires knowledge synthesisation, a thinking skill that activates "deep learning" (Amua Sekyi, 2011; 2016).

To determine the respondents' morphological awareness level, their test scores were classified using Nur Rahim *et al.*'s (2021) criteria for measuring morphological awareness level. The thresholds of Nur Rahim *et al.*'s criteria indicate that a score of between 86-100 per cent is *excellent,* from 70-85 is *good,* 56-69 indicates *medium,* 36-55 indicates *poor,* and a score lower than or equal to 35 indicates *very poor* morphological awareness. *Figure 13* illustrates the results. Pimentel (2019) explains that applying thresholds in interpreting results on interval scales based on mean results helps minimise biases.
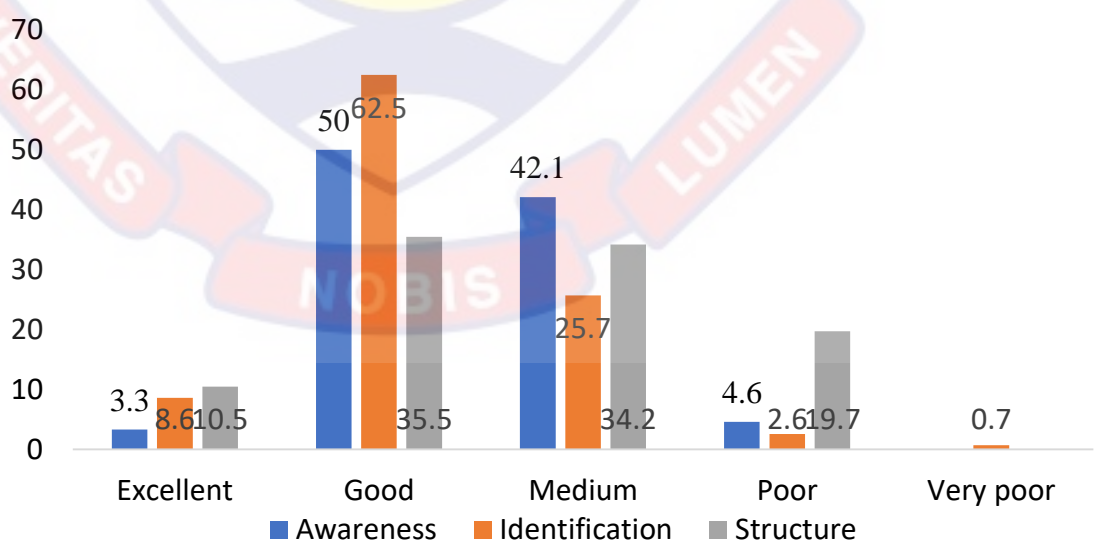
Figure 13: Morphological Awareness Level of Respondents
Source: Field Data (2022)

Based on the authors' criteria, it can be said that most of the respondents in the present study had *medium* (42.1%) to *good* (50%) morphological awareness levels, while 3.3% had *excellent* morphological awareness. This finding is similar to (Utami & Mujadidah, 2021) who reported, based on a parallel 5-point knowledge scale developed by Nugiyantoro (2010), that 37.35% of English Education students in the English Study Programme IAIN Curup possessed *enough* morphological awareness (score: 60-74%), while 3.95% had *good (score: 75-89),* 35.30 % had *very good* morphological awareness (90-100%) and 23.50% had *low* morphological awareness levels (40-59%).

Further, comparative results from Utami and Mujadidah (2021) and the present study revealed that preservice teachers of the English language who participated in both studies had *medium/enough* (60-74%) level of morphological awareness. This finding was not surprising, given that experimental evidence from Nunes and Bryant (2006) as cited by Bowers *et al.* (2010) revealed that ESL teachers at the post-secondary level often neglect morphological instruction. Nation (2013) explained that many teachers wrongly assume that post-secondary learners would have attained good to excellent morphological awareness after having studied English for over fifteen (15) years. Hence, they do not emphasise morphology instruction even though Tsegay *et al.* (2018) advance the argument that teachers' pedagogical practices shape their learners' language awareness.

Additionally, the comparative analysis revealed that whereas none of the English education students in the English Study Program at IAIN Curup had poor morphological awareness (score: 0-40%), 0.7% of the Preservice teachers of the English language at UCC had *very poor* (score: 0-35%)

124

morphological awareness level. This performance suggests that preservice teachers of the English language at the University of Cape Coast were comparably at the lower end, indicating the need for urgent attention to be paid to enhance the morphological awareness of the preservice teachers.

The study further disaggregated the morphological awareness into morpheme identification and morphological structure levels using Nur Rahim *et al.*'s (2021) criteria to provide a clearer picture of how respondents' morpheme identification (analysis) and morphological structure (synthesis) awareness levels contributed to their overall morphological awareness level. As can be seen in Figure 13, the respondents' morpheme identification awareness level was higher than their morphological structure awareness level, as a combined percentage of 96.8 of them were in the *medium* to *excellent* morpheme identification category as compared to a combined percentage of 80.2 per cent who had *medium* to *excellent* morphological structure awareness.

Again, Figure 13 shows that a more significant proportion (19.6%) of the respondents had a poor morphological structure awareness level compared to only 2.6%, who had *poor* morpheme identification knowledge. This finding was not surprising, given that the morphological awareness test implemented in the study measured distinct lower-order (morphological segmentation) and higher-order (morphological synthesis) abilities. Further analysis was done to ascertain words the respondents could not decompose correctly even though their morphological awareness level was generally high, as shown in Table 7.

Table 7: Analysis of Respondents' Performance in the Morpheme Identification Test

Words	Wrong		Partial		Correct	
	Freq	%	Freq	%	Freq	%
Washing machine	3	2.0	21	13.8	128	84.5
Freedom	7	4.6	7	4.6	138	90.8
Likelihood	3	2.0	65	42.8	84	55.3
Harden	2	1.3	5	3.3	145	95.4
Demotivation	8	5.3	101	66.4	43	28.3
Spaciousness	2	1.3	73	48.0	77	50.7
Oxen	10	6.6	5	3.3	137	90.1
Partiality	25	16.4	94	61.8	33	21.7
Productive	94	61.8	36	23.7	22	14.5
Babysitting	18	11.8	91	59.9	43	28.3
Nationwide	2	1.3	4	2.6	146	96.1
Unpredictability	5	3.3	116	76.3	31	20.4
Education	12	7.9	99	65.1	40	26.3
Eyebrow	13	8.6	5	3.3	134	88.2

Source: Field Data. 2022

Overall, the findings in Table 7 show that the respondents' performances in the morpheme identification tests were influenced by higher performances in inflectional affixation than in derivational affixation. This finding was not surprising, given that several investigators (e.g., Bowers *et al.*, 2010; Carlisle, 2007; Chang *et al.*, 2005; Nagy *et al.*, 2014; Zhang, 2017) have reported that knowledge of inflectional morphology which primarily serves grammatical functions is basic to derivational morphology.

Specifically, the results in Table 7 reveal that 61.8 per cent could not de-compose the derived word *productive* whilst between 59.9 and 76.3 per cent partially decomposed words like *unpredictability* (76.3%), *demotivation* (66.4%), *education* (65.1%), *partially* (61.8%) *and babysitting* (59.9%) into their most minor morphological units. The respondents' inability to decompose these 'complex words (because of the not-so-straightforward affixation patterns) as compared to their ability to decompose 'simple' ones

126

such as *oxen* (ox+en 90.1%), *freedom* (free+dom; 90.8%), *harden* (hard+en; 95.4%) and *nationwide* (nation+wide; 96.1%) indicated a less awareness of derivational morphology.

Given that about 97% of English words are formed through concatenation, a word-formation process which requires sequencing stems and affixes (Nation, 2007), this finding, as evidenced in Table 7, aligns with earlier inferences that acquisition of derivational morphology deepens with age and maturity and may be more strongly related with vocabulary than awareness of inflectional morphemes. This finding implicates the placing of greater attention to the explicit and consistent teaching of derivational morphology as a "metacognitive strategy" to help advanced-level learners autonomously build their morphological knowledge. Again, the finding is consistent with Shang and Koda's (2013) assertion that higher degrees of metalinguistic awareness, including explicit knowledge of derivational segments, enable L2 learners to understand and acquire new words to use them to learn reading and writing successfully.

Regarding the Morphological Structure Test, the distribution of words formed out of the structures given is presented in Table 8. As presented in the table, the majority of the respondents could not correctly synthesise structures such as "lace worn on the foot" (77.0%), "a person who sees near things more clearly" (74.3%), "when frogs fall from the sky" (63.2%), "a kind of train that runs over the ground" (61.8%) and "perform better than" (58.6%) to form new words: *foot lace*, *nearsighted*, *frogging*, *overground train* and *outperform* respectively. This finding possibly means that most of the candidates either could not identify with 'native' words and expressions such as "shoelace",

127

"frogging", and "overground train" and/or did not use sophisticated vocabulary such as "outperform" and "nearsighted" in their daily interactions.

Table 8: Respondents' Performance in the Morphological Structure Test (Synthesis aspect)

Morphological Structure		Wrong		Correct	
		Freq	%	Freq	%
Perform better than	Outperform	89	58.6	63	41.4
A kind of train that runs over the ground	Overground train	94	61.8	58	38.2
A person being interviewed	Interviewee	4	2.6	148	97.4
A person who sees near things more clearly	Nearsighted	113	74.3	39	25.7
A person who is just passing by	Passersby	39	25.7	113	74.3
A ring worn on the nose	Nose ring	16	10.5	136	89.5
Lace worn on the foot	Foot lace	117	77.0	35	23.0
A game where you throw a ball in a bucket	Bucketball	34	22.4	118	77.0
Past tense of 'stot'	Stotted	28	18.4	124	81.6
Plural form of 'wug'	Wugs	18	11.8	134	88.2
A person who eavesdrops	Eavesdropper	19	12.5	133	87.5
Past tense of 'fleamp'	Fleamped/fleampt	34	22.4	118	77.0
Present tense of 'krest'	Kresting	17	11.2	135	88.8
When frogs fall from the sky	Frogging	96	63.2	56	36.9

Source: Field Data (2022)

Table 8 shows that comparatively only between 77 per cent and 99.7 per cent of the respondents had less difficulty in synthesising word structures such as "a game where you throw a ball in a bucket", "a ring worn on the nose", "a person being interviewed" or providing the past tense of "stot" and "fleamp" as well as the plural form of "wug". A possible explanation could be that the few respondents who could rightly synthesise the given structures are those who have mastered the relational, syntactic and distributional knowledge needed to manipulate existing words to create new words. Hence, their ability to effectively relate *bucketball* "a game where you throw a ball in a bucket" to

128

basketball or netball (two popular games in which a ball is similarly thrown into a basket/net).

Again, Table 8 shows that the majority of the study respondents (18.4%) were able to provide the past tense form of the verb "stot" (a form which was widely used in the early 16th century but rarely today). A possible explanation is that the B. Ed Arts (English) curriculum implemented at UCC prescribes foundational English Literature courses for the preservice English language teachers. Hence, the preservice teachers are required to read classical medieval literature to meet the course requirements. For instance, *Studies in Shakespeare* (see appendix B) exposes the preservice teachers to the Elizabethean-Jacobean period in English history. Therefore, many respondents may have read literature from Shakespearean sources and may have encountered such middle-aged vocabulary.

Majzub and Abu (2010) echo Cunningham and Stanovich's (1998) claim that students who read extensively encounter many new words that allow them to acquire a rich vocabulary repertoire whose morphological compositions provide background knowledge to studying English vocabulary. Accordingly, this finding supports Shu's (2011) assertion that background knowledge, a prerequisite cultural consciousness, influences learners' understanding of what ESL learners read as it relates to what they already know.

Further, their ability to form the plural form of "wug" (a "nonsense word coined by American psycholinguist Jean Gleason Berko in the 1950s to represent an imaginary creature resembling a bird and devised in her *Wug Test* to test her participants' ability to form plurals, past tenses and by adding /s/, /s/

or /Is/ to lexical words, depending on the final consonant) suggests that the few students had successfully internalised the systematic aspect of English linguistics. Drawing on Berko's (1958) findings, it can be deduced that the performance of preservice teachers of the English language at UCC indicated less derivational knowledge. This finding further implicates the need to strengthen the morphological knowledge base of the preservice teachers.

Kieffer and Box (2013) recommend the progressive reinforcement of students' derivational knowledge as they advance to higher levels to help low ESL achievers attain the required proficiency. This is because derivational morphology plays an essential part in learning the structural and grammatical components of the English language. Therefore, it is widely held that knowledge of derivational morphology accounts for the successful learning of many words that might never have been explicitly taught in the L2 classroom (Carlisle, 2007; Carlisle & Fleming, 2003).

Cognitive theories such as Anderson and Pearson's (1984; 2016) Schema Theory connect the ability or otherwise of L2 learners to successfully synthesise given structures to the extent to which schemata in their overall and specific prior knowledge and background knowledge are activated to influence their observed level of language awareness. This explains the cognitive psychology underlying works (e.g., Canagarajah, 2017); Majsub & Abu, 2010) that maintain that the majority of the unfamiliar words that L2 learners encounter in texts could be worked out through problem-solving morphological structure and their use in a sentence.

Receptive Vocabulary

Nation and Beglar's (2007) Vocabulary Size Test was used to ascertain the level of the respondents' receptive vocabulary knowledge. The test has ten items sampled across each 1,000 of the three word-frequency levels (3000, 5000, and 10,000) and the Academic Word List. The scores from the different levels were aggregated, scaled up to 100 per cent and analysed using means, standard deviations and independent samples T-tests. The level of significance set for this test was 95%. This meant that any P-value greater than 0.05% was considered statistically insignificant.

Next, Schmitt *et al.*'s (2001) threshold of a score of 80 per cent or more was applied to determine respondents' receptive vocabulary knowledge level adequacy. A statistical description of the aggregated Vocabulary Size Test scores to give an overview of the respondents' overall receptive vocabulary size is presented in Table 9.

Table 9: Results of the Vocabulary Size Test

Category	Mean	SD	Median	QD	Skewness	Min.	Max.
Overall	78.48	8.2	78.68	5.5	-.237	45.91	97.06
Females	77.81	8.08	77.80	5.2	-.354	54.91	94.56
Males	79.98	8.38	80.74	6.5	-.056	62.68	97.06
20-22 years	79.24	8.48	79.86	5.0	-.308	54.91	97.06
23-25 Years	77.14	8.0	78.99	6.0	-.378	57.24	89.56
26-28 years	80.17	7.42	80.15	5.4	-.153	66.93	91.18
29 and above	78.02	7.83	76.62	5.0	.431	63.29	94.56
Level 200	76.90	7.82	75.74	5.6	-.101	54.91	91.18
Level 300	79.39	9.06	79.12	5.2	-.462	56.54	96.62
Level 400	79.27	7.74	79.71	5.0	-.205	59.43	97.06

Source: Field Data (2022)

131

As seen in Table 9, the distribution of the vocabulary size scores of the respondents approximated normality with a mean score of 78.48 (median = 78.68, skewness = -0.237) with a standard deviation of 5.5. Across sex, the males (79.98) were observed to have a higher mean score than the females (77.81).

Based on the performance of the sample population, it can be deduced that male English teachers at the University of Cape Coast have mastered more written receptive vocabulary than their female counterparts. This finding is inconsistent with the majority of existing works (e.g., Llach & Gallego, 2012; Naeini & Shahrokhi, 2016) that found no differences in the performance of the genders in terms of their receptive vocabulary knowledge. It also contradicts others (e,g., Alqarni, 2017; Nagasundram *et al.*, 2021) that indicated that female ESL learners outperformed males in reading proficiency tests with higher scores because females are better at acquiring vocabulary. It instead aligns with Sunderland (2010) report that the multiplicity of findings in the literature indicates that the variable sex exhibits a nuanced and sophisticated relationship with vocabulary knowledge, which, as evidenced in this study, varies with context.

In terms of age groups, Table 9 further shows that the mean score for the 20-26 age group (80.17) was relatively higher than their counterparts in other age groups. It was also observed from the Table that the mean score for Level 200 students (76.90) was lower than those in Levels 300 (79.39) and 400 (79.27). By implication, the final-year students had acquired more receptive vocabulary and could assumably speak, comprehend and write better. This finding was expected, as the Level 400 cohort had been learning

132

the English language longer than the others, a view shared by Webb *et al.* (2017). Webb *et al* postulate that beginners and lower-level university students, unlike their advanced counterparts, generally have difficulty deciphering and decoding textual information due to a limited breadth of knowledge. Hence, they might read less because reading is difficult, leading to a lack of required vocabulary for effective academic writing.

The present study further compared the receptive vocabulary size score of the respondents to a standard of 80 per cent, as Schmitt *et al.* (2001) prescribed. According to Schmitt *et al.,* a score of 80 per cent or more indicates an adequate receptive vocabulary size, while a score lower than 80 per cent shows otherwise. The results are presented in Table 10.

Table 10: Test Statistics on Receptive Vocabulary Knowledge Size

Category	N	Mean	t-statistic	P-value	Mean Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Overall	152	78.48	-2.275	0.024[*]	-1.515	-2.831	-0.199
Females	105	77.81	-2.769	0.007[*]	-2.185	-3.750	-0.620
Males	47	79.98	-0.016	0.987	-0.019	-2.480	2.441
20-22 years	75	79.24	-0.768	0.455	-0.752	-2.704	1.200
23-25 Years	49	77.14	-2.471	0.017[*]	-2.859	-5.185	-0.533
26-28 years	10	80.17	0.073	0.944	0.171	-5.144	5.486
29 and above	18	78.02	-1.068	0.300	-1.974	-5.872	1.924
Level 200	53	76.90	-2.881	0.006[*]	-3.096	-5.252	-0.940
Level 300	45	79.39	-0.449	0.656	-0.606	-3.330	2.118
Level 400	54	79.27	-0.684	0.497	-0.721	-2.834	1.392

* Mean score significantly different from 80 at the 95% Confidence Level
Source: Field Data (2022)

Generally, at the 95 per cent confidence level, the receptive vocabulary size score of the respondents, as presented in Table 10, was significantly lower than the recommended score of 80 per cent (mean =78.48, t = -2.275, p-value = 0.024). This outcome means that the study respondents did not have an adequate written receptive vocabulary size, indicating that the preservice teachers struggle to read and understand assigned academic texts.

Considering the importance of vocabulary mastery to developing the reading and writing skills required for academic success, attention must be paid to the vocabulary inadequacies of preservice teachers of the English language at the University of Cape Coast. This finding was not surprising, given that a large body of literature on the vocabulary knowledge level of ESL learners in university settings across the globe confirms *low* to *medium* receptive vocabulary sizes, leading to difficulties in reading and writing academic texts effectively (González-Fernández & Schmitt, 2020). Hence, this outcome echoes Nation's (2001) observation that in-class/out-of-class pedagogical implementations and planned interventions that emphasise the use of vocabulary learning strategies promote intentional and incidental learning of English words, particularly, low-frequency words such as academic words.

Regarding sex, Table 10 shows that the category of respondents with lower receptive vocabulary size scores was females (mean=77.81, t = -2.769, p-value =0.007). This finding is noteworthy given that Mateju and Smith (2015) indicate that findings from several studies including OECD (2011) generally suggest that females outperform males significantly on reading tests.

As evidenced in Table 10, two other categories of respondents that had low receptive vocabulary size scores were those aged between 23-25 years

(mean = 77.1, t = -2.471, p-value = 0.017) and Level 200 students (mean = 76.9, t = -2.881, p-value = 0.006). Aside these, the receptive vocabulary size score of the rest of the respondents, males (mean = 79.98, t = -0.016, p-value = 0.987), 20-22 years (mean = 79.24, t = -0.768, p-value = 0.455), 26-28 years (mean = 80.17, t = 0.073, p-value =0.944), 29 years and above (mean 78.02, t = -1.068, p-value = 0.944), Level 300 (mean = 79.39, t = -0.449, p-value = 0.656) and Level 400 (mean = 79.27, t = 0.684, p-value = 0.495) were not significantly different from 80. This finding could result from the numerous reading tasks and assignments given to university-level students, which constantly exposed them to various academic books and research articles, a phenomenon explained in the literature as the *Matthew Effect.* Hirsch (2003) described this phenomenon as the reason for 'gaps' in the word knowledge of students who are constantly exposed to texts through independent/assigned readings (incidental learning) vis-a-vis those who are not.

Disaggregation of Receptive Vocabulary Size Test Scores

3,000-word level

The results of the Receptive Vocabulary Size Test were disaggregated and analysed to spotlight the respondents' performance at the 3,000-word frequency level, the 5,000-word level, the 10,000-word level and the Academic Word List levels. The results are further disaggregated by sex, age and level of study and presented accordingly. Details of the 3,000-word level analysis are presented in Table 11.

Table 11: Descriptive Analysis of the 3,000 Word-Frequency Level Results

Category	Mean	SD	Median	QD	Skewness	Min.	Max.
3,000	79.21	12.84	80	10	-.174	50	100
Females	78.19	12.38	80	10	-.050	50	100
Males	81.48	13.66	80	10	-.494	50	100
20-22 years	80.53	12.61	80	10	-.227	50	100
23-25 years	78.16	12.85	80	10	-.500	50	100
26-28 years	83.00	14.18	80	15	-.076	60	100
29 and above	74.44	12.47	70	6.30	-.858	60	100
Level 200	80.37	12.08	80	10	-.143	60	100
Level 300	78.88	12.83	80	10	-.459	50	100
Level 400	78.33	13.70	80	10	.038	50	100

Source: Field Data (2022)

With respect to the 3,000-word level, the minimum score was 50 compared to a maximum of 100 (Table 11). The mean score was 79.21 (median = 80, skewness = -0.174) with a standard deviation of 12.84, indicating that the respondents had successfully mastered the words at the 3,000-word level.

In confirmation, further analysis was done to determine the approximate number of words the respondents knew out of the 1,000 words at the 3000 word-frequency level. The mean score of respondents was multiplied by ten based on Zimmerman's (2005) assertion that scores on the vocabulary test can be employed to estimate the vocabulary size and proficiency of ESL learners. The mean receptive vocabulary score of 79.21 indicated that out of the 1,000 words at the 3,000 word-frequency level, the respondents knew about 792 words.

The data was further disaggregated based on sex, age groups and levels of study. As evident in Table 11, the 3000-word level scores for the males (mean = 81.48, skewness = -0.494) were higher than the scores of the females

136

(mean = 78.19, skewness = -0.05). This finding suggests that the male preservice teachers of the English language who participated in the study knew approximately 810 out of the 1,000 words at the 3,000 word-frequency level, while females knew 780 words. Across age groups, those in the 26-28 age brackets (mean = 83, skewness = -0.076) had the highest 3000-word level score, followed by the 20-22 (mean = 80.53, skewness = -0.227), with those in the 29 and above age bracket having the lowest 3000 word-frequency level score (mean =74.44, skewness = -0.858). This finding revealed that the respondents in the 26-28 age bracket knew about 830 words, while their colleagues in the 20-22 and 29 and above age groups knew 801 and 740 words, respectively.

Regarding levels of study, Table 11 further reveals that the respondents in Level 200 had mastered more vocabulary at the 3,000 level than their colleagues in Levels 300 and 400. With a mean score of 80.37 and skewness of -0.143, the performance of respondents in Level 200 was higher than their counterparts in Levels 300 (mean = 78.88, skewness =-0.459) and 400 (78.33, skewness = 0.038). This outcome implied a mastery size of 800, 789 and 780 words, respectively.

These results indicate the approximate size of the respondents' 3,000-word frequency level receptive vocabulary size. Even though Nagy and Anderson (1984) observed a lack of agreement among the researchers about an exact vocabulary size for any given age or development level, this finding, when compared to previous works (e.g., Schonell *et al.*, 1956; Taghipour, 1999 etc) that utilised Nation's (2001) Vocabulary Size Test as a receptive

vocabulary measure, indicates a better performance at the 3,000-word frequency level.

To determine the adequacy of the 3,000-word level of the respondents, their scores were compared to a standard of 80, as Schmitt *et al.* (2001) recommended. The results of the one-sample T-test, as presented in Table 15, show that the 3000-word level score of the respondents was not significantly different from 80 (mean = 79.21, t = -0.758, p = 0.450). This finding is consistent with Ho-Chuen's (1997) study where he reported that his respondents had sufficient knowledge of the 3,000 word-level words. The data was further disaggregated by sex, age and levels of study. The results are captured in Table 12.

Table 12: Test Statistics on the 3,000-word Level Frequency

Category	N	Mean	t-statistic	P-value	Mean Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Overall	152	79.21	-0.758	0.450	-.7894	-2.847	1.268
Females	105	78.19	-1.497	0.137	-1.809	-4.206	0.587
Males	47	81.48	-1.497	0.459	1.489	-2.524	5.503
20-22 years	75	80.53	0.366	0.715	0.533	-2.369	3.436
23-25 Years	49	78.16	-1.00	0.322	-1.836	-5.529	1.856
26-28 years	10	83.00	0.669	0.520	3.000	-7.144	13.144
29 and above	18	74.44	-1.890	0.076	-5.555	-11.757	0.646
Level 200	53	80.37	0.227	0.821	0.377	-2.953	3.708
Level 300	45	78.88	-0.581	0.564	-1.111	-4.966	2.743
Level 400	54	78.33	-0894	0.375	-1.666	-5.406	2.073

* Mean score significantly different from 80 at the 95% Confidence Level
Source: Field Data (2022)

Evidence from Table 12 shows that both males and females, respondents of different age groups and those in different levels had the minimum

138

recommended 3,000 word-frequency level receptive vocabulary size as their scores were not significantly different from 80. Schonell *et al.* (1956) stated that the most frequent 3000 words in English provide the bulk of the lexical resources for oral communication and basic reading comprehension. Thus, an *adequate* knowledge of receptive vocabulary within this threshold, as indicated in the table, shows that the respondents had a good grasp of the category of words that provide substantial lexical coverage to aid the comprehension of simple texts.

5,000-word level

Aside from the examination of respondents' 3000 word-frequency level scores, the study also ascertained their 5000 word-level receptive vocabulary Size. The results are detailed in Table 13.

Table 13: Descriptive Analysis of the 5,000 Word-Frequency Level Results

Category	Mean	SD	Median	QD	Skewness	Min.	Max.
5,000	88.35	10.82	90	10	-0.969	50	100
Females	87.80	10.65	90	10	-0.863	50	100
Males	89.57	11.22	90	10	-1.263	50	100
20-22 years	90.13	8.77	90	5	-0.643	70	100
23-25 years	84.08	13.21	90	10	-0.696	50	100
26-28 years	89.00	11.00	90	10	-0.388	70	100
29 and above	92.22	8.00	90	5	-1.203	70	100
Level 200	87.73	10.67	90	10	-0.609	60	100
Level 300	88.47	12.48	90	10	-1.408	50	100
Level 400	89.07	9.56	90	10	-0.614	70	100

Source: Field Data (2022)

As indicated in Table 13, the minimum 5000-word level score was 50 compared to a maximum of 100. The median score was 90 (mean = 88.35, skewness = -0.969), with a quartile deviation of 10. The distributions of the

5000 word-frequency level score for the various groupings (based on sex, age groups and levels of study) were skewed with a median 5000-word level score of 90 (skewness $\geq$ -0.614) except for those in the 26 – 28 age brackets. This outcome shows that all the respondents had mastered a large stock of vocabulary (90*10 = 900 words) out of the possible 1,000 at the 5,000 word-level frequency. Words in the 5,000-word frequency level enhance basic language acquisition and communication to a proficient level that enables learners to express themselves more fluently and precisely. Adequate knowledge of words in this threshold, therefore, shows that learners are transitioning to a more nuanced level of proficiency and linguistic growth that prepares them for the specialised vocabulary encountered in academic contexts.

Further analysis was done to determine the adequacy or otherwise of the respondents' 5000-word level receptive vocabulary size. Using Schmitt *et al.*'s (2001) criterion of a minimum of 80 per cent score, the vocabulary size score of the respondents, as depicted in Table 14, was observed to be significantly higher than the test value of 80 (mean = 88.35, t = 9.517, p-value = 0.000).

Table 14: Test Statistics on 5,000 Word-Frequency Level Scores

Category	N	Mean	t-statistic	P-value	Mean Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Overall	152	88.35	9.517	0.000	8.355	6.620	10.089
Females	105	87.80	7.514	0.000	7.809	5.748	9.870
Males	47	89.57	5.850	0.000	9.574	6.280	12.869
20-22 years	75	90.13	10.000	0.000	10.133	8.114	12.152
23-25 Years	49	84.08	2.162	0.036	4.081	0.285	7.877
26-28 years	10	89.00	2.586	0.029	9.000	1.127	16.872
29 and above	18	92.22	6.414	0.000	12.222	8.201	16.242
Level 200	53	87.73	5.275	0.000	7.735	4.792	10.678
Level 300	45	88.47	4.418	0.000	8.222	4.471	11.972
Level 400	54	89.07	6.968	0.000	9.074	6.462	11.686

* Mean score significantly different from 80 at the 95% Confidence Level
Source: Field Data (2022)

Table 14 further shows that all categories of respondents, irrespective of sex, age group and level of study, have significantly higher 5000-word level receptive vocabulary size than the minimum required size of 80 per cent (mean $\geq$ 84.08, t $\geq$ 2.162, p-value $\leq$ 0.036). Evidence in the literature indicates that *adequate* knowledge of the most frequent 5000 words in English proves an L2 learner's ability to read, to infer the meaning of novel words and to write authentic texts effectively. These findings illustrate Schmitt's (2000) claim that vocabulary learning is incremental; hence, an increase in the breadth of word knowledge of ESL learners as they advance to higher levels of education is expected.

The third component of the receptive vocabulary size that was in the study was the 10,000-word frequency level. The threshold for intermediate to advanced proficiency in academic settings extends from the 10,00 to the

141

14,000 level. Hence, Hasenberg and Hulstijn (1996) assert that knowledge of a vast vocabulary of words at the 10,000-word level is required to help ESL learners cope with challenges across various academic disciplines in an English-medium academic environment. The distribution of the test scores is shown in Table 15.

Table 15: Descriptive Analysis of the 10,000 Word-Frequency Level Results

Category	Mean	SD	Median	QD	Skewness	Min.	Max.
Overall	55.52	17.55	60	15	.142	10	100
Females	54.95	18.29	60	15	.041	10	100
Males	56.80	15.89	60	15	.587	30	100
20-22 years	56.26	19.00	60	15	.267	20	100
23-25 years	55.30	16.46	60	15	-.479	10	90
26-28 years	55.00	17.15	55	11.50	.660	30	90
29 and above	53.33	14.95	50	15	.660	40	80
Level 200	51.32	17.76	50	10	.520	20	100
Level 300	58.22	16.82	60	12.5	.473	30	100
Level 400	57.40	17.50	60	15	-.397	10	90

Source: Field Data (2022)

The data in Table 15 show the lowest score to be ten, while the highest is 100. The overall mean 10,000-word level score was 55.52 (median = 60, skewness = 0.142), with a standard deviation of 17.55. This finding reveals that the respondents knew an estimated 556 words out of the possible 1,000 words at the 10,000-word frequency level. Compared to the two lower levels (3,000 and 5,000) measured in this study, the respondents' vocabulary size at the 10,000-word level decreased by about 40%.

This unsatisfactory performance implies low performance in reading and comprehension of specialised academic content, essay writing, participation in academic discussions and performance in language-intensive

tasks. Consistent with Costales (2019) findings, where the vocabulary knowledge level of preservice ESL teachers sampled from Isabella State University, Philipines, also evidenced a decrease in knowledge as the word frequency level increased, a possible explanation for the lack of familiarity with words at the 10,000-word frequency level could be that the words at this level are uncommon words that only avid readers, which in this instance appears not to be the case for preservice teachers of the English language at UCC, would have encountered or come to know their meaning.

Table 15 again indicates that across sex, the males (mean = 56.8) appeared to have a higher mean 10,000-word vocabulary size score than the females (mean = 54.95), indicating a receptive vocabulary size of 560 and 550, respectively. Among age groups, the Table further shows that those in the 20-22 (mean 56.26) age bracket had a higher mean 10,000-word level score compared to those in the 23-25 (mean =55.3), 26-28 (55.00) and 29 and older (53.33) in that order. This outcome represents an approximate receptive vocabulary size of 560, 550, 550 and 530, respectively. Similarly, the respondents in Level 300 (58.22) had a higher mean 10,000 word-level score than their counterparts in Levels 400 (57.40) and 200 (51.32): 580, 570, and 570 vocabulary sizes (Table 15).

The respondents' 10,000-word frequency level was further determined using the Schmitt *et al.* (2001) criterion. Schmitt *et al.*'s criteria indicate that a score of 80 per cent or more indicates an adequate knowledge threshold for advanced learners. The one-sample T-test statistics in Table 16 indicate that respondents' 10,000-word-frequency score is significantly lower than the

143

recommended standard of 80 percent (mean = 55.2, t = -17.184, p-value = 0.000).

Table 16: Test Statistics on 10,000-word Frequency Level

Category	N	Mean	t-statistic	P-value	Mean Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Overall	152	55.52	-17.184	0.000	-24.473	-27.287	-21.659
Females	105	54.95	-14.023	0.000	-25.047	-28.588	-21.506
Males	47	56.80	-10.003	0.000	-23.191	-27.858	-18.524
20-22 years	75	56.26	-10.769	0.000	-23.733	-28.124	-19.342
23-25 Years	49	55.30	-10.495	0.000	-24.693	-29.424	-19.963
26-28 years	10	55.00	-4.607	0.000	-25.000	-37.275	-12.724
29 and above	18	53.33	-7.567	0.000	-26.666	-34.101	-19.231
Level 200	53	51.32	-11.754	0.000	-28.679	-33.575	-23.783
Level 300	45	58.22	-8.682	0.000	-21.777	-26.833	-16.722
Level 400	54	57.40	-9.485	0.000	-22.592	-27.370	17.815

* Mean score significantly different from 80 at the 95% Confidence Level
Source: Field Data (2022)

As can be seen from Table 16, the disaggregated data show that all the categories of respondents (males, females, different age groups and different levels of study) had a significantly lower 10,000-word frequency level score (mean ≤58.22, t ≥ -4.607, p-value = 0.000).

The fourth component in the determination of the overall receptive vocabulary knowledge size of the respondents is the volume of their Academic Word knowledge. The assessment used was Coxhead's (2000) Academic Word List, designed to prepare L2 learners for tertiary-level study. The test has a total of 57 items. The test was marked over 57 and later scaled up to 100 percent. The minimum Academic Word List score was 56.14, while the maximum was 100. The analysis is presented in Table 17.

144

Table 17: Descriptive Analysis of the Academic Word List (AWL)

Category	Mean	SD	Median	QD	Skewness	Min.	Max.
AWL	90.84	8.2	92.98	3.5	-2.408	56.14	100
Females	90.30	9.06	92.98	4.4	-2.358	56.14	100
Males	92.04	6.08	92.98	3.5	-1.689	73.68	100
20-22 years	90.05	9.49	92.98	3.5	-2.336	56.14	100
23-25 years	91.01	6.83	92.98	4.5	-1.825	63.16	98.25
26-28 years	93.68	3.32	94.73	3.0	-.600	87.72	98.25
29 and above	92.10	8.32	94.73	3.5	-2.684	63.16	100
Level 200	88.18	9.87	91.22	4.0	-2.016	59.65	98.25
Level 300	92.24	9.03	94.73	2.0	-2.673	56.14	100
Level 400	92.30	4.59	92.98	4.5	-.502	80.70	98.25

Source: Field Data (2022)

As indicated in the Table, the median score was 92.98 (mean = 90.84, skewness = -2.408), with a quartile deviation of 3.5. As part of the objective to ascertain the respondents' academic word list out of 570, the median score was multiplied by 10. This finding gives a total academic word list size of approximately 530 (92.98*5.7) out of 570 words.

Across all categories of respondents, the median Academic Word List score was higher than the mean, indicating a seemingly high yet skewed excellence distribution in the vocabulary knowledge performance pattern. The mean in statistics represents an average score, while the median represents the middle value when all scores are arranged in ascending order. Hence, a greater median indicates a right-skewed distribution that signifies a few respondents as exhibiting exceptionally high AWL knowledge with most having moderate to relatively lower knowledge.

Based on this outcome, the respondents' scores were compared to a standard of 80 percent per Schmitt *et al.*'s (2001) criteria to determine the adequacy or otherwise of the respondents' academic word size. As indicated by Schmitt *et al.*, a score greater than or equal to 80 percent represents

145

adequate academic word size for advanced learners. The data, as presented in Table 17, show that the overall mean academic word-level score was significantly higher than 80 (mean = 90.84, t = 16.15, p-value = 0.000).

Next, the scores were scaled to 570 based on Coxhead's (2000) composition to determine the academic word count. From the results, the respondents' academic word size was approximately 518 (90.84*5.7). This word size is adequate per Schmitt *et al.*'s (2001) criteria. The data was disaggregated and analysed, as presented in Table 18.

Table 18: Test Statistics on Respondents' Academic Word Level

Category	N	Mean	t-statistic	P-value	Mean Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Overall	152	90.84	16.150	0.000	10.847	9.520	12.174
Females	105	90.30	11.650	0.000	10.309	8.554	12.063
Males	47	92.04	11.650	0.000	12.049	10.262	13.836
20-22 years	75	90.05	9.172	0.000	10.058	7.873	12.243
23-25 Years	49	91.01	11.274	0.000	10.058	9.873	12.977
26-28 years	10	93.68	13.000	0.000	13.684	11.303	16.065
29 and above	18	92.10	6.172	0.000	12.105	7.966	16.243
Level 200	53	88.18	6.035	0.000	8.182	5.461	10.903
Level 300	45	92.24	9.089	0.000	12.241	9.527	14.956
Level 400	54	92.30	19.691	0.000	12.300	11.047	13.553

Test value = 80, α = 0.05
Source: Field Data (2022)

The disaggregated data in Table 18 show that males, females, all age groups, as well as respondents in Levels 200, 300, and 400 have a significantly higher academic word size (mean ≥ 88.1, t ≥ 6.035, p-vale = 0.000) with a corresponding word count of not less than 502 (88.1*5.7) out of a possible 570 words.

Productive Vocabulary Knowledge

The last component of the respondents' vocabulary knowledge that was assessed was the level of the respondents' productive vocabulary knowledge. The assessment used a self-composed 300-word narrative essay that required learners to use their receptive vocabulary knowledge effectively.

To analyse the lexical richness in the compositions, the 'VocabProfile' software was used to profile respondents' productive vocabulary into K1 words (1000), K2 words (the second 1000), Academic Word List (AWL) and off-list category (OL). Coxhead's (2000) profiling index of 70 percent of K1 words (the first 1000 words), 10 percent of K2 words (the second 1000), 10 percent of Academic Word List (AWL) and 10 percent of Off-List category (technical vocabulary) respectively were used as the basis for determining respondents' productive vocabulary knowledge level.

K1 Words

With regard to the K1 (1,000 frequently occurring) words, the minimum score was 75.35, whilst the maximum was 93.35. The median score was 85.6 (mean 85.16, skewness = -0.532), with a quartile deviation of 2.3 (Table 19).

Table 19: Distribution of K1 Words

Category	Mean	SD	Median	QD	Skewness	Min.	Max.
Overall	85.18	3.42	85.29	2.3	-.532	75.35	93.35
Female	85.28	3.61	85.98	2.5	-.645	75.35	93.35
Male	84.94	2.99	85.50	2.1	-.194	78.04	91.25
20-22	84.01	3.47	85.77	2.5	-.587	75.35	91.80
23-25	85.72	3.40	85.64	2.5	-.769	75.35	91.25
26-28	85.67	2.10	86.15	1.5	-.740	81.54	88.68
29 and above	84.95	3.89	85.22	3.0	.230	78.47	93.35
Level 200	85.89	2.90	86.55	1.5	-.883	78.04	91.25
Level 300	84.68	3.92	84.81	2.5	-.118	76.29	93.35
Level 400	84.95	3.41	85.10	2.5	-.610	75.35	91.08

Source: Field Data (2022)

147

As evidenced in Table 19, the overall K1 word size of the respondents was higher than Coxhead's (2000) recommended score of 70 percent or less. This high magnitude of the K1 word size means that the coverage of K2, Academic Word List and Off-List (technical) words used by the respondents in the self-composed essay would be limited.

The disaggregated data in Table 19 show that the distribution of K1 words was almost evenly distributed across males (mean =84.94, skewness = -0.194) and females (median = 85.98, skewness = -0.645), 20-22 years (median = 85.77, skewness = -0.589), 23-25 years (median = 86.64, skewness = -0.769), 26-28 years (median = 86.5, skewness = -0.740) and 29 years or older (mean = 84.95, skewness 0.230). These outcomes reveal that the lexical resources used by the sample respondents to function were skewed towards the first 1000 words (K1, high frequency) required for basic discourse.

Across Level 200 (median = 86.55, skewness -0.883), Level 300 (mean =84.68, skewness -0.118) and Level 400 (median 85.1, skewness = -0.610), similar distributions were observed, as can be seen in Table 19. This finding agrees with recent studies (e.g., Mokhtar, 2010; Ponnudurai & De Rycker, 2012), where essays composed by tertiary-level ESL students mainly comprised high-frequency words. A possible explanation, as hinted by Ellis (1989), is that the basic need of every L2 learner is to express meaning through speech. Therefore, the more significant proportion of their vocabulary is likely to comprise frequently occurring words (high frequency), compared to low-frequency words, which are more challenging to learn, recall and use.

However, as the literature indicates, K1 words are typically simple everyday vocabulary. Hence, overusing them would lead to the production of

'elementary' essays that lack for the depth of analysis leading to superficial discussions or limited exploration of ideas. This means that to effectively write essays that evoke the readability and intellectual rigour expected of tertiary-level academic writing, preservice teachers at UCC should aim at reducing K1 word usage to ensure a harmonious blend of K2, academic and technical word usage in their writing.

K2 Words

The next component of productive vocabulary knowledge that the study assessed was the size of respondents' K2 words. Per Coxhead's (2000) criterion, the proportion of K2 words in a language production test should be at most 10 percent, given that the proportion of K1 words is less than or equal to 70 percent. The results are detailed in Table 20.

Table 20: Distribution of K2 Words

Category	Mean	SD	Median	QD	Skewness	Min.	Max.
Overall	4.46	1.62	4.2	1.0	.557	1.25	9.03
Female	4.48	1.72	4.17	1.2	.572	1.37	9.03
Male	4.42	1.38	4.26	1.1	.417	1.25	8.13
20-22	4.80	1.58	4.48	1.3	.548	1.97	9.03
23-25	4.05	1.73	3.77	1.0	.796	1.25	9.03
26-28	4.08	1.50	4.12	1.0	.324	1.72	7.08
29 and above	4.39	1.32	4.10	0.7	.635	1.84	7.64
Level 200	4.38	1.42	4.35	0.7	.389	1.25	8.24
Level 300	4.49	1.53	4.09	1.0	.407	1.37	8.13
Level 400	4.52	1.89	4.18	1.5	.645	1.43	9.03

Source: Field Data (2022)

As evident in Table 20, the minimum proportion of K2 in the 300-word productive vocabulary knowledge proficient essay test used was 1.25 compared to a maximum of 9.03. The median was 4.2 (mean = 4.46, skewness

= 0.557) with a quartile deviation of 1. This outcome showed that the respondents used fewer K2 words.

Across all categories of respondents, the proportion of K2 words used to write the 300-essay test was below the recommended proportion of 10 percent, as detailed in the table. As explained in the literature, K2 words are typically more advanced, complex, sophisticated and suitable for academic essays. Maintaining an appropriate proportion of K2 words in an essay conveys nuanced meanings that allow for in-depth analysis that contributes to clarity and coherence. Again, the appropriate use of K2 words enriches the vocabulary and language expression of an essay. Falling below the recommended threshold could make an essay sound repetitive or monotonous making it seem less sophisticated. Thus, affecting reader perception and impact.

Academic Word List

Part of the assessment of the productive vocabulary knowledge of the respondents was the determination of the proportion of academic words used in the 300-word essay test. Ideally, a proportion of not less than 10 percent of words on Coxhead's (2000) Academic Word List is adequate for L2 learners of English who wish to engage in a tertiary English-medium academic environment. Therefore, the proportion of the academic words was determined, and their word count was also ascertained. However, as shown in Table 21, the proportion of academic words found in the 300-word essay test, as evident in the mean and median scores, was lower for the various categories of respondents.

150

Table 21: Distribution of Academic Word Lists

Category	Mean	SD	Median	QD	Skewness	Kurtosis	Min.	Max.
Overall	4.81	1.78	4.72	1.0	.504	.388	.96	10.95
Female	4.70	1.73	4.71	1.0	.348	.046	.96	9.29
Male	5.06	1.89	4.92	1.5	.748	.814	1.75	10.95
20-22	4.87	1.88	4.71	1.0	.735	.786	1.19	9.76
23-25	4.65	1.88	4.38	1.0	.348	-.368	.96	8.50
26-28	5.0	1.45	5.11	1.0	-1.255	2.09	1.75	6.64
29 and above	4.86	1.66	4.96	1.0	.218	.395	1.79	8.56
Level 200	4.50	1.56	4.21	1.1	.251	-.174	1.19	8.06
Level 300	5.16	1.90	5.00	1.2	.469	-.303	1.79	9.29
Level 400	4.83	1.87	4.80	1.1	.559	1.083	.96	10.95

Source: Field Data (2022)

Table 21 reveals that the respondents' lowest proportion of academic words was 0.96, whilst the highest was 10.95. With the distribution of the proportions approximating normality with a mean of 4.81 (median = 4.72, skewness = 0.504) and a standard deviation of one, it is evident that all the respondents used few academic words.

Academic writing aims for clarity while maintaining precision. Hence, Lecturers and professors at the tertiary level expect their students to enhance the quality of their compositions with a certain level of sophistication that conveys nuanced meanings in alignment with scholarly conventions. The usage of a few academic words points to sacrificing precision for simplicity, a characteristic of a less scholarly tone. Latifi *et al.* (2012) attributed low levels of academic vocabulary knowledge to difficulty in learning this category of words. This claim is justified by Coxhead's (2000) explanation that academic vocabulary is a substantial difficulty for learners because academic vocabulary items occur with lower frequency than general vocabulary items.

151

Given the central role that academic vocabulary knowledge plays in tertiary-level academic success achievement, the low academic vocabulary knowledge demonstrated by the respondents could, thus, affect their academic assessments. This finding gives credence to calls in the literature (Nation, 2001) to increase the advanced ESL learners' knowledge of and proportionate use of appropriate vocabulary (high frequency, low frequency, academic and technical words) to better their academic writing skills.

Off-List Words

The final measure of productive vocabulary knowledge that reflected how vocabulary size is reflected in use was the Off-list (discipline-specific/technical) words. The proportion of Off-list words across the various category of respondents, as shown in Table 22, was lower than Coxhead's recommended 10 percent.

Table 22: Distribution of Off-list Words

Category	Mean	SD	Median	QD	Skewness	Kurtosis	Min.	Max.
Overall	5.53	2.15	5.19	1.5	.880	.859	1.47	12.16
Female	5.52	2.16	5.11	1.5	.908	1.079	1.47	12.16
Male	5.56	2.16	5.30	1.5	.579	.590	1.47	11.46
20-22	5.50	2.25	5.00	1.5	.729	.065	1.97	11.68
23-25	5.56	1.74	5.35	1.77	.986	3.661	1.47	12.16
26-28	5.21	1.20	5.31	1.0	-.561	-.499	3.09	6.79
29 & above	5.79	3.10	4.93	2.0	.608	-.388	1.47	12.04
Level 200	5.28	1.96	4.64	1.1	1.311	1.336	2.77	10.94
Level 300	5.65	2.63	5.1	1.5	.820	.374	1.97	10.19
Level 400	5.68	1.89	5.72	1.3	.072	1.075	1.47	11.46

Source: Field Data (2022)

According to Table 22, the lowest proportion of Off-List words was 1.47, whilst the highest was 12.16. The median score was 5.19, with a

skewness of 0.880. This suggests that the respondents barely used literary devices, grammatical metaphors and other technical words in their writings.

This could be because the respondents assume that the conventional grading systems at the tertiary level value correctness over lexical sophistication and richness. Hence, they are probably not motivated to embellish their writings with figurative expressions to connect their writing to the disciplinary nuances in their area of specialization. They, therefore, miss the opportunity to demonstrate mastery in the use of domain-specific words that showcase an *inadequate* level of knowledge and scholarly depth in the discourse and literature of their academic community.

Academic Word Count

Further analysis was done using the 'TextInspector' software to determine the total count and samples of academic words used in the 300-Tofel writing test. The details are presented in Table 23.

Table 23: Distribution of Academic Word Count

Category	Mean	SD	Median	QD	Skewness	Min.	Max.
Overall	10.76	5.04	10.0	3.00	1.072	3	29
Female	10.45	4.94	9.0	3.0	1.383	3	29
Male	11.46	5.22	11.0	3.5	.493	3	23
20-22	9.88	4.09	9.0	2.5	.688	3	20
23-25	11.81	6024	11.0	3.3	1.172	3	29
26-28	12.00	4.02	12.5	2.0	-.421	4	19
29 and above	10.94	5.15	11.0	3.5	.376	3	21
Level 200	10.05	3.47	10.0	2.5	.444	3	19
Level 300	10.60	5.10	10.0	3.0	.726	2	22
Level 400	11.61	6.13	11.0	3.8	1.047	3	29

Source: Field Data (2022)

153

As evident in Table 23, the minimum number of academic list words out of 300 was 3, and the maximum was 29. Generally, the Academic Word List counts were below the recommended threshold for all categories of respondents. This finding suggests, as argued by Laufer and Nation (2005), that the respondents use fewer academic words, indicating low productive vocabulary knowledge and writing ability.

Writing is a rigorous L2 language task that requires extensive paragraph development skills superior to other output tasks to communicate complicated ideas. Hence, the writing of advanced-level ESL learners is expected to be characterised by (1) a variety of high-quality words with varying levels of frequency, (2) morphologically complex words/phrases that are possibly created by making changes to the syntactic and structural pattern in words using derivations and (3) sophisticated grammatical metaphors ((McNamara *et al.*, 2010)). This assertion gives credence to Stowe's (2018) reiteration that word structure and pattern awareness, as reported in previous findings, play a key role in facilitating mastery and use of ESL vocabulary.

In alignment with Nation (2013), this position echoes the need for morphological awareness to empower advanced ESL learners to self-analyse their linguistic knowledge and self-evaluate the appropriateness of their target language vocabulary use. As reported in the extant literature (e.g., Bao, 2015; Feng, 2014; Nagy & Townsend, 2012; Zou, 2017), the effective use of productive vocabulary in writing enables the application of high-order thinking skills that reinforce academic vocabulary learning and fine-tune writing skills development such as synthesis and evaluation.

Relationship between Morphological Awareness and Vocabulary Knowledge

The results of data gathered to address Research Objective 2 are presented and discussed in this sub-section. A linear relationship was hypothesised between the respondents' morphological awareness and their vocabulary knowledge (receptive and productive) levels. Accordingly, a multi-linear correlation followed by a pairwise comparison was conducted on the disaggregated data to identify possible relationships between the variables of interest using the Pearson Product Moment Correlation. Morphological awareness was measured regarding morpheme identification and morphological structure, while receptive vocabulary size was ascertained at 3000-word frequency, 5000-word frequency, 10,000-word frequency and Academic Word List. For the respondents' productive vocabulary knowledge, the proportion of K1, K2 and academic words in a self-composed 300-word essay was determined using the 'VocabProfile' software.

Correlation Results

To determine the nature, degree of prediction and direction of the relationship, the Pearson correlation coefficient value range of -1 to 1 ($-1 \leq r \leq +1$) was applied to indicate the strength of the relationship, with values closer to 0 indicating the existence of little or no linear relationship. Details of the results are presented in Table 24.

Table 24: Results of Correlations

		Morpheme Structure	Morpheme Awareness	3,000	5,000	10,000	Academic Word List	Overall Receptive Vocabulary	K1 Words 1-1000	K2 Words 1001-2000	Academic words
Morpheme Identification	Pearson Correlation	-.101	.451	.092	-.003	.145	-.075	.094	.-.045	.028	.098
	(P-value)	.217	.000	.259	.972	.074	.360	.250	.585	.729	.229
Morpheme Structure	Pearson Correlation		.843	-.109	-.0.41	-.008	.018	-.056	.051	-.100	-.005
	(P-value)		.000	.181	.616	.918	.829	.491	.530	.220	.954
Morpheme Awareness	Pearson Correlation			-.048	-.038	.071	-.025	.000	.022	-.074	0.49
	(P-value)			.556	.639	.385	.763	.997	.789	.362	.550
3,000	Pearson Correlation				.229	.228	.238	.648	-.127	-.139	.435
	(P-value)				.005	.005	.003	.000	.119	.087	.000
5,000	Pearson Correlation					.188	.356	.609	-.210	-.048	.467
	(P-value)					.021	.000	.000	.009	.555	.000
10,000	Pearson Correlation						.233	.744	-.307	-.073	.534
	(P-value)						.004	.000	.000	.369	.000
Academic Words	Pearson Correlation							.587	-.324	-.153	.580
	(P-value)							.000	.000	.061	.000
Overall Receptive Vocabulary	Pearson Correlation								-.365	-.148	.755
	(P-value)								.000	.069	.000
K1 words	Pearson Correlation									-.512	-.529
	(P-value)									.000	.000
K2 words	Pearson Correlation										-.128
	(P-value)										.117

Source: Field Data (2022)

156

As shown in the matrix presented in Table 24, the value of Pearson's correlation coefficient was $.779 \leq r \geq .997$. Cohen (1988. p. 80) describes the strength of a relationship value (r) close to 0.50 as a "large correlation effect size and correlations greater than .30 as medium". The correlation results thereby indicated that morphological awareness and vocabulary knowledge significantly correlated.

Discussion for Research Objective Two and Hypothesis 1

Overall, the value of the bi-serial correlation coefficient indicated a strong positive correlation that meets the assumed condition of linearity in the alternative hypothesis (H_1), which states that *significant linear relationships exist between morphological awareness and vocabulary knowledge*. This means that morphological awareness and vocabualry knowledge are interrelated; morphological awareness contributes to the range and depth of receptive and expressive words that ESL learners understand and use.

For one, morphological awareness contributes to word-deconstruction and word-formation. This implies that morphological awareness serves as a foundation for ESL learners to expand their lexicon since learners with robust morphological awareness can effectively apply morphological rules to decipher novel words and/or breakdown complex words into meaning parts to infer word meaning. This finding supports previous discussions in critical reviews (e.g., Henbest & Apel, 2017s; Nagy *et al.*, 2014), systematic syntheses (e.g., Brandes & Mcmaster, 2017; Carlisle, 2010), and quantitative meta-analyses (e.g., Bowers *et al.*, 2010; Goodwin & Ahn, 2010, 2013) on the causal relationship between morphological instruction and literacy development across native and non-native English-speaking contexts.

Collectively, such findings validate calls and propositions in previous works (e.g., Carlisle *et al.*, 2010; Coxhead, 2000; Hiebert & Lubliner, 2008) that implore ESL teachers to consistently embed, emphasise and reinforce morphological awareness instruction and remediation to help advanced learners reach the required vocabulary threshold. For instance, Beck *et al.* (2013) found that morphological knowledge predicted academic success. This observation resonates with Coxhead's (2000) claim that 76% of high-frequency academic words that students learn in school share morphological roots, which provide semantic links between words and their morphological word families. Therefore, awareness of the morphemic patterns in the English language empowers learners with the metalinguistic ability to make connections between semantically and conceptually related words, leading to vocabulary knowledge build-up.

Based on the observed degree of prediction (r ≥50), further examination of possible relationships between the linear combination of the variables and sub-variables of interest was needed. Hence, a pairwise examination was conducted to disaggregate the data.

Morpheme Identification and Morphological Structure

The first pairwise relationship examined is the relationship between the components of morphological awareness, that is, morpheme identification and morphological structure. The relationship was weak ($r = -0.101$, $p = 0.217$). However, the relationship between morphological structure and morphological awareness was significant ($r = 0.843$, p-value = 0.000), indicating that respondents with higher morphological awareness scores generally scored

158

higher in the overall morphological awareness test than those with lower morphological structure scores.

Similarly, the morpheme identification scores of the respondents were reflected in their overall morphological awareness scores. Those with higher morpheme identification awareness had higher significant morphological awareness scores than those with lower morpheme identification scores (r= .451, p-value = .000). This confirms that the respondents were better at the morpheme identification task. This finding is not surprising because many researchers (e.g., Berninger *et al.,* 2010; Nunes & Bryant, 2006) have also found morpheme identification (analytical) and morphological structure (synthesis) to be mutually reinforcing yet distinct aspects of morphological awareness. This outcome is similar to Varatharajoo *et al.*'s (2016) finding which indicated a poor performance in the morphological structure (synthetic) task compared to the morpheme identification (analytical) task.

Morphological Awareness and Receptive Vocabulary Size

The next pairwise relationship examined was between morphological awareness and receptive vocabulary size. This was deemed necessary given that evidence from experimental and correlational works (e.g., Chen *et al.*, 2009; Kieffer & Lesaux, 2012; Liu *et al.*, 2017) show that overall knowledge of vocabulary (word structure, meaning, size and syntactic relations) in languages with morpho-phonological writing systems such as English is developed on a continuum beginning with morphological awareness (the ability to analyse and manipulate the morphological structure of words) and leading to enhanced language and literacy skills (development of proficient writing skills). Deductively, this implies that awareness of English

159

morphology enables ESL learners to manipulate, to process and to produce English words intentionally. The results are captured in Table 25.

Table 25: Distribution of Pairwise Relationship between Morphological Awareness and Receptive Vocabulary Size

Category	N	R	p-value
Overall	152	0.000	.997
Female	105	-0.009	0.927
Male	47	0.046	0.760
20-22	75	0.018	0.880
23-25	49	0.028	0.846
26-28	10	-0.148	0.684
29 and above	18	-0.125	0.620
Level 200	53	-0.041	0.773
Level 300	45	-0.258	0.087
Level 400	54	0.264	0.054

Source: Field Data (2022)

As captured in Table 25, the study found no significant relationship between morphological awareness and receptive vocabulary size (r = 0.000, p-value = 0.997).

Components of Morphological Awareness and Vocabulary Knowledge

Further analysis was done to determine the relationships among the components of morphological awareness and vocabulary knowledge (receptive and productive). However, the results were essentially the same. The disaggregated data showed that the morphological awareness of male and female students, as well as those from different age groups and levels, did not significantly relate to their receptive vocabulary size (-2.58 ≥ r ≤ .264, p-value ≥ 0.054).

Theoretically, this finding contradicts the study's conceptual presupposition that high morphological awareness directly influences vocabulary knowledge. Empirically, it is also contrary to the findings in the large body of literature (e.g., Adam, 2018; Khodadoust *et al.*, 2013; Tabatabaei & Yakhabi, 2011) that found evidence of a robust relationship

160

between morphological awareness and vocabulary size. This outcome is not surprising given that outcomes from correlational studies conducted with ESL learners, unlike native speakers of English, have been less conclusive. However, morphology is the source of English vocabulary. Hence, it cannot be said that morphological awareness does not directly influence vocabulary knowledge.

Instead, a possible conclusion could be that evidence gathered from the sample data in the present study, like Farsi's (2008) and Alsalamah's (2011) studies (see pp. 71-72), did not prove morphological awareness to be the sole predictor of increased receptive vocabulary size in advanced ESL learners. Hence, the study does not support the conclusion that morphological awareness does not contribute directly to receptive vocabulary knowledge growth and development.

Morphological Awareness and Productive Vocabulary Knowledge

The next pairwise relationship examined was morphological awareness and productive vocabulary knowledge. According to Nation and Meara (2002), there is a correlation between the number of words L2 learners know and how well they speak, read and write in English. This confirms morphological awareness as a potential strategy that could be used to enhance the vocabulary knowledge and academic writing of advanced ESL learners. Accordingly, the study's assumption of a significant linear relationship between morphological awareness and productive vocabulary knowledge of preservice teachers of the English language at UCC was tested.

In examining the relationship between morphological awareness and productive vocabulary knowledge, the overall morphological awareness score

161

was related to each of the three components of productive vocabulary knowledge (K1, K2 and Academic words), as the study could not generate a composite score for this variable. The details are captured in Table 26.

Table 26: Distribution of Pairwise Relationship between Morphological Awareness and Productive Vocabulary Knowledge

Category	N	K1		K2		Academic Words	
		R	p-value	R	p-value	R	p-value
Overall	152	0.022	0.789	-0.074	0.362	0.049	0.550
Morpheme Identification	152	-0.045	0.585	0.028	0.729	0.098	0.229
Morphological structure	152	0.051	0.530	-0.100	0.220	-0.005	0.954
Female	105	0.088	0.372	-0.140	0.155	0.029	0.768
Male	47	-0.223	0.132	0.163	0.275	0.120	0.423
20-22	75	-0.103	0.380	-0.133	0.254	0.186	0.110
23-25	49	0.175	0.230	0.051	0.728	-0.131	0.371
26-28	10	-0.412	0.237	0.349	0.323	0.013	0.971
29 and above	18	0.099	0.697	-0.321	0.194	-0.015	0.951
Level 200	53	0.004	0.976	-0.158	0.258	0.116	0.408
Level 300	45	0.163	0.284	0.046*	0.766	-0.185	0.224
Level 400	54	-0.079	0.568	-0.095	0.494	0.185	0.180

Source: Field Data (2022)

As indicated in Table 26, evidence from the results shows that the relationship between overall morphological awareness on the one hand and K1 words, K2 words and Academic Word List was not significant ($-0.074 \geq r \leq 0.049$, p-value ≥ 0.362).

Further analysis examined the relationship between morpheme identification on the one hand and K1 words, K2 words and Academic Word List on the other hand. With a Pearson correlation coefficient of $-0.045 \geq r \leq 0.098$ and p-values of ≥ 0.229, the relationships between morpheme identification on the one hand and K1 words, K2 words and Academic Word List were insignificant. Similar relationships were also found, as presented in Table 26, between morphological structure on the one hand and K1 words, K2 words and Academic Word List ($- 0.005 \geq r \leq 0.051$, p-value ≥ 0.220).

162

Collectively, these findings contradict studies (e.g., Crosson *et al.*, 2018; Kieffer & Box, 2013; Nagy & Townsend, 2012; Yucel-Ko, 2015) that reference morphological awareness as contributing significantly to productive vocabulary knowledge. Nevertheless, the study draws on the existence of an established linear relationship between morphological awareness and overall vocabulary knowledge in previous works (e.g., Latifi *et al.*, 2012; Nation, 2013; Yasin & Jawad, 2015) to support the predictive role morphological awareness plays (whether direct/indirect or weak/strong), fostering overall vocabulary knowledge development and learning of ESL learners. As emphasised by Newton (2018), this is because about 76% of the high-frequency academic words ESL learners encounter in school have morphologically complex structures. Morphological awareness, therefore, undoubtedly contributes to the ESL vocabulary teaching and learning process.

Receptive Vocabulary Knowledge Size and Productive Vocabulary Knowledge

Next, the relationship between receptive vocabulary knowledge size and productive vocabulary knowledge was also examined. The examination begins with the relationship between the overall receptive vocabulary size and the indicators of productive vocabulary knowledge (K1, K2 and Academic words), followed by the disaggregation of the relationships among the indicators of the two variables. Table 27 details the outcome.

163

Table 27: Distribution of the Pairwise Relationship between Receptive Vocabulary Knowledge Scores and K1 Words

	N	R	p-value
Overall	152	-0.365	0.000**
Female	105	-0.436	0.000**
Male	47	-0.174	0.241
20-22	75	-0.443	0.000**
23-25	49	-0.321	0.024*
26-28	10	0.168	0.643
29 and above	18	-0.261	0.296
Level 200	53	-0.249	0.072
Level 300	45	-0.494	0.001**
Level 400	54	-0.282	0.039*

$**p< .001$; $*p< .05$
Field Data, 2022

The information presented in Table 27 shows that the overall receptive vocabulary score is inversely related to K1 words. This means that the respondents with higher receptive vocabulary size significantly use fewer K1 words ($r = -0.365$, p-value = 0.000). The significance of the relationship between receptive vocabulary size and the proportion of K1 words was positive for females ($r = -0.436$, p-value = 0.000), those in the 20-22 age group ($r = -0.443$, p-value = 0.000), 23 – 25 age group ($r = -0.321$, p-value = 0.024), Level 300 ($r = -0.494$, p-value = 0.001) and Level 400 ($r = -0.282$, p-value = 0.039), but not for males ($r = -0.174$, p-value = 0.241), those in the 26 – 28 age group ($r = 0.168$, p-value = 0.643), 29 years and above ($r = -0.261$, p-value = 0.296) and Level 200 ($r = -0.249$, p-value = 0.072), as depicted in Table 27.

Next, Pearson's Product Moment Correlation analysis was used to examine the pairwise relationship between K2 words and receptive vocabulary size. As seen in Table 28, the results show an inverse relationship between the proportion of K2 words used and the overall receptive vocabulary knowledge. However, the relationship was insignificant ($r = -0.148$, p-value = 0.069).

Further analysis was done by disaggregating the relationship by sex, age groups and levels of study. The results are presented in Table 28.

Table 28: Distribution of Pairwise Relationship between Receptive Vocabulary Knowledge Scores and K2 Words

	N	R	p-value
Overall	152	-0.148	0.069
Female	105	-0.087	0.378
Male	47	-0.313	0.032*
20-22	75	-0.123	0.292
23-25	49	-0.146	0.318
26-28	10	-0.657	0.087
29 and above	18	-0.348	0.157
Level 200	53	-0.285	0.038*
Level 300	45	-0.096	0.529
Level 400	54	-0.110	0.430

**p<.001; *p<.05
Source: Field Data (2022)

In all, Table 28 reveals that only the relationships between K2 words used and the overall receptive vocabulary knowledge for males (r = -0.313, p-value = 0.032) and level 200 respondents (r = -0.285, p-value = 0.038) were statistically significant at the 5% alpha level. This means that males and Level 200 respondents with fewer K2 words had higher receptive vocabulary knowledge than those with more K2 words.

Further, evidence from the information shows that generally, respondents who used more academic words in the 300-essay test also obtained more receptive vocabulary scores. The relationship between respondents' Academic Word List scores and overall receptive vocabulary scores was significant at the 1 percent alpha level (r = 0.755, p-value = 0.000), as presented in Table 29.

165

Table 29: Distribution of the Pairwise Relationship between Receptive Vocabulary Knowledge Scores and Academic Words

	N	R	p-value
Overall	152	0.755	0.000**
Female	105	0.726	0.000**
Male	47	0.807	0.000**
20-22	75	0.795	0.000**
23-25	49	0.666	0.000**
26-28	10	0.879	0.001**
29 and above	18	0.770	0.000**
Level 200	53	0.723	0.000**
Level 300	45	0.858	0.000**
Level 400	54	0.680	0.000**

**p< .001; *p< .05
Source: Field Data (2022)

The disaggregated results in Table 29 show direct significant relationships between the Academic Word List and the overall vocabulary knowledge size for all the categories of respondents ($0.666 \geq r \leq 0.879$, p-value ≤ 0.001). This finding contradicts Webb's (2008) finding that ESL learners' productive knowledge size is about at least half the words they know receptively but do not have as much productive vocabulary knowledge as receptive, especially regarding less frequently used words.

Relationship between Background Characteristics, Morphological Awareness and Vocabulary Knowledge.

This sub-section presents results on Research Objective 3 and Hypotheses 2, 3 and 4. The discussion is based on an examination of the relationship between the respondents' background characteristics (sex, age and level of study) and their morphological awareness, receptive vocabulary

knowledge and productive vocabulary knowledge using Pearson's Chi-square test.

Background Characteristics and Morphological Awareness

The respondents' morphological awareness level (Excellent/Good/ Medium/Poor/Very Poor) and written receptive vocabulary knowledge level (adequate/inadequate), as determined using Nur Rahim *et al.* (2021) and Schmitt *et al.*'s (2001) criteria respectively, provided the basis for the analysis in this sub-section. In instances where relationships were found, confirmatory tests using the Phi-coefficient and Crammer's V statistic determine the magnitude of the relationship. The test results for a relationship between respondents' morphological awareness and background characteristics Table 30.

Table 30: Relationship between Morphological Awareness and Background Characteristics

Variable	χ^2	Df	p-value
Sex	3.518	3	.318
Age groups	6.493	9	.690
Level of study	5.622	6	.467

Source: Field Data (2022)

As can be seen in Table 30, none of the background characteristics of respondents was significantly associated with levels of morphological awareness ($3.518 \geq \chi^2 \leq 5.622$, $0.318 \geq$ p-value ≤ 0.690), indicating that the morphological awareness level of the respondents was independent of their sex, age group or level of study. This finding means that the backgorund characteristics investigated in the present study do not play a directly influence morphological awareness or vocabulary knowledge.

167

Although an insignificant association does not discount the importance of sex, age and level of study it higlights the multifacetedness of vocabulary development and its complex interplay with various other factors that infuence language learning. The study finding, thus, resonates with Barret *et al.* (2019) who argue that differences in learning outcomes may be influenced by other variables including learner motivation and external support systems such as the type of resources one can access. Hence, there is a need for pedagogical implementations that emphasise educational equity, fairness and inclusion. The study, therefore, failed to reject the null hypothesis: *There is no significant relationship between background characteristics (sex, age and levels of study) and morphological awareness of preservice teachers of the English language at the University of Cape Coast.*

Background Characteristics and Components of Morphological Awareness

Further analysis determined the relationship between the respondents' background characteristics and the two components of morphological awareness (morpheme identification and morphological structure). The details, as captured in Table 31, show that sex, age groups, and levels of study do not significantly associate with morpheme identification $(1.013 \leq \chi^2 \leq 17.603,$ $0.128 \leq$ p-value $\leq 0.908)$.

Table 31: Relationship between Morpheme Identification Awareness Level   and Respondents' Background Characteristics

Variable	χ^2	Df	p-value
Sex	1.013	4	0.908
Age groups	17.603	12	0.128
Level of study	6.988	8	0.538

Source: Field Data (2022)

168

The evidence presented in Table 31 means that the morpheme identification level of the respondents did not depend on their sex, age group or level of study. Aside from the relationship between the respondents' background characteristics and levels of morpheme identification, the relationship between levels of morphological structure and background characteristics of respondents was also examined.

Evidence from the information presented in Table 32 shows that apart from sex, the rest of the background information (age groups and levels of study) did not significantly associate with levels of morphological structure ($2.029 \leq \chi^2 \leq 7.009$, $.636 \leq$ p-value ≤ 0.917), making age groups and levels of study independent of respondents' morphological structure levels.

Table 32: Relationship between Morphological Structure Awareness Level   and Background Characteristics

Variable	χ^2	Df	p-value
Sex	8.705	3	.033*
Age groups	7.009	9	.636
Level of study	2.029	6	.917

*Significant at the 0.05 alpha level
Source: Field Data (2022)

From the gender perspective, Table 32 shows that none of the males, compared to 15.2 percent of the females, had excellent morphological structure. Further analysis was conducted to ascertain the morphological awareness level of the two sexes. The results, as captured in Table 33, revealed that most males (a combined percentage of 80.9) were associated with *medium* to *good* morphological structure awareness. In contrast, most females (a combined percentage of 80) were associated with *medium* to *excellent* morphological structure awareness levels.

169

Table 33: Morphological Structure Awareness Level by Sex

Category	Females		Males		Total	
	Freq.	%	Freq.	%	Freq.	%
Excellent	16	15.2	0	0.0	16	10.5
Good	36	34.3	20	38.3	52	34.2
Medium	32	30.5	20	42.6	52	34.2
Poor	21	20.0	9	19.1	30	19.7
Total	105	100	47	100	152	100

Source: Field Data (2022)

At the 0.05 significance level, the relationship between sex and level of morphological structure was significant (χ^2 = 8.705, p-value $\leq$ 0.033). A confirmatory test using the Phi-coefficient was conducted to determine the magnitude of the relationship between sex and levels of morphological structure. A Phi-coefficient of 0.239 with its associated p-value of 0.033 confirmed the relationship. However, according to Cohen (1998), a Phi-coefficient of 0.239 indicates a weak relationship between sex and levels of morphological structure.

Background Characteristics and Receptive Vocabulary Knowledge Size

The examination starts with levels of receptive vocabulary knowledge followed by disaggregation of the variable into 3,000, 5,000, 10,000 and academic word lists. The respondents' receptive vocabulary knowledge size level (Low/High) was determined using Schmitt's (2001) criteria. The results on the relationship between respondents' background characteristics and receptive vocabulary knowledge levels are presented in Table 34.

170

Table 34: Relationship between Background Characteristics and Respondents' Overall Receptive Vocabulary Knowledge Level

Variable	χ^2	Df	p-value
Sex	3.622 (Yates)	1	0.057
Age groups	2.161	3	0.540
Level of study	2.593	2	0.273

*Significant at the 0.05 alpha level
Source: Field Data (2022)

As presented in Table 34, all the background characteristics of respondents (sex, age groups and levels of study) did not associate significantly with levels of receptive vocabulary knowledge ($2.161 \leq \chi^2 \leq 3.622$, $0.273 \geq$ p-value ≥ 0.057). This outcome confirms findings from previous works (e.g., Borovsky *et al.*, 2012), which found that background characteristics such as age and sex are independent of the vocabulary development of contemporaries with comparable exposure and experiences in learning the English language. Thus, age and sex could not have influenced the vocabulary knowledge base of the Level 200, 300 and 400 male and female preservice teachers of the English language sampled for the study given that their ages were close in range: 20-22, 23-25, 26-29, 29.

Further analysis determined the relationship between respondents' background characteristics at the 3,000-word frequency level. The data, as seen in Table 35, showed no significant relationship between sex, age groups and levels of study on the one hand and receptive vocabulary at the 3,000-word frequency level ($0.881 \geq \chi^2 \geq 5.625$, $0.131 \leq$ p-value ≤ 0.644) on the other hand.

Table 35: Relationship between Background Characteristics and 3,000-Word Frequency Level

Variable	Chi-square	Df	p-value
Sex	0.838 (Yates)	1	0.360
Age groups	5.625	3	0.131
Level of study	0.881	2	0.644

Source: Field Data (2022)

The results in Table 35 indicate that the participants' receptive vocabulary at the 3,000-word frequency Level is independent of their demographic differences (sex, age group and level of study). This means that English educators at UCC can focus on vocabulary education without being overly concerned about skewed results due to sex, age, or level of study.

Aside from the 3,000-word frequency Level, the relationship between respondents' background characteristics and knowledge of words at the 5,000 Level was also examined. The details presented in Table 36 show that respondents' 5,000 Frequency Word-Level was independent of their sex and level of study ($.373 \leq \chi^2 \leq .881$, $0.722 \leq$ p-value ≤ 0.830).

Table 36: Relationship between Background Characteristics and 5,000-word Frequency Level

Variable	χ^2	Df	p-value
Sex	.126 (Yates)	1	0.722
Age groups	11.432	3	0.010*
Level of study	.373	2	0.830

*Significant at the 0.05 alpha level
Source: Field Data (2022)

Further details presented in Table 36 on the distribution of age groups by their performance at the 5,000-word frequency levels show that the respondents' age groups were significantly associated with their 5,000-word frequency Level scores ($\chi^2 = 11.432$, p-value = 0.010). This means that performance at

the 5,000-word frequency level of most respondents from all age groups was high. However, the proportion of the high 5,000-word frequency level, as captured in Table 37, was greater for the 29 years and older (94.4%) than those in the 23-25 age group (73.5%).

Table 37: Relationship between Age Groups and 5,000-word Frequency Level

Category	20-22		23-25		26-28		29 and more		Total	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Low	5	6.7	13	26.5	1	10	1	5.6	20	13.2
High	70	93.3	36	73.5	9	90	17	94.4	132	86.8
Total	75	100	49	100	10	100	18	100	152	100

Source: Field Data (2022)

Based on the results captured in Tables 36 and 37, the effect size of the relationship between age groups and words at the 5,000-frequency level was determined using Crammer's V statistic. The test results (Crammer's V = 0.274, p-value = 0.10) showed a significant moderate relationship between age groups and 5,000-word frequency levels.

Disaggregation of Respondents' Background Characteristics by 10,000-Word Frequency Level

The relationship between the respondents' background characteristics and their knowledge of receptive vocabulary at the 10,000-word frequency level is examined in this sub-section. The relationship was determined using the Ch-Square test of homogeneity. The results are presented in Table 38.

Table 38: Relationship between Background Characteristics and 10,000-Word Frequency Level

Variable	Chi-square	Df	p-value
Sex	.126 (Yates)	1	.722
Age groups	2.367	3	.500
Level of study	2.166	2	.339

*Significant at the 0.05 alpha level
Source: Field Data (2022)

The test statistics presented in Table 38 show that the relationship between each of the background characteristics (sex, age groups and level of study) and 10,000-word frequency levels was not significant ($.126 \leq \chi^2 \leq .236$, $0.339 \leq$ p-value ≤ 0.722).

Generally, this observed outcome indicates that the respondents' level of 10,000-word frequency knowledge was independent of their sex, age group and level of study. This implies that English education lecturers at UCC can employ universally accepted vocabulary instruction strategies that open up language education opportunities including morphological awareness for all learners regardless of their sex, age or educational background. This would allow for the implementation of effective teaching, learning and assessment methods that offer equitable vocabulary learning opportunities to cater to individual needs without feeling constrained by sex, age or level of study.

Background Characteristics and Academic World List Knowledge Level

Academic word knowledge is vital for higher-level learning. Therefore, to determine the relationship between respondents' background characteristics and receptive vocabulary levels, a Pearson's chi-square test of homogeneity was used to associate respondents' background characteristics with their level of Academic Word List knowledge. The results are seen in Table 39.

Table 39: Relationship between Background Characteristics and Academic   Word List Knowledge

Variable	Chi-square	Df	p-value
Sex	.000 (Yates)	1	1.000
Age groups	1.438	3	.697
Level of study	6.536	2	.038*

*Significant at the 0.05 alpha level
Source: Field Data (2022)

174

As evidenced in the data captured in Table 39, the level of respondents' Academic Word List knowledge was independent of their sex and age group (($.000 \leq \chi^2 \leq .697$, $0.697 \leq$ p-value ≤ 1.000). However, the relationship between respondents' level of study and their knowledge of words on Coxhead's (2000) Academic Word List was significant ($\chi^2 = 6.536$, p-value = .038) This finding means that above all else, higher-level preservice teachers of the English language at UCC are expected to have a more extensive AWL knowledge. Recognizing this connection would undoubtedly inform vocabulary teaching practices, assessment and enrichment efforts aimed at supporting the career preparedness of the future English Language teachers.

Level of Academic Word List Knowledge

The study further determined where the relationships lie. The results captured in Table 40 show all the Level 400 students as having *high* Academic Word List knowledge compared to 88.9 percent and 88.7 percent of the Levels 300 and 200, respectively. This shows that the Level 400 students demonstrated richer word knowledge and greater lexical competence suggesting that vocabulary knowledge contributes to academic success. The Crammer's V test (0.207, p-value = 0.000) confirmed the significance of this relationship and its effect size as *moderate*, according to Cohen (1998). The results are found in Table 40.

Table 40: Distribution of Levels of Study by Level of Academic Word List Knowledge

Category	Level 200		Level 300		Level 400		Total	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Low	6	11.3	5	11.1	0	0.0	11	7.2
High	47	88.7	40	88.9	54	100	141	92.8
Total	53	100	45	100	54	100	152	100

Source: Field Data (2022)

175

Relationship between Background Characteristics and Productive Vocabulary Knowledge Level

The final examination was between the respondents' background characteristics (sex, age groups, levels of study) and productive vocabulary knowledge level. Coxhead's (2000) Academic Word List was used as a proxy. Results of the Pearson's chi-square test on the magnitude of the relationship are presented in Table 41.

Table 41: Relationship between Background Characteristics and Academic   Word Usage

Variable	Chi-square	Df	p-value
Sex	1.366 (Yates)	3	.714
Age groups	4.711	9	.859
Level of study	17.869	6	.007*

*Significant at the 0.05 alpha level
Source: Field Data (2022)

As shown in Table 41, the results indicate that a significant relationship exists between Levels of Study and Levels of Academic Word List knowledge (χ^2 = 17.869, p-value = 0.007). On the other hand, the relationships between sex and age groups found were not statistically significant ($1.366 \leq \chi^2 \leq 4.711$, $0.714 \leq$ p-value ≤ 0.859).

Crammer's V statistic was used to determine the magnitude of the relationship between respondents' level of productive academic words and Levels of study. Based on a value of 0.343 with a p-value of 0.007, Cohen (1998) describes this magnitude of relationship as *strong*. Further analysis was conducted to describe the distribution of academic word usage of respondents according to respondents' Levels of study. The details are captured in Table 42.

Table 42: Distribution of Productive Vocabulary (Academic Word) Usage by Study Level

Category	Level 200		Level 300		Level 400		Total	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Very high	7	13.2	21	46.7	18	33.3	46	30.3
High	8	15.1	9	20	5	24.1	22	14.5
Moderate	16	30.2	7	15.6	13	9.3	36	23.7
Low	22	41.5	8	17.8	18	33.3	48	31.6
Total	53	100	45	100	54	100	152	100

Source: Field Data (2022)

Table 42 shows that the respondents in Level 200 were associated with *low* (41.5%) to *moderate* (30.2) as compared to those in Levels 300 and 400 who were associated with *high* (20%, 24.1%) to *very high* (46.7%, 33.3%) productive academic word knowledge levels respectively. This result is not surprising given that students in levels 200 and 300 have relatively spent more years in school studying the English language.

Discussion for Research Objective Three and Hypotheses 2, 3 and 4

Researchers have argued inconclusively about the influence of sex, age, and level of study on the language development and literacy achievement of ESL learners. Whereas some argue that these background characteristics affect language development and learner proficiency in reading and writing, others disagree. This contradictory feedback in the literature suggests that the continuous existence of gender gaps in academic performance poses a threat to ESL education (Nyarko *et al.*, 2018). a contextual understanding of the relationship between background characteristics and overall vocabulary achievement in ESL learning is, thus, needed.

Following the recommendation of Alqarni (2017), the relationship between background characteristics (sex, age and level of study), morphological awareness and vocabulary knowledge was examined in the

present study. The aim was to ascertain the nature of the relationship (if any) between these background characteristics, on the one hand, and morphological awareness and vocabulary knowledge, on the other hand. The objective was to provide scientific evidence on the support (or otherwise) the potential of morphological awareness to influence vocabulary knowledge development and, ultimately, the literacy achievement of preservice teachers of the English language, regardless of sex, age or level of study. The credibility of this finding is rooted in the scientific nature of the test statistics used to generate the correlational results reported in its findings.

Overall, sex was not associated with the study respondents' overall morphological awareness or vocabulary knowledge. This observation was not surprising, given that scholars disagree on the effect of gender on language education. On the one hand, studies (e.g., Shakouri, 2012; Shakouri & Saligheh, 2012) that reported females as performing better than males in language tasks females perceived females to be naturally inclined to language learning. On the other hand, several others (e.g., Fernándes-Fontecha & Gallego, 2012) who reported otherwise do not support this belief.

Like the present study, findings from works that report that sex does not influence vocabulary learning align with the cognitivist belief that language learning is a highly cognitive knowledge-focused skill not exclusive to sex. In other words, males and females possess the innate *LAD* for language acquisition. Therefore, exposure to linguistic input, not sex, could have provided the impetus to activate the preservice English language teachers' language acquisition device for receptive-productive vocabulary knowledge development.

The rationale and objectives of the B. Ed Arts (English) programme indicate that learning provisions and opportunities provided in the curriculum From Years 1 - 4 ensure equity and equality; the curriculum provides targeted theoretical and pedagogical support to ensure the personal and career preparedness of all (males and females) preservice teachers to teach the English language. Besides, advanced academic reading skills are fundamental across tertiary levels of education (Salamonson *et al.*, 2010). Hence, Fenyi and Morrison (2023)) assert that all university-level ESL learners (males and females) must master a sizeable repertoire to read, to understand concepts and to write effectively.

Likewise, age and level of study were not found to be sensitive to morphological awareness or vocabulary knowledge, even though literature abounds with empirical works that show that age and level of study are associated with L2 learning experience and advancement. Regarding age, the findings from the present study contradict Muños and Singleton (2011). Instead, it concurs with works (e.g.Pfenninger, 2014) that found non-significant relationships between level of study and L2 vocabulary development. Because English is the language of instruction and a compulsory academic subject across levels of study for ESL learners in Ghana, writing competence is required for the academic progression and success of each preservice English teacher (Owusu *et al.*, 2015).

Therefore, in line with existing literature on the insensitivity of age, sex and level of study to L2 learning, the quantitative findings gathered in the present study show that preservice teachers of the English language at the University of Cape Coast (regardless of sex, age and level of study) are

required to demonstrate scholarship through reading and writing. Based on these findings, the null hypothesis, there is *no significant difference between respondents' background characteristics and their morphological awareness, receptive vocabulary knowledge and productive vocabulary knowledge*, was retained.

Section 2: Qualitative Results

The results presented and discussed in this section address Research Objective 4. The focus of the objective was to examine secondary qualitative data gathered from the B.Ed Arts (English) curriculum to ascertain the comprehensiveness (or otherwise) of its provisions to produce preservice teachers of the English language with the required competence (i.e., knowledge and skills) for effective English language teaching and learning in Ghanaian secondary schools.

Programme Evaluation

The term "evaluation", as used in education, generally applies to operations associated with educational programs, curricula, teaching methods and interventions (Kelly, 1999). A programme or curriculum evaluation, can, therefore, be defined as the process by which an attempt is made to gauge the value and effectiveness of an implemented educational programme. The purpose of curriculum evaluation was to ascertain the comprehensiveness (or otherwise) of the design, implementation and outcome to facilitate vocabulary development and instruction at the secondary school level. To this end, Stufflebeam's (2007) CIPP Content, Input, Process, and Product evaluation model was implemented to evaluate the B. Ed (Arts, English) degree programme.

Context

Dubin and Olshtain (1986) explained that the ideology driving ESL curriculum design, implementation and outcome reflects the general goals and "educational-cultural philosophy which apply across several subjects together with a theoretical orientation to language and language learning" (p. 34). Thus, a close reading of national documents guiding Teacher Education in Ghana (e.g., GTEC, NTC, NTEF) indicates that the implementation of academic programmes designed across institutions in Ghana aims to: (1) increase the content knowledge of preservice teachers, (2) make them aware of pedagogic principles and strategies involved in teaching the English language and (3) expose them to authentic classroom experiences that meet the needs of 21st-century education (Akyeampong *et al.*, 2000).

In sync with National objectives, the B. Ed (Arts, English) programme aims, as outlined in the programme document, to empower preservice teachers of the English language who graduate from the University of Cape to shape the language and literacy development of secondary school students in Ghana. This objective aligns with UCC's mission and vision to implement academic programmes consciously designed to raise the proficiency level and competence of preservice teachers who enroll to offer teachers (UCCQAP, 2010).

Input

The question addressed in this section was "*What specific content knowledge, skills and competencies are prescribed in the English language curriculum for reservice teachers of the English language at UCC?*" A descriptive analysis of the courses in the curriculum revealed eleven (11)

181

prescribed content-specific courses in English language and Literature to be offered in eight (8) semesters. A summary of the core competency course components is found in Table 43.

Table 43: Summary of Core Competency Courses

Year	Semester 1	Semester 2
1	ENG 101: The use of English	ENG 112: Principles of Prose Fiction
2	ENG 203: The sentence and its parts	ENG 204: Forms and functions of the English clause
	ENG 213: The Language of Drama	ENG 214: The Techniques of Poetry
3	ENG 302: Phonetics and Phonology	ENG 306: Aspects of the Grammar of English
	ENG 315: Contemporary African Writing	ENG 314: Studies in Shakespeare
4		ENG 405: Error and Contrastive Analysis

Source: Field Data (2022)

As can be seen from Table 43, the courses are structured to improve the knowledge and competence of the preservice teachers in English grammar, phonology and literature.

In Year 1, the *Use of English* course introduces preservice teachers of the English language to the different genres of academic texts. It integrates content knowledge in English Language and Linguistics to guide them in developing academic reading, writing, and speaking proficiency in English for academic purposes. Next, *Principles of Prose Fiction* explores the elements of prose fiction (such as characterisation, plot and setting) that guide the literary appreciation of prose texts.

182

Four courses (2 Language and 2 Literature) are offered in Year 2. The Language courses *The Sentence and its Parts* and *Forms and Functions of the English Clause* reinforce each other to improve its students' Language and Linguistics competence with an in-depth analytical and conceptual study of the sentence and its parts. Next, the Literature courses: *The Language of Drama* and *The Techniques of Poetry* develop the theoretical and practical understanding of the elements of drama and the features dramatic text shares with other genres of literature.

In Year 3, *Phonetics and Phonology* provides exposure to phonetic and phonological theory, emphasising the identification and use of English sounds in discoursal contexts. In addition, two literature courses, *Contemporary African Writing: Critical Issues* and *Studies in Shakespeare,* draw on selected texts to trace the historical issues and dominant thematic currents that form the basis of literary discussion in the two genres. Finally, *Aspects of the Grammar of English* builds on earlier courses in grammar to guide its students to appreciate the discourse basis of grammatical systems and apply grammatical knowledge in analysing modern English structure and usage in academic and non-academic texts.

In Year 4, only one core course, *Error and Contrastive Analysis*, is offered. However, unlike other content specific courses, this course leads to an in-depth exploration of the claims, assumptions, procedures and pedagogical implications of Contrastive Analysis, Error Analysis and Interlanguage and the criticisms they attracted as some of the earlier attempts made in the literature to understand the nature of second language acquisition.

Process

The question addressed in this section is, *"How is the programme intended to be implemented?"*

Generally, the curriculum draws synergy from the "The National Teacher Education Curriculum Framework" (NCTEF) and "National Teachers' Standards for Ghana Guidelines" (NTF) to offer content, pedagogy and technological knowledge to preservice teachers of the English language at UCC. According to Asare and Nti (2014), this three-fold implementation harmonises with the constructivist-based Pre-Tertiary Teacher Professional Development and Management (PTPDM) policy that ensures that teacher education institutions offer:

1. foundational academic courses designed to develop subject-matter knowledge.

2. specialised personal development courses covering communication and study skills.

3. educational courses focused on the learner in the context of the school situation and linked with the teaching-learning process and assessment.

4. curriculum studies and methods of teaching the content of the English language syllabus for secondary school.

5. practical training comprised of one academic year of on-campus and off-campus teaching practice.

Per its structure and design, strict adherence to the curriculum implementation is expected to ensure that preservice teachers of the English language at the University of Cape Coast master the theories of learning that give premium to language acquisition.

184

Again, the preservice teachers are expected to become proficient in the epistemic and conceptual knowledge needed to master the English language, not only as the medium of instruction but also as a subject an and/or object of study. Moreover, the preservice teachers need to develop reflective pedagogical practices and strategies needed to effectively facilitate ESL learning at the secondary level in the 21st-century ESL classroom.

Product

The question addressed in this section is, *"Who are the beneficiaries of the academic programme"?* The B. Ed Arts (English) programme is designed to provide initial training to preservice teachers of the English language in line with the original mandate of the University of Cape Coast. The programme intends to help its beneficiaries master the pedagogical content knowledge and competencies required to effectively address the language acquisition challenges facing students in Ghanaian secondary schools. Teacher education research in Ghana indicates teacher quality as part of the problem and solution to quality teaching and learning (de Jong *et al.*, 2013; Pontefract & Hardman, 2005). Thus, the degree programme is designed to ensure that preservice teachers who enroll to be trained as English language teachers are adequately equipped with the theoretical understanding and foundational knowledge needed to teach the English language.

As such, implementation fidelity is expected to produce teachers with specific subject matter knowledge, competence profiles, pedagogic essentials and technological skills fundamental for 21st-century ESL education (Knowles *et al.*, 2015).

Integration of Quantitative and Qualitative findings

Language is a human communication capacity that involves different linguistic components, including phonology, morphology, syntax, semantics, and pragmatics (Fromkin & Hyams, 2018)

A reading of the course descriptions detailed on the course outlines of the eleven foundational courses prescribed for preservice teachers of the English language at UCC (see Appendix) indicated that the curriculum commendably distinguishes between English language and Literature-In-English. This finding challenges the presumption that the English language is without an identifiable body of knowledge (Deacon *et al.*, 2009; Kirby *et al.*, 2012; Kuo & Anderson, 2006).

Besides, the scope of English education at the senior high level comprises Language and Literature. The delineation between the two, thus, reveals that the curriculum is, on the one hand, designed to equip the preservice teachers with the conceptual knowledge needed to teach English language and English Literature respectively as two distinct subjects of study: (1) as a study of the structure and function of the language and (2) as a study and interpretation of literary writings (Read & Yen Dang, 2022). This finding also disproves the assumption that little connection exists between initial teacher preparation and practice in the Ghanaian ESL classroom (Adu-Yeboah & Kwaah, 2018).

Again, the English language syllabus for secondary schools in Ghana aims to raise the proficiency level of its beneficiaries by reinforcing the receptive-productive skills and competencies they acquired at the junior high level (MoE, 2010). Hence, the distinct course objectives and expected

186

outcomes outlined in the curriculum, on the other hand, revealed that each subject-matter course emphasises mastery of the epistemic and conceptual knowledge required for preservice teachers of the English language to use the English language as the medium of instruction effectively and also teach it as the subject of study at the secondary school level.

Nevertheless, a description of the prescribed input for preservice teachers of the English language at UCC revealed a conceptual imbalance that suggests that the content knowledge imparted through the B. Ed Arts (English) degree programme partially meets the language needs of its beneficiaries. In terms of numbers, the analysis showed that three of the six language courses in the curriculum specifically address grammar needs whereas one course caters to the pronunciation needs of the preservice teachers. Vocabulary is, however, not explicitly catered for. This finding is noteworthy, given that proficiency in the four language skills (listening, speaking, reading and writing) across ESL contexts depends on vocabulary mastery (Alahmadi & Foltz, 2020).

Pacheco and Goodwin (2013) advanced that the applicability of morphological knowledge across phonological, semantic, and syntactic relations explains its multifaceted applicability in fostering the word identification, spelling, and reading awareness needed to facilitate top-down and bottom-up processes to understand word meaning. This mean that an imbalance in the intricate dance between morphology, phonology, syntax and semantics will affect literacy development. Accordingly, the *inadequate* receptive vocabulary knowledge and productive (academic) vocabulary knowledge levels evidenced by the quantitative results could be mapped out as

187

the result of an imbalance in the morphology-syntax-phonology-semantics interface in of the English language curriculum.

Bauer (2019) explains that the linguistic composition of the English language traverses a syntagmatic and paradigmatic axis that conceptually connects the morphology of English words to their phonological form, grammatical structure and meaning. Phonology ensures that language learners master the norms governing the accurate pronunciation of words. This means that English words operate within a language syllabification domain that connects words' sound structure to their morphological form. Accordingly, the morpho-phonetic interface highlights the significant role morphological awareness instruction plays in increasing the word knowledge base ESL learners need to pronounce unfamiliar words they encounter in academic texts as correctly and insightfully as possible ((Stein & Plag, 2021).

Further, Katamba (2004) echoes Baker's (1985) 'Morphosyntactic Explanation' that theoretically and empirically ties morphology to Syntax and Semantics. Syntactically, this implies that morphology cannot be separated from syntax since knowledge of morphology helps L2 learners grasp linguistic rules and analyse the internal organisation of sentence structures (Bauer *et al.*, 2013). Syntax is the aspect of grammar that provides the structural framework essential for linguistic accuracy.

Semantically, a critical assumption regarding the realisation of effective communication is hinged on an accurate conceptualisation and representation of words in the 'cognitive system'. (Ebbers, 2017) postulated that the compositionality of this 'mental lexicon' encompasses the analysis of form-meaning patterns, the internal structure of English lexemes, meaning

inference, and the generation of new words. Morphology contributes to the rich tapestry of this mental lexicon by weaving together the interconnected features that encode interrelatedness between form and meaning. Hence, the interface between morphology and semantics, as established in the literature, guides the principle of lexical compositionality (Blachowicz *et al.*, 2009; Graves, 2006; McBride-Chang *et al.*, 2005).

Ebber's explanation corroborates early works (e.g., Chomsky *et al.*, 1956; Finocchiaro & Brumfit, 1983) that pointed to a balanced morphology-syntax, morphology-phonetics and morphology-semantics interface as crucial for English learner proficiency. This affirms Scheer (2010) claim that over-emphasising any of these conceptual interfaces will lead ESL learners to *learn about* rather than *learn to use* language appropriately. Authentic, real-world use of language is not solely about corrected grammar or pronunciation but an integration of semantics and pragmatics. Hence, the provision of more opportunities for the teaching and learning of English grammar (syntax) and pronunciation (phonology) over vocabulary (lexis) results in the implementation of a skewed curriculum that develops grammatical and phonological precision without recurse to word quality, sophistication or diversity. It is, therefore, not surprising that the vocabulary knowledge level of the respondents did not meet Schmitt *et al.*'s (2001) 80% threshold.

Theoretically, this unintended consequence supports works (e.g., Goodwin & Ahn, 2010; Wolter & Green, 2013) that highlight the application of morphological awareness as a powerful tool for improving receptive and productive skill development. Again, it supports theoretical arguments in favour of the metalinguistic potential of morphological awareness in providing

189

ESL learners across levels of education with level-appropriate strategies and mental resources that foster the autonomous determination of challenging vocabulary during reading and writing (e.g., Akbulut, 2017; Bowers *et al.*, 2010; Carlisle *et al.*, 2010).

Within the context of the present study, the study's quantitative and qualitative findings provide evidence in line with previous works that high morphological awareness enables (1) the practical analysis of complex English words, (2) the creation of new vocabulary through affixation, (3) the determination of the linguistic rules that guide grammatical construction and word formation processes; and (4) the critical analysis of the similarities/differences between English morphology and emergent varieties such as the Ghanaian standard variety of English (Adika, 2012; Ngula, 2011).

This finding warrants a reflection that gives credence to calls for curriculum adjustments in previous studies (e.g., Perfetti & Stafura, 2014; Schenck & Choi, 2014; Yücel-Koç, 2015) that reported significant positive associations between ESL teachers' PCK and their language outcomes. I, therefore, argue in line with such works for the integration of semantics with its explicit morphological awareness instruction and authentic vocabulary knowledge assessment subcomponents into the B. Ed Arts (English) curriculum implemented to train preservice English teachers at UCC.

Afful (2007) emphasised that ESL curricula can only be revised if pedagogues and researchers provide, through needs assessment, evidence of its general and discipline-specific writing, teaching approach and/or knowledge foundation remediation. Accordingly, I revisited the study's conceptual framework to reshape and refine its focus to illustrate how

morphological awareness and vocabulary knowledge function to enhance autonomous vocabulary and literacy development

Revisiting the Study's Conceptual Framework

The present study assumed a predictive stance, proposing a conceptual framework that hypothesised a linear relationship between morphological awareness, receptive vocabulary, and productive vocabulary knowledge. The framework theorised that the sub-components of morphological awareness (morpheme identification awareness and morphological structure awareness) function together to determine morphological awareness level. Again, the students' morphological awareness level directly influenced their receptive and productive vocabulary knowledge levels. It also postulated that background characteristics (age, sex, and level of study) significantly influenced morphological awareness and vocabulary knowledge levels.

The study found that most preservice teachers of the English language had *medium* morphological awareness levels with a comparably higher morpheme identification awareness level. This outcome means that both morpheme identification and morphological structure awareness had statistically direct effects on morphological awareness. Hence, the need for the preservice teachers of English at UCC to master both components of morphological knowledge.

The study also found that respondents generally had *inadequate* vocabulary knowledge levels. At a significance level set for 95% (p≥0.005), it was observed that respondents' receptive vocabulary knowledge level did not meet the required threshold of 80 per cent (Schmitt, 2001), with a 40% decrease at the 10,000-word level. Again, the respondents' productive

191

academic vocabulary knowledge level did not meet the 70-10-10-10 criteria for academic success (Coxhead, 2000). This confirmed the hypothesised linear relationship between morphological awareness, receptive vocabulary knowledge and productive vocabulary knowledge. This finding suggests that higher morphological awareness translates into higher vocabulary knowledge levels, leading to academic literacy achievement.

Consistent with the inconclusive evidence in the existing literature, the study further found that background characteristics (sex, age and level of study) did not significantly influence morphological awareness and vocabulary knowledge. Based on the observed insensitivity of respondents' background characteristics on their morphological awareness and vocabulary knowledge, the propositions of significant relationships between background characteristics (sex, age and levels of study) on the one hand and morphological awareness and vocabulary knowledge of preservice teachers of the English language at the University of Cape Coast was rejected.

The observed findings required a revision of the conceptual framework designed to guide the present study. The final conceptual framework is presented in Figure 14

192
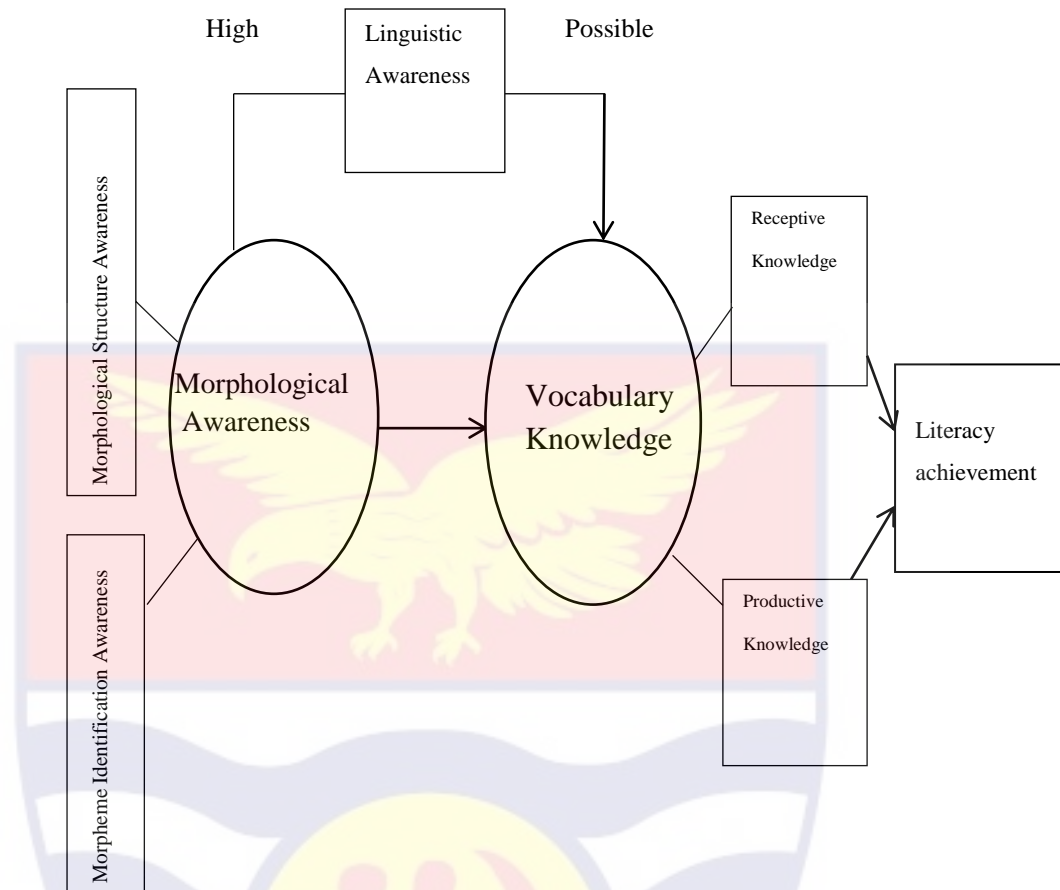
Figure 14: Final Observed Conceptual Framework
Source: Author's construct, 2023.

Chapter Summary

Results and discussion of Research Objective One, Two and Three were presented in this chapter. The objective of Objective One was to ascertain the levels of morphological awareness, receptive vocabulary knowledge and productive vocabulary knowledge of preservice teachers of the English language at the University of Cape Coast. The results of the Morphological Awareness Test implemented in the study revealed that most participants had a *medium* level of morphological awareness whereas the Vocabulary Size Test revealed that their written receptive vocabulary size was below the recommended size proposed by Schmitt *et al.* (2001). The TOEFL writing test also revealed that the respondents' productive vocabulary

193

knowledge was dominated by K1 words and not the academic words required for writing proficiency at the tertiary level. Again, the Chapter presented and discussed the results of the Pearson's correlation and chi-square tests conducted to address Research Objectives Two and Three (together with Hypotheses 1, 2, 3, and 4), Overall, the Pearson Product Moment Correlation (r ≥50) results indicated a strong positive linear relation between *morphological awareness, receptive vocabulary, and productive vocabulary knowledge*. However, the chi-square test revealed that the three variables were independent of sex, age and level of study. Next, the chapter evaluated the language curriculum prescribed for preservice teachers of the English language at UCC. The review focused on its comprehensiveness in promoting vocabulary teaching and learning in line with best practices across the globe. The next chapter presents a summary of the study, its conclusions and recommendations,
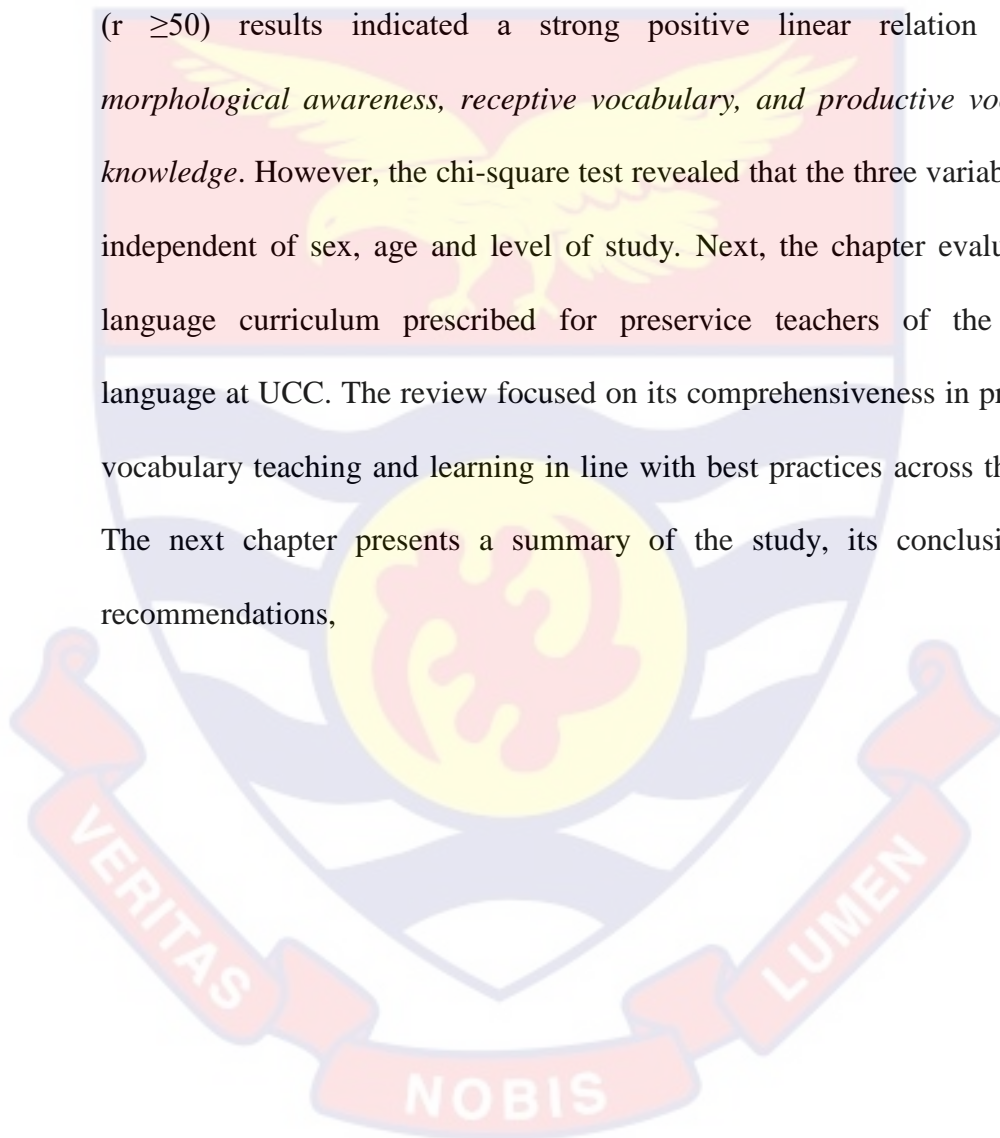
CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Overview

Chapter Five summarises the study, presents the key findings, and makes recommendations to guide policy development, educational practice and pedagogy based on conclusions drawn from the findings. The Chapter is in four sections. The first section presents an overview of the research problem and research process. It highlights the research methods adopted in gathering and analysing data to address the research question and hypotheses formulated on the morphological awareness and vocabulary knowledge of preservice teachers of the English language at the University of Cape Coast (UCC). The second section deals with the key findings obtained in the study. The third section presents conclusions drawn from the key findings and contributions made to scholarship. The fourth section ends the chapter with recommendations for policy, educational practice, pedagogical development and suggestions for further studies.

Summary of the Study

The study examined the morphological awareness and vocabulary knowledge of preservice teachers of the English language at the University of Cape Coast. The objective was to examine the morphological awareness and vocabulary knowledge of Preservice teachers at the University of Cape Coast. The study adopted the embedded mixed methods design underpinned by pragmatism.

In all, four research objectives guided the study:

195

1. assess the morphological awareness and vocabulary knowledge levels of preservice teachers of the English language at the University of Cape Coast.

2. examine the relationship (if any) between the morphological awareness and vocabulary knowledge of preservice English language teachers at the University of Cape Coast.

3. examine the association between morphological awareness, vocabulary knowledge and background characteristics (sex, age, and levels of study) of preservice English language teachers at the University of Cape Coast.

4. analyse the curriculum implemented in the B. Ed Arts (English) degree programme at UCC to ascertain its provisions for English language learning.

Research Objective One examined the respondents' morphological awareness, receptive vocabulary knowledge, and productive vocabulary knowledge levels. The study hypothesised that a linear relationship exists between morphological awareness and vocabulary knowledge. Accordingly, Research Hypothesis One was formulated out of Research Objective Two to explore this relationship. The null hypothesis, *a linear relationship exists among background characteristics (sex, age and levels of study), morphological awareness and vocabulary knowledge of preservice English language teachers,* was tested to determine the nature of the hypothesized relationship.

Research Objective Three examined the relationship between the preservice teachers' background characteristics, on the one hand, their

196

morphological awareness and their vocabulary knowledge on the other hand. Following an assumed linear relationship between the variables under study, three hypotheses (Research Hypotheses Two, Three and Four) were formulated to test *the inter-variable relationship between background characteristics (sex, age and levels of study), morphological awareness and vocabulary knowledge of preservice teachers of the English language at the University of Cape Coast.* Finally, Research Objective Four analysed the B. Ed Arts (English) degree programme to ascertain its provisions for English language learning.

The study population comprised all Levels 200, 300 and 400 preservice teachers of the English language at UCC. The census method involved all the preservice teachers in the study, and 152 valid data were gathered. Diagnostic and proficiency tests were used for the quantitative data collection. The diagnostic test employed comprised Farsi's (2008) adaptation of Mc-Bride Chang *et al.*'s (2005) Morphological Awareness Test and Nation and Beglar's (2007) Vocabulary Size Test. The proficiency test was adopted from Gear and Gear's (2006) TOFEL Writing Test. All ethical procedures the University of Cape Coast laid down were adhered to in the study. Descriptive (frequencies, percentages, means and standard deviation) and inferential (Pearson Product Moment Correlation, Independent sample T-Test, One-way ANOVA and Chi-square) statistics were used to analyse the quantitative data. The parametric tools were selected upon meeting the normality and homogeneity statistical assumptions.

Nur Rahim *et al.*'s (2021) criteria for ascertaining morphological awareness level was applied to categorise the respondents' morphological

awareness level into *excellent, good, medium, poor,* and *very poor.* Next, Schmitt *et al.*'s (2001) threshold score of 80 per cent or more was also applied to the Vocabulary Size Test results to determine the adequacy (or otherwise) of the respondents' receptive vocabulary knowledge size. Coxhead's (2000) 70-10-10-10 criteria was also applied to the proficiency test results to determine the productive vocabulary knowledge level of the respondents.

For the qualitative data, the English language curriculum for the B. Ed (Arts, English) degree programme was evaluated to ascertain its provision for vocabulary learning. The document's content was analysed to address Research Objective Four, which required evaluating the English language curriculum for preservice teachers of the English language at UCC for its provision for vocabulary learning. As is typical of converge mixed methods studies, quantitative and qualitative data analysis findings were discussed to provide insight into the morphological awareness and vocabulary knowledge of preservice teachers of the English language at the University of Cape Coast.

Key Findings

This section summarises the key findings in response to the research questions and hypotheses that guided the study.

In Respect of Research Question One

1. The preservice teachers of the English language at UCC possess *medium* morphological awareness with a comparatively lower morphological structure awareness that illustrates the English Language as having a vast and complex orthographic system that requires its users (both native and non-native) to master words with different morphological structures and word parts.

2. The preservice teachers of the English language at UCC generally have *inadequate* receptive vocabulary size, a category of vocabulary knowledge that grows through exposure to vocabulary in diverse reading contexts.

3. The lexical profiling of self-composed essay indicated an expressive vocabulary size dominated by K1 words; an intriguing paradox that predicts an outperformance over the academic word size required for effective communication in academic settings.

In Respect of Research Hypothesis One

4. There was a significant linear relationship between the morphological awareness and vocabulary knowledge of preservice teachers of the English language at UCC: an indication of an intertwined relationship that implies that as morphological awareness improves, so does vocabulary knowledge.

In Respect of Research Hypotheses Two, Three and Four

5. The background characteristics (sex, age and level of study) of preservice teachers of the English language at UCC were not significantly associated with their morphological awareness and vocabulary knowledge, an indication that people differ significantly hence sex, age and level of study may need interact other factors to strongly impact morphological awareness or vocabulary knowledge.

In Respect of Research Question Two

6. Qualitative evidence gathered using the CIPP model from an evaluation of the B.Ed Arts (English) curriculum revealed an over-emphasis on grammar and phonology over semantics.

199

Conclusions

The important role vocabulary plays in giving context, purpose and depth to communication shows how vital it is for L2 learners to master various vocabulary to enable them to express their thoughts, emotions and ideas. In concatenative languages including the English language, morphology provides ESL learners with the inflectional and derivational knowledge needed to derive sub-lexical, lexical, and supra-lexical meanings from the morphological constituents of the English orthographic system. This means that low morphological awareness negatively impacts ESL vocabulary acquisition and development.

Across academic settings, mastery of receptive vocabulary requires exposure to the morphology composition of various language inputs and resources (e.g., high frequency, low frequency, technical and academic words) A good grasp of morphological awareness increases ESL learners' ability to decode new words. The *inadequate* receptive vocabulary size demonstrated by preservice teachers of the English language at UCC, thus, points to their inadequate mastery of this category of words critical for successful reading and literacy achievement.

Again, the established positive linear relationship between morphological awareness and vocabulary knowledge, as evidenced in the study, confirms that high morphological awareness predicts adequate productive vocabulary knowledge size and level, thereby broadening their productive vocabulary knowledge base. This observation beacons an emphasis on the conceptual interconnection between morphology, phonetics syntax, and semantics in the English Language curriculum to promote the academic

200

success and career preparedness of preservice teachers of the English language.

Concurrently, increased morphological awareness fosters the development of higher-order language skills including inferencing, synthesis, knowledge application and critical thinking. In addition, the insensitivity of background characteristics (age, sex and level of study) to morphological awareness and vocabulary knowledge development also illustrates its potential to work at scale to enhance receptive-productive vocabulary development across sex, different age groups and levels of study. A focus on pedagogies and resources that increase awareness, appreciation and use of morphological awareness enhancement mechanisms would pave the way for the successful training of 21st century English language teachers with the requisite knowledge, competence and skills to tackle the vocabulary challenges faced by secondary school students in the Ghanaian ESL context.

Recommendations

Recommendations, based on conclusions drawn from the study, are directed at English language educators, preservice teachers of the English language and curriculum developers at the University of Cape Coast:

1. English teacher educators at UCC are encouraged to emphasise explicit level-specific morphological awareness instruction.

2. Again, the academic department is alerted to scaffold vocabulary learning by exposing preservice teachers of the English language from Level 100 to 400 to language learning resources that offer extensive information on the vocabulary categories critical for impactful ESL academic literacy development and achievement including Coxhead's

(2000) Academic Word List, Nation and Beglar's (2007) Vocabulary Size Test, Schmitt *et al.*'s (2001) Vocabulary Levels Test and their updated versions.

3. Lecturers are also to tailor level-specific vocabulary assessments and interventions to implement authentic, robust tasks that require the application of higher-level knowledge skills such as word analysis, synthesis and evaluation to advance academic vocabulary learning.

4. Preservice teachers of the English language are advised to initiate self-paced, scholarly discourses and authentic academic conversations tailored to address diverse morphological awareness and vocabulary knowledge needs.

5. Again, they are encouraged to actively engage in targeted vocabulary learning practices that foster the autonomous development of 21st century skills including critical thinking and collaboration in academic literacy development and career preparedness.

6. Preservice teachers of the English language are encouraged to access free web-based vocabulary profilers (e.g., "vocabProfile" and "TextInspector") that offer an equitable assessment of lexical quality and sophistication to enhance their academic writings.

7. Further, the findings support the present study's proposal for a revision of the language curriculum implemented to train preservice English teachers at UCC. Based on the conceptual connections evidenced in the literature between morpho-phonetics, morpho-syntax and morpho-semantics, I argue for the inclusion of Semantics (with its formal, conceptual and lexical sub-components) into the Language curriculum.

Language planners at UCC are prompted to consider this inclusion to enrich the curriculum's provision for language learning and to sharpen vocabulary knowledge and competence

8. Again, curriculum developers are called upon to promote inclusive language education practices and opportunities that cater to the vocabulary learning needs of learners from all backgrounds and address vocabulary gaps without emphasising specific groups.

Research Contributions

The following are contributions to knowledge, practice, pedagogy and policy.

Contribution to Knowledge

Theoretically, the study adds a layer of insight that reveals the refined role morphological awareness plays in facilitating ESL learners' receptive-productive vocabulary knowledge development. Specifically, it highlights the conceptual interconnection between morphology and phonology, syntax and semantics. Currently, most empirical works highlighting morphological awareness as an indicator of L2 proficiency in the English language are based on pre-tertiary learners. Comparably, not much research has been conducted to support (or otherwise) its potency in advanced ESL learners, particularly preservice teachers of the English language. The study, therefore, contributes contextualised evidence on the morphological awareness and vocabulary knowledge of preservice teachers of the English language at the University of Cape Coast, Ghana, to the limited body of national and international literature.

Again, the findings of the Morphological Awareness Test, Vocabulary Size Test and TOEFL Writing Test implemented in the present study can be used in studies where the identification of possible lexical deficiencies at the

relevant frequency levels or an estimate of the lexical size of preservice teachers of the English language at UCC is considered informative.

Further, it adds to existing knowledge on the extent to which sex, age and level of the study explain (or otherwise) variances in morphological awareness and vocabulary knowledge of advanced ESL learners.

Pedagogical Practice

Additionally, lecturers are reminded of the need for preservice teachers of the English language (regardless of sex, age and level of study) to master 21st-century learning skills and competencies that foster receptive-productive vocabulary knowledge development. They are, thus, alerted, in line with the rationale for teaching English as a Second Language in Ghana, to design authentic digital and non-digital tasks that ensure fair and unbiased assessment of receptive and productive use of language.

English teacher educators at UCC are encouraged to make explicit morphological awareness instruction a component of their in-class and out-of-class attempts to promote intentional and incidental receptive-productive vocabulary learning. Lecturers are, again, sensitised to adopt innovative pedagogical approaches that utilise internet-based language teaching, learning and testing software to enhance students' morphological awareness, receptive vocabulary knowledge and productive vocabulary knowledge development.

Additionally, preservice teachers of the English language at UCC are alerted to adopt self-learning practices to help them master the 1,000 to 14,000 receptive-productive frequency level vocabulary critical for academic success and career preparedness. Further, ESL researchers and educators could also use the outcome of the study's curriculum evaluation as a benchmark to

evaluate academic vocabulary literacy development programmes across preservice English teacher education settings in Ghana.

Policy

A policy on the periodic revision of the B.Ed Arts (English) by curriculum experts at the University of Cape Coast is required, in alignment with the mission and vision of UCC as highlighted in the institution's Quality Assurance Policy (UCCQAP, 2010), to ensure that the implementation of the programme fully addresses the language needs (e.g., grammar, pronunciation and vocabulary) of its beneficiaries.

Suggestions for Further Research

It is acknowledged that no single study can provide all the solutions needed to address a research problem. Accordingly, this study offers suggestions for further research:

1. The current study was limited to investigating preservice teachers of the English language at the University of Cape Coast. Hence, the study can be replicated in other universities and colleges of education to ascertain how far the outcome will apply to preservice teachers of the English language on other English teacher education campuses in Ghana.

2. The study did not exhaustively trace the trajectory of factors that affect morphological awareness and vocabulary knowledge development in advanced ESL learners. Future studies could, therefore, examine other learner variables that are not discussed in the study (including learner motivation, individual language learning habits, strategies and preferences) that can affect morphological awareness and vocabulary

205

knowledge development. The scope could also be expanded to investigate teacher factors (e.g., teaching methods and strategies) and other environmental-related factors.

3. Methodologically, the present study adopted existing instruments to measure respondents' morphological awareness and vocabulary knowledge levels. However, future studies could adapt these instruments by increasing the number of items or words students can write in the proficiency test to help reveal possible latent contributions of morphological awareness, receptive vocabulary and productive vocabulary knowledge that were not identified in the present study.

4. Most studies reviewed in the present study utilised written tests to measure vocabulary knowledge. However, vocabulary is not only used in writing but even more often in speaking. It may be interesting, therefore, to assess the spoken (productive) vocabulary knowledge of preservice teachers of the English language at UCC.

5. Future studies can consider investigating the morphological awareness level and receptive-productive vocabulary knowledge size of first-year students admitted into the B. Ed (Arts, English programme to furnish lecturers with a more accurate result that will help them to adapt and adjust their pedagogy to meet the specific needs of the newly admitted preservice teachers of English.

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215

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216

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218

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252

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254

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Zou, D. (2017). Vocabulary acquisition through cloze exercises, sentence- writing and composition-writing: Extending the evaluation component of the involvement load hypothesis. *Language Teaching Research, 21*(1), 54-75. https://doi.org/10.1177/1362168816652418.

Zrig, A. (2020). Morphological Awareness and Vocabulary Knowledge. *International Journal of English Literature and Social Sciences, 5*(5), 1689-1698. https://doi.org/10.22161/ijels.55.53.
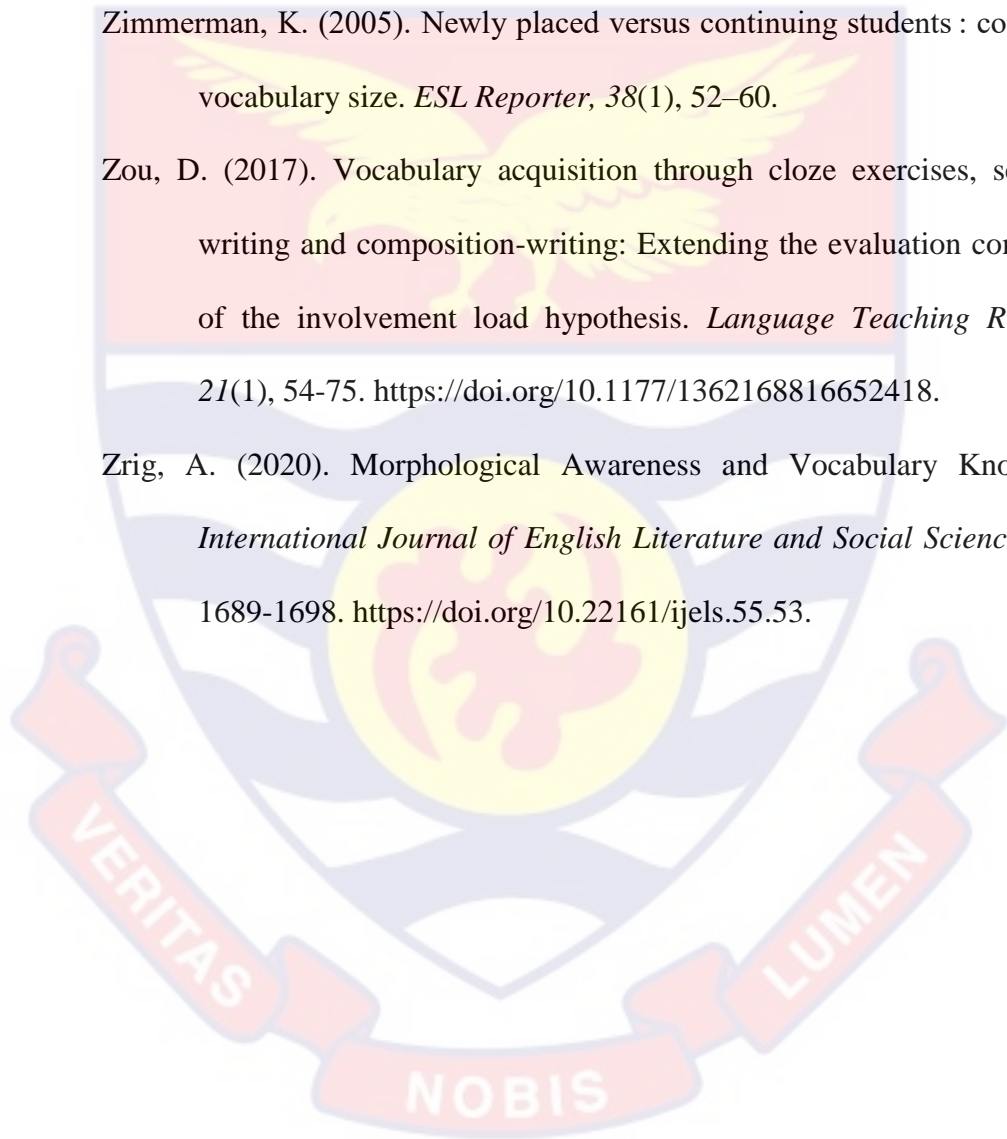
Associate Professor Joseph Benjamin Archibald Afful
Department of English
Faculty of Arts
College of Humanities and Legal Studies
University of Cape Coast
Tel: 0245251989   Cape Coast   Email: jafful@ucc.edu.gh

4ᵗʰ April, 2022.

The Director
Institutional Review Board
University of Cape Co0ast
Cape Coast.

Dear Sir/Madam,

LETTER OF CONSENT: MS DORCAS PEARL SLIPPE

I write as the Principal Supervisor give my consent to Ms. Dorcas Pearl Slippe, who is seeking ethical clearance from the Institutional Review Board (IRB) to enable her to commence her data collection.

Ms. Dorcas Pearl Slippe is a student, who is pursuing PhD in English Language Education in the Department of Arts Education, University of Cape Coast (UCC). Her research topic is 'Morphological Awareness and Vocabulary Learning in Pre-Service ESL Teachers in Ghana.'

Kindly accord her the assistance she requires in her research.

Thank you for your support.

Yours faithfully,

Prof. J. B. A. Afful (PhD)
(Principal Supervisor)

257

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
FACULTY OF HUMANITIES & SOCIAL SCIENCES EDUCATION
DEPARTMENT OF ARTS EDUCATION

TELEPHONE: +233 0362290097

Email: dae@ucc.edu.gh EXT. (268), Direct: 35411.
Telegrams & Cables: University, Cape Coast.

**University Post Office,
Cape Coast, Ghana.**

OUR REF: DAsE/SM/11

YOUR REF: Date: 4th April, 2022.

TO WHOM IT MAY CONCERN
(LETTER OF INTRODUCTION)

This is to certify that:

DORCAS PEARL SLIPPE   (EH/ARE/19/0008)

Is a PhD student of the Department of Arts Education of the University of Cape Coast. She is carrying out a research study on the topic *"Morphological Awareness and Vocabulary Learning Among Pre-Service ESL Teachers in Ghana"* under the supervision of Prof. J. B. A. Afful a lecturer at the Department of English, UCC. As part of the study she is to examine the syllabus for the provision for vocabulary teaching and learning for pre-service ESL teachers at the colleges of Education. She would need your permission to collect some data from your outfit to facilitate the study.

I would therefore be grateful if you could assist her in any capacity to make the data collection exercise a success.

Count on your maximum co-operation.

Thank you.

Yours faithfully,

**REV. PROF. SETH ASARE-DANSO (PhD)
HEAD OF DEPARTMENT**

258

APPENDIX B: COURSE OUTLINES

UNIVERSITY OF CAPE COAST

DEPARTMENT OF ENGLISH

ENG. 112- PRINCIPLES OF PROSE FICTION

Lecturers:
Dr. xxx   (Group 1)
Dr. xxx   (Groups 2 & 3)
Dr. xxx   (Group 4)

Course Description
This is an introductory course and its objective is to introduce students to prose fiction, its nature as well as its place in the interpretation of prose fiction. It is envisaged that the knowledge would be applied to the appreciation of prose in general, and even to other forms of literature. Through the analysis of some sample short stories and selected African and Non- African texts, the course particularly focuses on equipping students with the necessary skills on how to read closely, think analytically, interpret works of fiction, mid make and evaluate critical arrangements.

Aims
- To increase students' awareness of the major principles and aspects of prose fiction.
- To develop students' skills in the appreciation of these aspects in prose appreciation.
- To raise students' sensitivity to language use.
- To enhance students' reflection and response to literature.

Required texts
Chinua Achebe   *Things Fall Apart (1958)*
George Orwell   *Animal Farm (1945)*
Amma Darko   *Beyond the Horizon (1995)*

Course Policies
Attendance   Mandatory
Participation   Mandatory
Students must do all required readings before coming to class.

Weekly Schedule

Week 1	General Introduction
Week 2	Prose Fiction as an Aspect of Literature - Nature and Analysis of Plot
Week 3	Characterisation, Setting, Point of View, Themes and Language
Week 4	Assignment
Week 5	Animal Farm
Week 6	Group Presentations on Animal Farm
Week 7	Beyond the Horizon
Week 8	Group Presentations on Beyond the Horizon
Week 9	-	*Things Fall Apart*
Week 10	-	Group Presentations on *Things Fall Apart*
Week 11	-	Quiz
Week 12	-	Revision
Week .13	-	Revision

Mode of Assessment

Presentation	=	10
Assignment	=	10
Quiz	=	20
		40
End of Semester Examination	=	60

Secondary Readings

E. M. Forster	--	Aspects of the Novel
Robert Di Yarini	-	Literature: Approaches to Fiction, Poetry and. Drama
E. Schoeh	--	The Truth about Fiction

260

UNIVERSITY OF CAPE COAST
COLLEGE O HUMANITIES AND LEGAL STUDIES
FACULTY OF ARTS
DEPARTMENT OF ENGLISH
ENG 214: THE TECHNIQUES OF POETRY

LECTURERS:
Dr. xxx (Gp.l)
Dr. xxx (Gp.2)
Dr. xxx (Gp.3)
Prof. xxx (Gp.4)

Course Description
The focus of this course is the nature of poetry. It will discuss the various characteristics of poetry including form, structure, function, tropes and types of poetry. Other elements to be discussed include imagination, beauty, emotion, and perception. Illustrative materials will be drawn from Ghanaian, African and Non-African texts. The course will also take students through how to appreciate and analyse poetry.

Course Objectives
- To help students categorise poems by examining their structure, diction and content
- To enhance students' critical appreciation of poetry and sensitivity to the use of language
- To raise students' awareness lo funelional relevance of poetry

Course Delivery
- Lecture
- Discussion
- Tutorial

261

Evaluation

Assessment of students' performance in the course will be based on:

- Assignment (10 marks) (typed, double-spaced, using Times New Roman, font size 12)
- Quiz (individual groups) - 10 marks
- General quiz - 20 marks
- End of Semester examination - 60 marks

Course Outline

WEEK	TOPIC	ASSIGNMENT/READING
1-2	Introduction to the course • Definitions • Characteristics/Elements of poetry • Form, Structure, function, tropes, etc.	Hunter, Paul J. (1986). The Norton introduction to poetry (3rd Ed.) A set of selected poems for illustration.
3	Ballads • Traditional • Literary	Hunter, Paul J. (1986). The Norton introduction to poetry (3rd Ed.) A set of selected poems for illustration
4-8	Lyrics • Ghanaian Traditional Poetry • Sonnets > English > Italian > Spenserian • Odes • Elegy QUIZ	Hunter, Paul J. (1986). The Norton introduction to poetry (3 rd Ed.) Miller, Lindy (2001). Mastering practical criticism A set of selected poems for analysis
9-12	Lyrics (Contd.) • Free Verse • Imagism and Imagist Poetry • Haiku • Villanelle GENERAL QUIZ	Miller, Lindy (2001). Mastering practical criticism A set of selected poems for analysis
13	Revision	

262

Course Materials

The course instructors will provide a selection of poems to illustrate the types and elements of poetry.

Course Policies

- **Attendance:** Students are required to be regular and punctual in class. Absenteeism would not be tolerated whatsoever. Students should note that submission of late assignments would also not be accepted.

- **Readings:** Students should ensure that all assigned texts are read before they come to class.

- **Plagiarism:** Any student who plagiarises an assignment faces penalties that may include an "E". Students are, therefore, encouraged to try as much as possible to work honestly on their assignments and document all their referenced sources.

REFERENCES

Cox, C. B. & Dyson, A. E (1984). Modem poetry. London: Macmillan Co. Ltd.

Hunter, P. J. (1986). The Norton introduction to poetry. 3rd Ed. New York: W.W. Norton and Co.

Iglis, F. (1996). Literature in perspective. London: Evans Brothers Ltd.

Miller, L. (2001). Mastering practical criticism. New York: Pelgrave.

Murfin, R. & Ray, S. M. (2003). The Bedford glossary of critical and literary terms. Boston. Bedford and Martins

Williams, J. (1985). Reading poetry: A contextual introduction. London: Edward Arnold.

UNIVERSITY OF CAPE COAST
COLLEGE OF HUMANITIES AND LEGAL STUDIES
FACULTY OF ARTS
DEPARTMENT OF ENGLISH

ENG. 314: STUDIES IN SHAKESPEARE   **Credit: 3 hours**

Lecturers: **Dr. xxx**   **(Group 1)**

                Dr. xxx   **(Group 2)**
                Dr. xxx   **(Group 3**)

COURSE DESCRIPTION
This course introduces students to Shakespeare. It examines Shakespeare both as a genius in his own right and as a product of the Elizabethan Jacobean Period in English Literature. The focus is on Shakespearean Comedy, Tragedy, History Play, and some selected poems. Three core texts would be studied as intensive reading and also for illustrative purposes. By the end of the course, students should be able to demonstrate a good understanding of Shakespeare the writer, his times and his works.

OBJECTIVES
The course has the following objectives:
- Students will develop an understanding of Elizabethan culture and its influence on the West, both creatively and philosophically.
- Students will be able to research and present the background, historical context and authorial information for a specific Shakespearean text.
- Students will also be able to identify, explicate and respond to key themes and elements in Shakespearean works, as presented in both written and spoken form.
- Identify the organising elements of Shakespearean drama, using Aristotle's Poetics.

Week 1   General introduction to Shakespeare, his works and his times

Week 2-4   Shakespearean Comedies; Characteristics, features, themes
Quiz 1

Week 5-7   Shakespearean Tragedies: Characteristics, features, relationship
with Greek   Tragedy Assignment

264

Week 8-10   Shakespearean History Plays: Characteristics, features, themes, etc.

Week 11 -12 Shakespearean Sonnets: Characteristics, themes, etc.

Week 13   Revision

Primary Texts: **As you like it**
                          Othello
                          Henry V
                          A selection of Shakespearean sonnets

SUGGESTED READING LIST

Brown, R. D. & Johnson, D. (ed) (2000). A Shakespeare reader: sources and criticism. London: Macmillan.

Leggatt, A. (1988J. Shakespeare's political drama. London: Routledge.

Mehl, D. (1991). Shakespeare's tragedies: An introduction. Cambridge: Cambridge University Press.

Styan, J. L. (1967). Shakespeare's stagecraft. Cambridge: Cambridge University Press.

Thomson, P. (1983). Shakespeare's theatre. London: Routledge and Kegan Paul. Wells, S. (ed) (1996). Shakespeare studies. Cambridge: Cambridge University Press.

Wilson, J. D. (1992). Shakespeare's happy comedies. London correspondence.

UNIVERSITY OF CAPE COAST
FACULTY OF ARTS
DEPARTMENT OF ENGLISH

Course: ENG 306: Aspects of the Grammar of English   **Credit Hours: 3**

Instructors: Dr. xxx, Gp. 1
Dr. xxx, Gp. 2
Dr. xxx, Gp. 3

Course Description
This course examines modern English structure and usage. It builds on earlier courses in grammar and guides students to appreciate the discourse basis of grammatical systems. Students will apply grammatical knowledge in analyzing texts in different contexts.

Course Content

Unit	Topics	Required Readings
1	Concord • Concord and agreement features (e.g. person, number, gender) • Principles of Concord Grammatical concord - Notional concord Proximity concord	Yankson(1996) Quirk & Greenbaum (1973: 176-182)
2	The Verb and its Complementation • Intransitive clauses • Copula/intensive clauses • Transitive clauses	Downing (2015: Ch. 3) Quirk & Greenbaum (1973: Ch. 12)
3	Speech functions ('speech acts') and mood • Speech functions: statement, question, command, offer • Mood types: declarative, exclamative, interrogative, imperative • Indirection between mood types and speech functions	Downing (2015: Ch. 4)
4	Tense, modality and polarity • Tense: tense forms and meanings	Downing (2015: Ch 9) Quirk & Greenbaum (1973:
	• Modality • Polarity defining polarity - ways of forming negation - scope of negation	40-58; 183-190)
5	Clause combining • Coordination: syndetic vs asyndetic coordination, coordinators and their	Downing (2015: Ch. 7., pp. 249-270) Quirk & Greenbaum (1973:

266

	semantic implications ('logico-semantic relations') • Subordination: hypotaxis vs embedding, subordinators and their semantic implications ('logico-semantic relations')	253-267)
6	Reported Discourse • Quoting vs reporting • Speech representation • Thought representation • Backshift in reporting	Downing (2015: Ch 7., pp. 271-279)
7	Cohesion • Lexical cohesion • Grammatical cohesion • Analysing cohesion in discourse	Halliday& Hasan (1976) Quirk & Greenbaum (1973: Ch. 10)

Reading List

Biber, Douglas & Leech, Geoffrey. 1999. Longman grammar of spoken and written English. London: Longman.

Downing, A. (2015). English grammar: A university course. London & New York: Routledge.

Halliday, M.A.K. & Hasan, R. Cohesion in English. London & Oakville: Equinox.

Huddleston, Rodney & Pullum, Geoffrey. 2006. Coordination and subordination. In Bas

Aarts & April McMahon (eds.), The handbook of English linguistics. 198-219. Maiden,

MA, Oxford & Carlton: Blackwell.

Michaelis, Laura A. 2006. Tense in English. In Bas Aarts & April McMahon (eds.), The handbook of English linguistics. 220-243. Maiden, MA, Oxford & Carlton: Blackwell. Palmer, F.R. 1986. Mood and modality. Cambridge: CUP.

Quirk, R. & Greenbaum, S. (1973) A university grammar of English. Essex: Longman.

Quirk, Randolph, Greenbaum, Sydney, Leech, Geoffrey & Svartvik, Jan. 1985. A comprehensive grammar of the English language. London: Longman.

Yankson, K.E. (1996). Better English through concord for West African students. Kumasi: Yanksbridge.

UNIVERSITY OF CAPE COAST

COLLEGE OF HUMANITIES AND LEGAL STUDIES

FACULTY OF ARTS

DEPARTMENT OF ENGLISH

ENG. 204: FORMS AND FUNCTIONS OF THE ENGLISH CLAUSE

Lecturers		Email address
Prof. xxx	(Gp.l)	xxxx@ucc.edu.gh
Dr. xxx	Gp.2)	xxxx@ucc.edu.gh
Dr. xxx	(Gp.3)	xxxx@ucc.edu.gh
Dr. xxx	(Gp.4)	xxxx@ucc.edu .gh

Course Description

The course provides the analytical and conceptual tools for in-depth description of the English clause. It begins with clausal types and their different functions in discourse. It then focuses attention on the formal and functional characteristics of clausal elements, and on the various clausal patterns into which their configuration may result. There will be some explorations of the processes of conjoining clauses, the functional relationships which obtain among conjoined clauses.

Evaluation:

Assessment of your performance in the course will be based on:

- One general quiz
- One group quiz
- One take-home assignment (should be typed double spaced using Times New Roman font size 12)
- End of semester examination

Grading will be based on the stipulated system of grading as spelled out in the University's policy. Continuous Assessment will be allocated 40% and End of Semester Examination will be allocated 60% of the grading.

Course Policies:

- Attendance: We each have a responsibility to come to class regularly. You will not have the chance to take a quiz 'that you missed because you absented yourself from class. Excused absences must be documented, and these are the absences that the University stipulates in the students' manual as such. Note that we will not accept any late submission of assignment

- You are expected to read the assigned reading before coming to class. As a university student, you are expected to take initiative in learning. Reading the assigned reading before class will help you to understand the class discussions better. We will not read the assigned reading in class; however, illustrations, discussions and some quizzes may be based on the reading

- Plagiarism: A student who plagiarizes or cheats on any assignment faces penalties that may include an "E" for the assignment. To avoid these sanctions, try as much as possible to work honestly on your assignments and document all your referenced sources

Course Calendar

Time	Topic	Reading Assignment/Assessment Schedule
1st week	Introduction and overview of course	
2nd week	Clause types and their discourse functions • Declaratives • Interrogatives • Imperatives • Exclamatory	Quirk et al (1985) Chapts 1 0 & 11
3rd & 4th weeks	The Verb Phrase in the Subordinate Clause • The finite subordinate clause • The non-finite subordinate clause • The verbless clause	Quirketal (1985) Chapt 14, pp. 992 - 1068 First **Quiz** - General **Ouiz**
5th, 6th & 7th weeks	Nominal Clauses (Types and Functions) • *That* clause • *Wh* and *yes/no* interrogative clauses • Nominal relative clauses • Nominal infinitive clauses • Nominal participial clauses • Nominal verbless clauses	Quirk etal (1985) Chapt 15, pp. 1047- 1060 Administration of Semester **Quiz**
8th & 9th	Relative Clauses	Quirk et al (1985) Chapt 17,

269

week	• Relative pronouns • Factors determining the choice of relative pronouns • Defining and non-defining relative clauses	pp.1245 -1260
10th week	Adverbial Clauses (Types) • Adjuncts • Conjuncts • Disjuncts	Quirk etal (1984) Chapt 14, pp. 1068-1077 **Second Ouiz - Group Ouiz**
11th & 12th weeks	Adverbial Clauses (Functions) • Time, place, manner • Contingency • Condition, concession, contrast • Reason, purpose, result • Similarity, contrast	Quirk etal (1985) Chaptl5, pp. 1077- 1118
13'" week	Revision week	

Reading List: (Copies of the relevant materials may be available at the Department**'s** library for photocopying.)

Ballad, K. (2001). *The frameworks of English.* New York: Palgrave.

Biber, D., Conrad, S. & Leech, G. (2002). *Longman student grammar of spoken and written English.* Essex: Longman, Chapt 8.

Downing, A. & Locke, P. (2002). *English grammar: A university course* (2nd Ed.). London and N ew York: Routledge, Chapts 2 & 3.

Greenbaum, S. (1996). *English grammar.* Oxford University Press, Chapt 6.

Greenbaum, S. & Quirk, R. (n.d). *A student's grammar of the English language.* Essex: Longman.

Huddleston, R. & Pullum, G. K. (2002). *Cambridge grammar of the English language.* Cambridge: Cambridge University Press, Chapt 2.

Leech, G., Deucher, M. & Hoogengraad, R. .(1982). *English grammar for today.* London: Macmillan, Chapt 5.

Quirk, R.& Greenbaum, S. (1973). *A university grammar of English.* Essex: Longman, Chapts 7-11.

Quirk, R., Greenbaum, S., Leech, G. & Svartvik, J. (1985). *A comprehensive grammar of the English language.* London and New York: Longman, Chapts 10, 11, 13, 14, 15 and 17.

Rayevska, N. M. (1976). *Modern English grammar.* Kiev: Vysca Scola Publishers, Chapt 12.

APPENDIX C: MORPHOLOGICAL AWARENESS TEST

A. Analysis (morpheme identification)

Please segment the following words into meaningful chunks, and state the meanings

of those chunks.

---

e.g. Childhoods: child: little human being, - hood: the state of being, -s: to

indicate plural

---

washing machine:

---

freedom:

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likelihood:

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harden:

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demotivation:

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spaciousness:

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oxen:

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partially:

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productive:

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babysitting:

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nationwide:

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unpredictability:

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education:

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eyebrow

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B. Synthesis (morphological structure)

Using only one word, come up with names for the objects or actions that are described

below. See the example. ž

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A ballpoint pen that is blue in color. We call that blue ballpoint pen.

</div>

Ahmed   lived   longer   than   Ali.   Ahmed   outlived   Ali.

James performed better than Juliet in the reading test. James………Juliet.

There is a kind of train that runs under the ground. We call that an underground train. There is another kind of train that runs over the ground. What do we call that?

If   a   researcher   examined   James.   James   is   an   examinee

If   a   researcher   interviewed   Ahmed.   Ahmed   is   an   …………….

If Ali can only see short distanced things. He is short-sighted.

If James can only see near things more clearly than distant ones. He is ……..

There is a passer- by near your house. Now, there are three of them. So there

are……………

Some   people   wear   rings   on   their   ears,   they   are   called   earrings.
Some people wear rings on their nose, what should we call that?

Many people wear laces on their neck called a necklace. Some people wear laces on their foot, what should we call that?

273

Basketball is a game where you throw a ball through a basket. Tim made up a new game where he throws a ball into a bucket. What should he call the game?

Look at John. John is stotting. Yesterday he did this. What did he do yesterday? Yesterday, he _____

This animal is called a wug. There are four of them. There are four _____

James is professional in taking photographs. He is a photographer.

Jerry is good at eavesdropping. His is an _____

Joe knows how to fleamp. He is fleamping something. He did the same thing yesterday. What did he do yesterday?
Yesterday he _____

This is a krest; it's used on letters. This letter has been krested. The postman is _____ the letters.

Sometimes the raindrops fall from the sky and we call that raining. Very rarely, frogs Fall from the sky, we call that _____

APPENDIX D: VOCABULARY SIZE TEST

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
FACULTY OF HUMANITIES AND SOCIAL SCIENCES EDUCATION
DEPARTMENT OF ARTS

VOCABULARY TEST FOR PRE-SERVICE ENGLISH LANGUAGE TEACHERS

Dear student,

You have been selected to participate in a study on *"Morphological Awareness, Vocabulary Knowledge and Writing Proficiency of Preservice teachers of the English languageat the University of Cape Coast"*. This research is intended to explore the effect of the relationship between morphological awareness and vocabulary knowledge on writing proficiency. As a B ed. (Arts, English) student of the University of Cape Coast, you have gained a certain size of English vocabulary knowledge, and also developed strategies by which you can understand novel words encountered. Hence, you are to answer a series of tests: two diagnostic tests and a proficiency test.

As part of this research, you will be first asked to complete a Morphological Awareness Test (adapted from McBride–Chang *et al.*, 2005). After you complete the test, you will be asked to complete a Vocabulary Level Test, adapted from Nation (2001). The Morphological Awareness Test will take approximately 8-10 minutes to complete while the Vocabulary Level Test will take around 20 minutes depending on your pace.

Your response to the research package (Morphological Awareness Test and Vocabulary Level Test) will help the researcher to collect comprehensive data Please feel free to answer the tests at your own pace. Your participation in this study is voluntary and at no cost to your academic grades. You are assured that the information you provide will be treated as confidential and used solely for this research. Although your research package is coded/numbered, you will not be individually identified with your responses.

Instructions: **This paper is made up of THREE parts. Provide answers to ALL items.**

PART A - BACKGROUND INFORMATION
1. Gender: Female [ ]   Male [ ]
2. Age (years): 20-22[ ]   23- 25[ ]   26 -28 [ ]   30 and above [ ]

PART B - VOCABULARY KNOWLEDGE TEST.

This is a vocabulary test. You must choose the right word to go with each meaning.   Write the number of that word next to its meaning.   Here is an example.

l   business
2   clock   _____ part of a house
3   horse   _____ animal with four legs
4   pencil   _____ something used for writing
5   shoe
6   wall

You answer it in the following way.

l   business
2   clock   ___*6*___ part of a house
3   horse   ___*3*___ animal with four legs
4   pencil   ___*4*___ something used for writing
5   shoe
6   wall

Some words are in the test to make it more difficult. You do not have to find a meaning for these words. In the example above, these words are business, clock, and shoe.

If you have no idea about the meaning of a word, do not guess. But if you think you might know the meaning, then you should try to find the answer.

The 3,000-word level

1 belt
2 climate   _____ idea
3 executive   _____ inner surface of your hand
4 notion   _____ strip of leather worn around the waist
5 palm
6 victim

1 acid
2 bishop   _____ cold feeling
3 chill   _____ farm animal
4 ox   _____ organisation or framework
5 ridge
6 structure

276

1 bench
2 charity   _____ long seat
3 jar   _____ help to the poor
4 mate   _____ part of a country
5 mirror
6 province

1 boot
2 device   _____ army officer
3 lieutenant   _____ a kind of stone
4 marble   _____ tube through which blood flows
5 phrase
6 vein

1 apartment
2 candle   _____ a place to live
3 draft   _____ chance of something
4 horror   happening
5 prospect   _____ first rough form of something written
6 timber

1 betray
2 dispose   _____ frighten
3 embrace   _____ say publicly
4 injure   _____ hurt seriously
5 proclaim
6 scare

1 encounter
2 illustrate   _____ meet
3 inspire   _____ beg for help
4 plead   _____ close completely
5 seal
6 shift

1 assist
2 bother   _____ help
3 condemn   _____ cut neatly
4 erect   _____ spin around quickly
5 trim
6 whirl

1 annual
2 concealed   _____ wild
3 definite   _____ clear and certain
4 mental   ____ happening once a year
5 previous
6 savage

277

1 dim
2 junior   _____ strange
3 magnificent _____ wonderful
4 maternal   _____ not clearly lit
5 odd
6 weary

The 5,000-word level

1 balloon
2 federation   _____ bucket
3 novelty   _____ unusual interesting thing
4 pail   _____ rubber bag that is filled with air
5 veteran
6 ward

1 alcohol
2 apron   _____ stage of development
3 hip   _____ state of untidiness or
4 lure   dirtiness
5 mess   _____ cloth worn in front to protect your clothes
6 phase

1 apparatus
2 compliment   _____ expression of admiration
3 ledge   _____ set of instruments or
4 revenue   machinery
5 scrap   _____ money received by the
6 tile   Government

1 bulb
2 document   _____ female horse
3 legion   _____ large group of soldiers or people
4 mare
5 pulse   _____ a paper that provides
6 tub   information

1 concrete
2 era   _____ circular shape
3 fiber   _____ top of a mountain
4 loop   _____ a long period of time
5 plank
6 summit

1 blend
2 devise   _____ mix together
3 hug   _____ plan or invent
4 lease   _____ hold tightly in your arms
5 plague

278

6 reject
1 abolish
2 drip   _____ bring to an end by law
3 insert   _____ guess about the future
4 predict   _____ calm or comfort someone
5 soothe
6 thrive

1 bleed
2 collapse   _____ come before
3 precede   _____ fall down suddenly
4 reject   _____ move with quick steps and
5 skip   jumps
6 tease

1 casual
2 desolate   _____ sweet-smelling
3 fragrant   _____ only one of its kind
4 radical   ____ good for your health
5 unique
6 wholesome

1 gloomy
2 gross   _____ empty
3 infinite   _____ dark or sad
4 limp   _____ without end
5 slim
6 vacant

The 10,000-word level
1 antics
2 batch   _____ foolish behavior
3 connoisseur _____ a group of things
4 foreboding _____ person with a good
5 haunch   knowledge of art or music
6 scaffold

1 auspices
2 dregs   _____ confused mixture
3 hostage   _____ natural liquid present in the mouth
4 jumble
5 saliva   _____ worst and most useless parts of anything
6 truce

1 casualty
2 flurry   _____ someone killed or injured
3 froth   _____ being away from other people
4 revelry   _____ noisy and happy celebration
5 rut

279

6 seclusion
1 apparition
2 botany   _____ ghost
3 expulsion   _____ study of plants
4 insolence   _____ small pool of water
5 leash
6 puddle

1 arsenal
2 barracks   _____ happiness
3 deacon   _____ difficult situation
4 felicity   _____ minister in a church
5 predicament
6 spore

1 acquiesce
2 bask   _____ to accept without protest
3 crease   _____ sit or lie enjoying warmth
4 demolish   _____ make a fold on cloth or
5 overhaul   paper
6 rape

1 blaspheme
2 endorse   _____ slip or slide
3 nurture   _____ give care and food to
4 skid   _____ speak badly about God
5 squint
6 struggle

1 clinch
2 jot   _____ move very fast
3 mutilate   _____ injure or damage
4 smolder   _____ burn slowly without flame
5 topple
6 whis

1 auxiliary
2 candid   _____ bad-tempered
3 luscious   _____ full of self-importance
4 morose   _____ helping, adding support
5 pallid
6 pompous

1 dubious
2 impudent   _____ rude
3 languid   _____ very ancient
4 motley   _____ of many different kinds
5 opaque
6 primeval

280

Test of Academic Vocabulary

1 benefit
2 labor   _____ work
3 percent   _____ part of 100
4 principle   _____ general idea used to guide one's actions
5 source
6 survey

1 element   _____ money for a special
2 fund   purpose
3 layer   _____ skilled way of doing
4 philosophy   something
5 proportion   _____ study of the meaning
6 technique   of life

1 consent
2 enforcement   _____ total
3 investigation _____ agreement or permission
4 parameter   _____ trying to find information about something
5 sum
6 trend

1 decade
2 fee   _____ 10 years
3 file   _____ subject of a discussion
4 incidence   _____ money paid for services
5 perspective
6 topic

1 colleague
2 erosion   _____ action against the law
3 format   _____ wearing away gradually
4 inclination   _____ shape or Size of something
5 panel
6 violation

1 achieve
2 conceive   _____ change
3 grant   _____ connect together
4 link   _____ finish successfully
5 modify
6 offset

281

1 convert
2 design   _____ keep out
3 exclude   _____ stay alive
4 facilitate   _____ change from one thing
5 indicate   into another
6 survive

1 anticipate
2 compile   _____ control something skillfully
3 convince   _____ expect something will happen
4 denote
5 manipulate   _____ produce books and
6 publish   newspapers

1 equivalent
2 financial   _____ most important
3 forthcoming _____ concerning sight
4 primary   _____ concerning money
5 random
6 visual

1 alternative
2 ambiguous   _____ last or most important
3 empirical   _____ something different that can be chosen
4 ethnic
5 mutual   _____ concerning people from a certainnation
6 ultimate

PART B - Vocabulary Size Test

Instruction: Circle the letter a-d with the closest meaning to the keyword in the question.

Third 1000
1.   SOLDIER: He is a soldier.
       a.   person in a business
       b.   student
       c.   person who uses metal
       d.   person in the army
2.   RESTORE: It has been restored.
       a.   said again
       b.   given to a different person
       c.   given a lower price
       d.   made like new again
3.   JUG: He was holding a jug.
       a.   A container for pouring liquids
       b.   an informal discussion
       c.   A soft cap
       d.   A weapon that explodes

282

4.   SCRUB: He is scrubbing it.
    a.   cutting shallow lines into it
    b.   repairing it
    c.   rubbing it hard to clean it
    d.   drawing simple pictures of it

5.   DINOSAUR: The children were pretending to be dinosaurs.
    a.   robbers who work at sea
    b.   very small creatures with human form but with wings
    c.   large creatures with wings that breathe fire
    d.   animals that lived a long time ago

6.   STRAP: He broke the strap.
    a.   promise
    b.   top cover
    c.   shallow dish for food
    d.   strip of material for holding things together

7.   PAVE: It was paved.
    a.   prevented from going through
    b.   divided
    c.   given gold edges
    d.   covered with a hard surface

8.   DASH: They dashed over it.
    a.   moved quickly
    b.   moved slowly
    c.   fought
    d.   looked quickly

9.   ROVE: He couldn't stop roving.
    a.   getting drunk
    b.   travelling around
    c.   making a musical sound through closed lips
    d.   working hard

10.   LONESOME: He felt lonesome.
    a.   ungrateful
    b.   very tired
    c.   lonely
    d.   full of energy

Fifth 1000

1.   DEFICIT: The company had a large deficit.
    a.   spent a lot more money than it earned
    b.   went down a lot in value
    c.   had a plan for its spending that used a lot of money
    d.   had a lot of money in the bank

2.   WEEP: He wept.
    a.   finished his course
    b.   cried
    c.   died
    d.   worried

283

3.   NUN: We saw a nun.
        a.   long thin creature that lives in the earth
        b.   terrible accident
        c.   woman following a strict religious life
        d.   unexplained bright light in the sky
4.   HAUNT: The house is haunted.
        a.   full of ornaments
        b.   rented
        c.   empty
        d.   full of ghosts
5.   COMPOST: We need some compost.
        a.   strong support
        b.   help to feel better
        c.   hard stuff made of stones and sand stuck together
        d.   rotted plant material
6.   CUBE: I need one more cube.
        a.   sharp thing used for joining things
        b.   solid square block
        c.   tall cup with no saucer
        d.   piece of stiff paper folded in half
7.   MINIATURE: It is a miniature.
        a.   a very small thing of its kind
        b.   an instrument to look at small objects
        c.   a very small living creature
        d.   a small line to join letters in   handwriting
8.   PEEL: Shall I peel it?
        a.   let it sit in water for a long time
        b.   take the skin off it
        c.   make it white
        d.   cut it into thin pieces
9.   FRACTURE: They found a fracture.
        a.   break
        b.   small piece
        c.   short coat
        d.   rare jewel
10.   BACTERIUM: They didn't find a single bacterium.
        a.   small living thing causing disease
        b.   plant with red or orange flowers
        c.   animal that carries water on its back
        d.   thing that has been stolen and sold to a shop

Tenth 1000

1.   AWE: They looked at the mountain with awe.
        a.   worry
        b.   interest
        c.   wonder
        d.   respect

284

2.   PEASANTRY: He did a lot for the   peasantry.
    a.   local people
    b.   place of worship
    c.   businessmen's club
    d.   poor farmers

3.   EGALITARIAN: This organisation is egalitarian.
    a.   does not provide much information about itself to the public
    b.   dislikes change
    c.   frequently asks a court of law for a judgement
    d.   treats everyone who works for it as if they are equal

4.   MYSTIQUE: He has lost his mystique.
    a.   his healthy body
    b.   the secret way he makes other people think he has special power or skill
    c.   the woman who has been his lover while he is married to someone else
    d.   the hair on his top lip

5.   UPBEAT: I'm feeling really upbeat about it.
    a.   upset
    b.   good
    c.   hurt
    d.   confused

6.   CRANNY: We found it in the cranny!
    a.   sale of unwanted objects
    b.   narrow opening
    c.   space for storing things under the roof of a house
    d.   large wooden box

7.   PIGTAIL: Does she have a pigtail?
    a.   a rope of hair made by twisting bits   together
    b.   a lot of cloth hanging behind a dress
    c.   a plant with pale pink flowers that hang down in short bunches
    d.   a lover

8.   CROWBAR: He used a crowbar.
    a.   heavy iron pole with a curved end
    b.   false name
    c.   sharp tool for making holes in leather
    d.   light metal walking stick

9.   RUCK: He got hurt in the ruck.
    a.   hollow between the stomach and the top of the leg
    b.   pushing and shoving
    c.   group of players gathered round the ball in some ball games
    d.   race across a field of snow

10.   LECTERN: He stood at the lectern.
    a.   desk to hold a book at a height for reading
    b.   table or block used for church sacrifices
    c.   place where you buy drinks
    d.   very edge

Test of the Academic Word List

Instructions: Choose a word on the left that matches a meaning on the right. Write the number of that word next to its meaning.

Here is an example:
1. business
2. clock _____ part of a house
3. horse _____ animal with four legs
4. pencil _____ something used for writing
5. shoe
6. wall

You answer it the following way:
1. business
2. clock __ 6 __ part of a house
3. horse __ 3 __ animal with four legs
4. pencil __ 4 __ something used for writing
5. shoe
6. wall

NB: You do not use all of the words. In the example above, the words *business*, *clock*, *shoe* did not have a meaning for you to choose. If you do not know the meaning of a word you do not need to answer that question. If you think you know the word you can guess

1. environment
2. Principle   ____ the close study of something
3. response   ____ money received
4. assumption ____ the surrounding conditions and influences
5. analysis
6. income

1. similarity
2. Data   ____ something that can change
3. Variable   ____ a problem
4. method   ____ a way of doing something
5. section
6. issue

1. site
2. commission ____ a place
3. definition   ____ keeping in the same condition
4. maintenance ____ a group with a special job to do
5. achievement
6. conduct

286

1. authority
2. culture   _____ the language, art and behavior of a society
3. injury   _____ something valuable that can be used
4. range   _____ deciding if something is good enough
5. evaluation
6. resource

1. location
2. partnership _____ the amount a container can hold
3. exclusion   _____ one thing coming after another
4. Fund   _____ money kept for a special purpose
5. sequence
6. volume

1. contribution
2. alternative _____ another choice
3. task   _____ something given to help
4. Instance   _____ piece of work to do
5. component
6. reaction

1. regime
2. status   _____ something that regularly goes around
3. summary   _____ a system of government
4. prediction   _____ the present condition of something
5. approximation
6. cycle

1. commit
2. Predict   _____ to agree to do some work
3. Access   _____ to find a way in
4. Emerge   _____ to come out
5. modify
6. mechanise

1. licence
2. draft   _____ a fight or disagreement
3. conflict   _____a purpose or aim
4. stability   _____ the study of the mind
5. psychology
6. objective

1. academic
2. liberal   _____ the same
3. precise   _____ involving the brain or thought
4. Mental   _____ involving the study of ideas
5. equivalent
6. Transitory

287

1. expert
2. brief   _____ a talk at a university
3. abstract   _____ based on ideas not on real things
4. lecture   _____ amount of money paid
5. ministry
6. fee

1. incentive
2. display   _____ all of someone's possessions
3. allocation   _____ an encouragement
4. estate   _____ an amount given out
5. utility
6. tape

1. global
2. definite   _____ freely decided, not forced
3. hierarchical   _____ clear, sure
4. classical   _____ in a system from highest to lowest
5. reversed
6. Voluntary

1. confirm
2. insert   _____ to take away something that is not needed
3. transmit   _____ to say for certain
4. eliminate   _____ to put in
5. quote
6. Isolate

1. paragraph
2. contradiction _____ strength or great feeling
3. schedule _____ extra information at the end of a book
4. intensity   _____ a program of work
5. exhibit
6. appendix

1. radical
2. uniform   _____ extreme
3. contemporary _____ at the present time
4. crucial   _____ not said directly
5. implicit
6. widespread

1. minimise
2. relax   _____ to reach
3. found   _____ to happen at the same time
4. coincide   _____ to badly change the shape
5. attain
6. distort

288

1. accommodation
2. team_____ something that people do not agree about
3. controversy _____a group of people working together
4. vision _____ a place to stay
5. portion
6. manual

1. forthcoming
2. straightforward _____not wanting to do something
3. odd _____ unusual
4. persistent _____ very large
5. enormous
6. reluctant

289

© University of Cape Coast   https://ir.ucc.edu.gh/xmlui
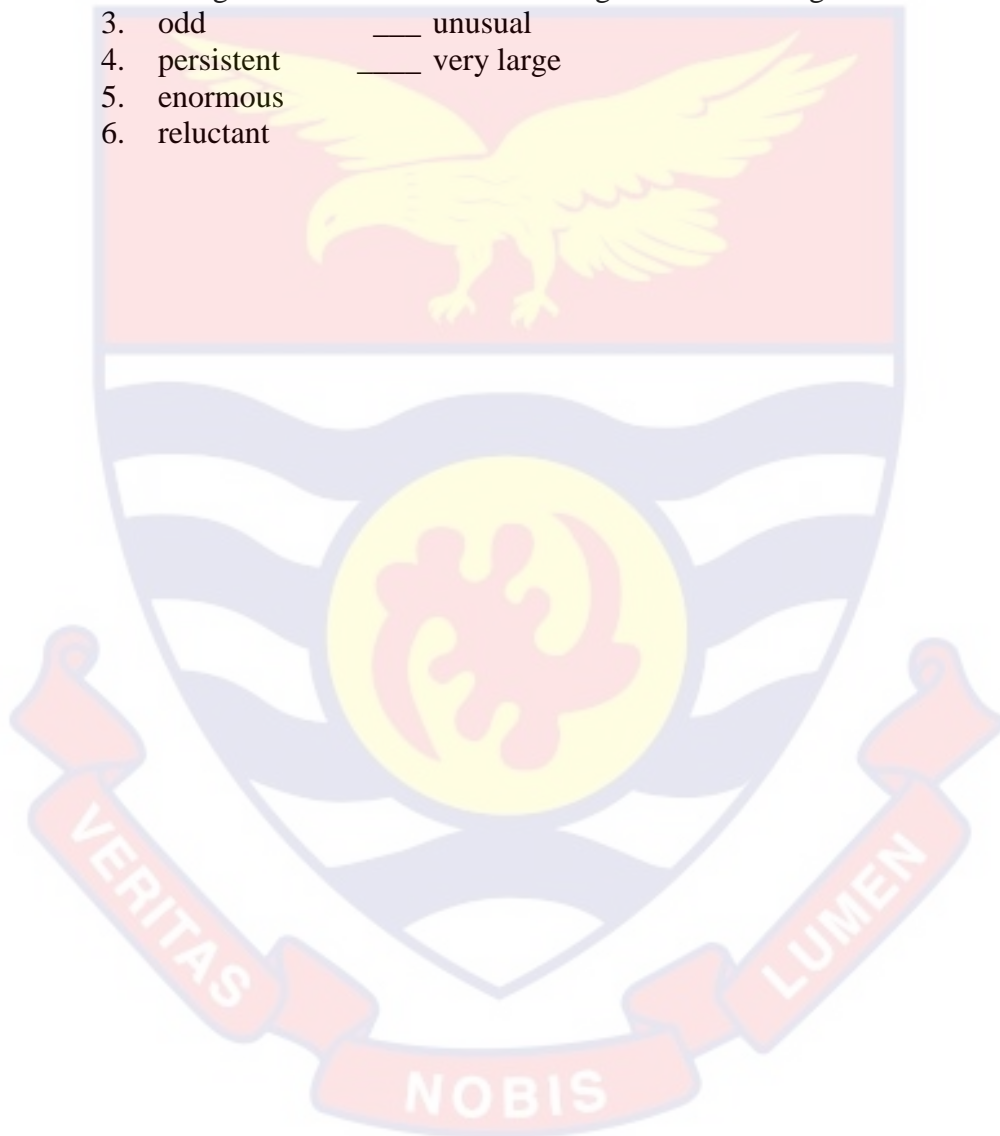
APPENDIX E:

089

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
FACULTY OF HUMANITIES AND SOCIAL SCIENCES EDUCATION
DEPARTMENT OF ARTS

VOCABULARY TEST FOR PRE-SERVICE ENGLISH LANGUAGE TEACHERS

Dear student,

You have been selected to participate in a study on *"Morphological Awareness, Vocabulary knowledge and Writing Proficiency of Preservice English Language teachers at the University of Cape Coast".* This research is intended to explore the effect of the relationship between morphological awareness and vocabulary knowledge on writing proficiency. As a B ed. (Arts, English) student of the University of Cape Coast, you have gained a certain size of English vocabulary knowledge, and also developed strategies by which you can understand novel words encountered. Hence, you are to answer a series of tests: two diagnostic tests and a proficiency test.

As part of this research, you will be first asked to complete Morphological Awareness Test adapted from McBride–Chang et al (2005). After you complete the test, you will be asked to complete a Vocabulary Level Test, adapted from Nation (2001). The Morphological Awareness Test will take approximately 8-10 minutes to complete while the Vocabulary Level Test will take around 25- 30 minutes depending your pace.

Your response to the research package (Morphological Awareness Test and Vocabulary Level Test) will help the researcher to collect comprehensive data Please feel free to answer the tests at your own pace. Your participation in this study is voluntary and at no cost to your academic grades. You are assured that the information you provide will be treated as confidential and used solely for this research. Although your research package is coded/numbered, you will not be individually identified with your responses.

1

Instructions: This paper is made up of THREE parts. Provide answers to ALL items.

PART A - BACKGROUND INFORMATION

1. Gender: Female [✓]   Male [ ]

2. Age (years): 20-22[ ]   23- 25[ ]   26 -28 [ ]   30 and above [ ]

PART B - VOCABULARY KNOWLEDGE TEST.

This is a vocabulary test. You must choose the right word to go with each meaning.   Write the number of that word next to its meaning.   Here is an example.

1   business
2   clock   _____ part of a house
3   horse   _____ animal with four legs
4   pencil   _____ something used for writing
5   shoe
6   wall

You answer it in the following way.

1   business
2   clock   __6__ part of a house
3   horse   __3__ animal with four legs
4   pencil   __4__ something used for writing
5   shoe
6   wall

Some words are in the test to make it more difficult.   You do not have to find a meaning for these words.   In the example above, these words are business, clock, and shoe.

If you have no idea about the meaning of a word, do not guess. But if you think you might know the meaning, then you should try to find the answer.

The 3,000 word level

1 belt
2 climate   __4__ idea
3 executive   __5__ inner surface of your
                        hand
4 notion   __1__ strip of leather worn
                        around the waist
5 palm
6 victim

1 acid
2 bishop   __3__ cold feeling
3 chill   __4__ farm animal
4 ox   __6__ organization or framework
5 ridge
6 structure

2

1 bench
2 charity   1   long seat
3 jar   2   help to the poor
4 mate   6   part of a country
5 mirror
6 province

1 annual
2 concealed   6   wild
3 definite   3   clear and certain
4 mental   1   happening once a year
5 previous
6 savage

1 boot
2 device   3   army officer
3 lieutenant   4   a kind of stone
4 marble   6   tube through which
                  blood flows
5 phrase
6 vein

1 dim
2 junior   5   strange
3 magnificent   3   wonderful
4 maternal   1   not clearly lit
5 odd
6 weary

1 apartment
2 candle   1   a place to live
3 draft   5   chance of something
4 horror   happening
5 prospect   3   first rough form of
                  something written
6 timber

1 betray
2 dispose   6   frighten
3 embrace   5   say publicly
4 injure   4   hurt seriously
5 proclaim
6 scare

1 encounter
2 illustrate   1   meet
3 inspire   4   beg for help
4 plead   5   close completely
5 seal
6 shift

1 assist
2 bother   1   help
3 condemn   5   cut neatly
4 erect   6   spin around quickly
5 trim
6 whirl

30/30

3

The 5,000 word level

1 balloon
2 federation   _4_   bucket
3 novelty   _3_   unusual interesting
               thing
4 pail   _1_   rubber bag that is filled
               with air
5 veteran
6 ward

1 blend
2 devise   _1_   mix together
3 hug   _2_   plan or invent
4 lease   _3_   hold tightly in your arms
5 plague
6 reject

1 alcohol
2 apron   _6_   stage of development
3 hip   _5_   state of untidiness or
4 lure   dirtiness
5 mess   _2_   cloth worn in front to
               protect your clothes
6 phase

1 abolish
2 drip   _1_   bring to an end by law
3 insert   _4_   guess about the future
4 predict   _5_   calm or comfort someone
5 soothe
6 thrive

1 apparatus
2 compliment   _2_   expression of
               admiration
3 ledge   _1_   set of instruments or
4 revenue   machinery
5 scrap   _4_   money received by the
6 tile   Government

1 bleed
2 collapse   _3_   come before
3 precede   _2_   fall down suddenly
4 reject   _5_   move with quick steps and
5 skip   jumps
6 tease

1 bulb
2 document   _4_   female horse
3 legion   _3_   large group of
               soldiers or people
4 mare
5 pulse   _2_   a paper that provides
6 tub   information

1 casual
2 desolate   _3_   sweet-smelling
3 fragrant   _5_   only one of its kind
4 radical   _?_   good for your health
5 unique
6 wholesome

1 concrete
2 era   _?_   circular shape
3 fiber   _?_   top of a mountain
4 loop   _2_   a long period of time
5 plank
6 summit

1 gloomy
2 gross   _6_   empty
3 infinite   _1_   dark or sad
4 limp   _3_   without end
5 slim
6 vacant

27/30

4

The 10,000 word level

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2 batch ___1___ foolish behavior
3 connoisseur ___2___ a group of things
4 foreboding ___3___ person with a good
5 haunch knowledge of art or
   music
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   in the mouth
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   useless parts of
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4 skid ___1___ speak badly about God
5 squint
6 straggle

1 casualty
2 flurry ___1___ someone killed or
   injured
3 froth ___5 4___ being away from
   other people
4 revelry ___6 4___ noisy and happy
   celebration
5 rut
6 seclusion

1 clinch
2 jot ___1 4___ move very fast
3 mutilate ___3___ injure or damage
4 smolder ___2 4___ burn slowly without flame
5 topple
6 whiz

1 apparition
2 botany ___4 4___ ghost
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1 anticipate
2 compile   _?_   control something
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5 manipulate   produce books and
6 publish   newspapers

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6 visual

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2 erosion   _6_   action against the
                law
3 format   _2_   wearing away
                gradually
4 inclination   _3_   shape or size of
                something
5 panel
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1 alternative
2 ambiguous   _6_   last or most
                important
3 empirical   _1_   something different
                that can be chosen
4 ethnic
5 mutual   _4_   concerning people
                from a certainnation
6 ultimate

28/30

6

PART B - Vocabulary Size Test

Instruction: Circle the letter a-d with the closest meaning to the keyword in the question.

Third 1000

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   a.   person in a business
   b.   student
   c.   person who uses metal
   d.   person in the army

2.   RESTORE: It has been restored.
   a.   said again
   b.   given to a different person
   c.   given a lower price
   d.   made like new again

3.   JUG: He was holding a jug.
   a.   A container for pouring liquids
   b.   an informal discussion
   c.   A soft cap
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   a.   cutting shallow lines into it
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   c.   rubbing it hard to clean it
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5.   DINOSAUR: The children were pretending to be dinosaurs.
   a.   robbers who work at sea
   b.   very small creatures with human form but with wings
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   d.   animals that lived a long time ago

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   a.   promise
   b.   top cover
   c.   shallow dish for food
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   a.   moved quickly
   b.   moved slowly
   c.   fought
   d.   looked quickly

9.   ROVE: He couldn't stop roving.
   a.   getting drunk
   b.   travelling around
   c.   making a musical sound through closed lips
   d.   working hard

10.   LONESOME: He felt lonesome.
   a.   ungrateful
   b.   very tired
   c.   lonely
   d.   full of energy

6/10

7

Fifth 1000

1. DEFICIT: The company had a large deficit.
   - a. spent a lot more money than it earned
   - b. went down a lot in value
   - c. had a plan for its spending that used a lot of money
   - d. had a lot of money in the bank

2. WEEP: He wept.
   - a. finished his course
   - b. cried
   - c. died
   - d. worried

3. NUN: We saw a nun.
   - a. long thin creature that lives in the earth
   - b. terrible accident
   - c. woman following a strict religious life
   - d. unexplained bright light in the sky

4. HAUNT: The house is haunted.
   - a. full of ornaments
   - b. rented
   - c. empty
   - d. full of ghosts

5. COMPOST: We need some compost.
   - a. strong support
   - b. help to feel better
   - c. hard stuff made of stones and sand stuck together
   - d. rotted plant material

6. CUBE: I need one more cube.
   - a. sharp thing used for joining things
   - b. solid square block
   - c. tall cup with no saucer
   - d. piece of stiff paper folded in half

7. MINIATURE: It is a miniature.
   - a. a very small thing of its kind
   - b. an instrument to look at small objects
   - c. a very small living creature
   - d. a small line to join letters in handwriting

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   - a. let it sit in water for a long time
   - b. take the skin off it
   - c. make it white
   - d. cut it into thin pieces

9. FRACTURE: They found a fracture.
   - a. break
   - b. small piece
   - c. short coat
   - d. rare jewel

10. BACTERIUM: They didn't find a single bacterium.
   - a. small living thing causing disease
   - b. plant with red or orange flowers
   - c. animal that carries water on its back
   - d. thing that has been stolen and sold to a shop

Tenth 1000

1. AWE: They looked at the mountain with awe.
   - a. worry
   - b. interest
   - c. wonder
   - d. respect

2. PEASANTRY: He did a lot for the peasantry.
   - a. local people
   - b. place of worship
   - c. businessmen's club
   - d. poor farmers

3. EGALITARIAN: This organization is egalitarian.
   - a. does not provide much information about itself to the public
   - b. dislikes change
   - c. frequently asks a court of law for a judgement
   - d. treats everyone who works for it as if they are equal

4. MYSTIQUE: He has lost his mystique.
   - a. his healthy body

8

b. the secret way he makes other people think he has special power or skill

c. the woman who has been his lover while he is married to someone else

d. the hair on his top lip

c. a plant with pale pink flowers that hang down in short bunches

d. a lover

8. CROWBAR: He used a crowbar.
   a. heavy iron pole with a curved end
   b. false name
   c. sharp tool for making holes in leather
   d. light metal walking stick

5. UPBEAT: I'm feeling really upbeat about it.
   a. upset
   b. good
   c. hurt
   d. confused

9. RUCK: He got hurt in the ruck.
   a. hollow between the stomach and the top of the leg
   b. pushing and shoving
   c. group of players gathered round the ball in some ball games
   d. race across a field of snow

6. CRANNY: We found it in the cranny!
   a. sale of unwanted objects
   b. narrow opening
   c. space for storing things under the roof of a house
   d. large wooden box

10. LECTERN: He stood at the lectern.
   a. desk to hold a book at a height for reading
   b. table or block used for church sacrifices
   c. place where you buy drinks
   d. very edge

7. PIGTAIL: Does she have a pigtail?
   a. a rope of hair made by twisting bits together
   b. a lot of cloth hanging behind a dress

3/10

Test of the Academic Word List

Instructions: Choose a word on the left that matches a meaning on the right. Write the number of that word next to its meaning.

Here is an example:

1. business
2. clock _____ part of a house
3. horse _____ animal with four legs
4. pencil _____ something used for writing
5. shoe
6. wall

You answer it the following way:
1. business
2. clock __ 6 __ part of a house
3. horse __ 3 __ animal with four legs
4. pencil __ 4 __ something used for writing
5. shoe
6. wall

NB: You do not use all of the words. In the example above, the words *business, clock, shoe* did not have a meaning for you to choose. If you do not know the meaning of a word you do not need to answer that question. If you think you know the word you can guess

9

1. environment
2. Principle   _5_ the close study of something
3. response   _6_ money received
4. assumption   _1_ the surrounding conditions and influences
5. analysis
6. income

1. similarity
2. Data   _3_ something that can change
3. Variable   _6_ a problem
4. method   _4_ a way of doing something
5. section
6. issue

1. site
2. commission _1_ a place
3. definition _4_ keeping in the same
                    condition
4. maintenance _2_ a group with a special job
to do
5. achievement
6. conduct

1. contribution
2. alternative _2_ another choice
3. task   _1_ something given to help
4. Instance   _3_ piece of work to do
5. component
6. reaction

1. authority
2. culture   _2_ the language, art and
                  behavior of a society
3. injury   _6_ something valuable that
                  can be used
4. range   _1_ deciding if something is
                  good enough
5. evaluation
6. resource

1. regime
2. status   _6_ something that regularly
                    goes around
3. summary   _1_ a system of government
4. prediction _2_ the present condition of
                    something
5. approximation
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1. location
2. partnership _6_ the amount a container can
                    hold
3. exclusion   _5_ one thing coming after
                    another
4. Fund   _4_ money kept for a special
                    purpose
5. sequence
6. volume

1. commit
2. Predict   _1_ to agree to do some work
3. Access   _3_ to find a way in
4. Emerge   _2_ to come out
5. modify
6. mechanise

1. licence
2. draft   _3_ a fight or disagreement
3. conflict   _6_ a purpose or aim
4. stability   _5_ the study of the mind
5. psychology
6. objective

1. confirm
2. insert   _4_ to take away something
                      that is not needed
3. transmit   _1_ to say for certain
4. eliminate   _2_ to put in
5. quote
6. Isolate

1. academic
2. liberal   _5_ the same
3. precise   _4_ involving the brain or
                      thought
4. Mental   _1_ involving the study of ideas
5. equivalent
6. Transitory

1. paragraph
2. contradiction   _4_ strength or great
                        feeling
3. schedule   _6_ extra information at
                        the end of a book
4. intensity   _3_ a program of work
5. exhibit
6. appendix

1. expert
2. brief   _4_ a talk at a university
3. abstract   _3_ based on ideas not on real
                      things
4. lecture   _6_ amount of money paid
5. ministry
6. fee

1. radical
2. uniform   _6_ extreme
3. contemporary _3_ at the present time
4. crucial   _5_ not said directly
5. implicit
6. widespread

1. incentive
2. display   _4_ all of someone's
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2. relax   _5_ to reach
3. found   _4_ to happen at the
                      same time
4. coincide   _6_ to badly change the
                      shape
5. attain
6. distort

1. global
2. definite   _6_ freely decided, not forced
3. hierarchical _2_ clear, sure
4. classical   _3_ in a system from highest to
                      lowest
5. reversed
6. Voluntary

1. accommodation
2. team   _3_ something that
                      people do not agree about
3. controversy   _2_ a group of people
                      working together
4. vision   _1_ a place to stay
5. portion
6. manual

1. forthcoming
2. straightforward _6_ not wanting to do
                        something
3. odd   _3_ unusual
4. persistent   _5_ very large
5. enormous
6. reluctant

24 / 30

11

O 36

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
FACULTY OF HUMANITIES AND SOCIAL SCIENCES EDUCATION
DEPARTMENT OF ARTS

VOCABULARY TEST FOR PRE-SERVICE ENGLISH LANGUAGE TEACHERS

Dear student,

You have been selected to participate in a study on *"Morphological Awareness, Vocabulary knowledge and Writing Proficiency of Preservice English Language teachers at the University of Cape Coast".* This research is intended to explore the effect of the relationship between morphological awareness and vocabulary knowledge on writing proficiency. As a B ed. (Arts, English) student of the University of Cape Coast, you have gained a certain size of English vocabulary knowledge, and also developed strategies by which you can understand novel words encountered. Hence, you are to answer a series of tests: two diagnostic tests and a proficiency test.

As part of this research, you will be first asked to complete Morphological Awareness Test adapted from McBride–Chang et al (2005). After you complete the test, you will be asked to complete a Vocabulary Level Test, adapted from Nation (2001). The Morphological Awareness Test will take approximately 8-10 minutes to complete while the Vocabulary Level Test will take around 25- 30 minutes depending your pace.

Your response to the research package (Morphological Awareness Test and Vocabulary Level Test) will help the researcher to collect comprehensive data Please feel free to answer the tests at your own pace. Your participation in this study is voluntary and at no cost to your academic grades. You are assured that the information you provide will be treated as confidential and used solely for this research. Although your research package is coded/numbered, you will not be individually identified with your responses.

1

Instructions: This paper is made up of THREE parts. Provide answers to ALL items.

PART A - BACKGROUND INFORMATION

1. Gender: Female [✓]   Male [ ]

2. Age (years): 20-22[✓]   23- 25[ ]   26 -28 [ ]   30 and above [ ]

PART B - VOCABULARY KNOWLEDGE TEST.

This is a vocabulary test. You must choose the right word to go with each meaning.   Write the number of that word next to its meaning.   Here is an example.

1   business
2   clock
3   horse   _____ part of a house
4   pencil   _____ animal with four legs
5   shoe   _____ something used for writing
6   wall

You answer it in the following way.

1   business
2   clock   ___6___ part of a house
3   horse   ___3___ animal with four legs
4   pencil   ___4___ something used for writing
5   shoe
6   wall

Some words are in the test to make it more difficult.   You do not have to find a meaning for these words.   In the example above, these words are business, clock, and shoe.

If you have no idea about the meaning of a word, do not guess. But if you think you might know the meaning, then you should try to find the answer.

The 3,000 word level

1 belt
2 climate   __4__ idea
3 executive   __5__ inner surface of your
                           hand
4 notion   __1__ strip of leather worn
                           around the waist
5 palm
6 victim

1 acid
2 bishop   __3__ cold feeling
3 chill   __4__ farm animal
4 ox   __6__ organization or framework
5 ridge
6 structure

2

1 bench
2 charity
3 jar
4 mate
5 mirror
6 province

_1_ long seat
_2_ help to the poor
_6_ part of a country

1 annual
2 concealed
3 definite
4 mental
5 previous
6 savage

_6_ wild
_3_ clear and certain
_1_ happening once a year

1 boot
2 device
3 lieutenant
4 marble

5 phrase
6 vein

_3_ army officer
_4_ a kind of stone
_6_ tube through which
     blood flows

1 dim
2 junior
3 magnificent
4 maternal
5 odd
6 weary

_5_ strange
_3_ wonderful
_1_ not clearly lit

1 apartment
2 candle
3 draft
4 horror
5 prospect

6 timber

_1_ a place to live
_5_ chance of something
     happening
_3_ first rough form of
     something written

1 betray
2 dispose
3 embrace
4 injure
5 proclaim
6 scare

_6_ frighten
_5_ say publicly
_4_ hurt seriously
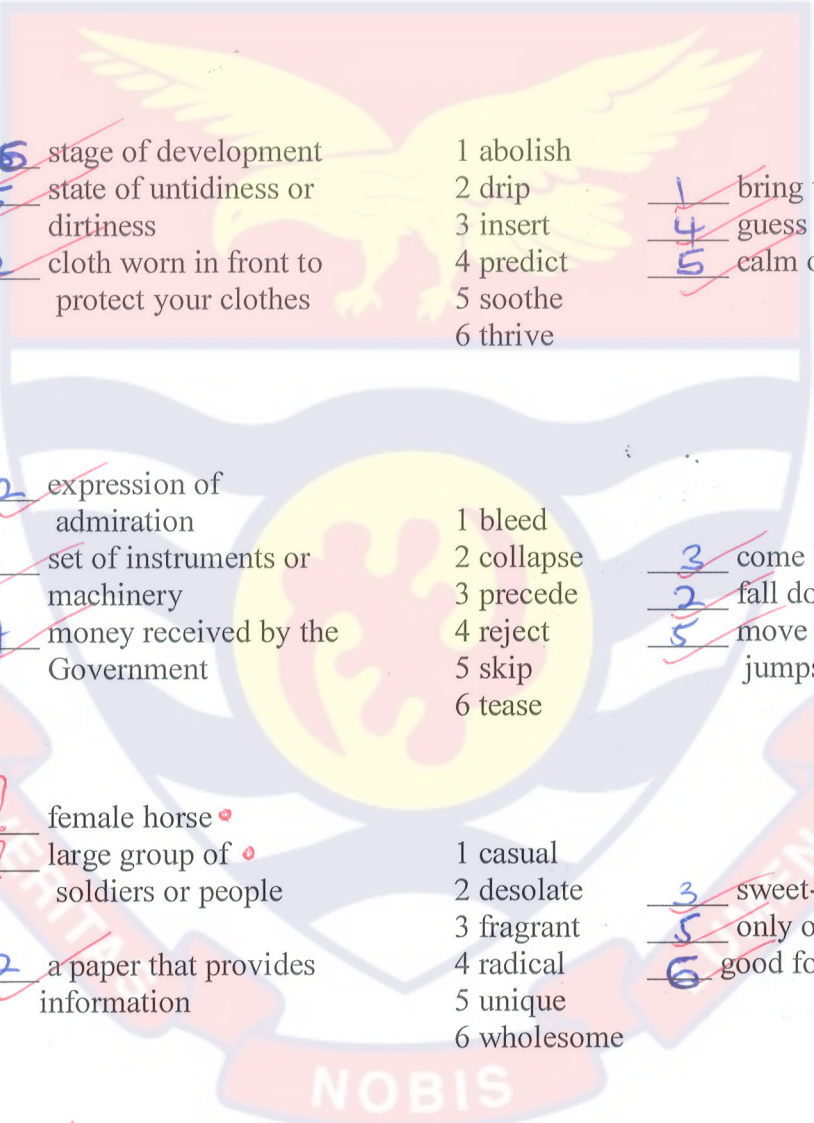
1 encounter
2 illustrate
3 inspire
4 plead
5 seal
6 shift

_1_ meet
_4_ beg for help
_5_ close completely

1 assist
2 bother
3 condemn
4 erect
5 trim
6 whirl

_1_ help
_5_ cut neatly
_6_ spin around quickly

3

The 5,000 word level

1 balloon
2 federation   __4__ bucket
3 novelty   __3__ unusual interesting
                      thing
4 pail   __1__ rubber bag that is filled
                      with air
5 veteran
6 ward

1 blend
2 devise   __1__ mix together
3 hug   __2__ plan or invent
4 lease   __3__ hold tightly in your arms
5 plague
6 reject

1 alcohol
2 apron   __6__ stage of development
3 hip   __5__ state of untidiness or
4 lure   dirtiness
5 mess   __2__ cloth worn in front to
                      protect your clothes
6 phase

1 abolish
2 drip   __1__ bring to an end by law
3 insert   __4__ guess about the future
4 predict   __5__ calm or comfort someone
5 soothe
6 thrive

1 apparatus
2 compliment   __2__ expression of
                      admiration
3 ledge   __1__ set of instruments or
4 revenue   machinery
5 scrap   __4__ money received by the
6 tile   Government

1 bleed
2 collapse   __3__ come before
3 precede   __2__ fall down suddenly
4 reject   __5__ move with quick steps and
5 skip   jumps
6 tease

1 bulb
2 document   __7__ female horse
3 legion   __7__ large group of
                      soldiers or people
4 mare
5 pulse   __2__ a paper that provides
6 tub   information

1 casual
2 desolate   __3__ sweet-smelling
3 fragrant   __5__ only one of its kind
4 radical   __6__ good for your health
5 unique
6 wholesome

1 concrete
2 era   __4__ circular shape
3 fiber   __5__ top of a mountain
4 loop   __2__ a long period of time
5 plank
6 summit

1 gloomy
2 gross   __6__ empty
3 infinite   __4__ dark or sad
4 limp   __3__ without end
5 slim
6 vacant

26/30

4

The 10,000 word level

1 antics
2 batch — _1_ foolish behavior
3 connoisseur — _2_ a group of things
4 foreboding — _3_ person with a good
5 haunch — knowledge of art or music

6 scaffold

1 acquiesce
2 bask — _1_ to accept without protest
3 crease — _3_ sit or lie enjoying warmth
4 demolish — _5_ make a fold on cloth or
5 overhaul — paper
6 rape

1 auspices
2 dregs — _2_ confused mixture
3 hostage — _5_ natural liquid present in the mouth
4 jumble
5 saliva — _4_ worst and most useless parts of anything

6 truce

1 blaspheme
2 endorse — _4_ slip or slide
3 nurture — _3_ give care and food to
4 skid — _1_ speak badly about God
5 squint
6 straggle

1 casualty
2 flurry — _1_ someone killed or injured
3 froth — _6_ being away from other people
4 revelry — _2_ noisy and happy celebration
5 rut
6 seclusion

1 clinch
2 jot — _5_ move very fast
3 mutilate — _1_ injure or damage
4 smolder — _3_ burn slowly without flame
5 topple
6 whiz

1 apparition
2 botany — _1_ ghost
3 expulsion — _2_ study of plants
4 insolence — _3_ small pool of water
5 leash
6 puddle

1 auxiliary
2 candid — _2_ bad-tempered
3 luscious — _6_ full of self-importance
4 morose — _1_ helping, adding support
5 pallid
6 pompous

1 arsenal
2 barracks — _4_ happiness
3 deacon — _5_ difficult situation
4 felicity — _3_ minister in a church
5 predicament
6 spore

1 dubious
2 impudent — _2_ rude
3 languid — _4_ very ancient
4 motley — _1_ of many different kinds
5 opaque
6 primeval

18/30

5

Test of Academic Vocabulary

1 benefit
2 labor   _2_ work
3 percent   _3_ part of 100
4 principle   _4_ general idea used to
                                guide one's actions
5 source
6 survey

1 achieve
2 conceive   _5_ change
3 grant   _4_ connect together
4 link   _1_ finish successfully
5 modify
6 offset

1 element   _2_ money for a special
2 fund   purpose
3 layer   _6_ skilled way of doing
4 philosophy   something
5 proportion   _4_ study of the meaning
6 technique   of life

1 convert
2 design   _3_ keep out
3 exclude   _6_ stay alive
4 facilitate   _1_ change from one
                                thing
5 indicate   into another
6 survive

1 consent
2 enforcement   _5_ total
3 investigation   _1_ agreement or
                                permission
4 parameter   _3_ trying to find
                                information about
                                something
5 sum
6 trend

1 anticipate
2 compile   _5_ control something
                                skillfully
3 convince   _1_ expect something
                                will happen
4 denote
5 manipulate   _6_ produce books and
6 publish   newspapers

1 decade
2 fee   _1_ 10 years
3 file   _6_ subject of a
                                discussion
4 incidence   _2_ money paid for
                                services
5 perspective
6 topic

1 equivalent
2 financial   _4_ most important
3 forthcoming _6_ concerning sight
4 primary   _2_ concerning money
5 random
6 visual

1 colleague
2 erosion   _6_ action against the
                                law
3 format   _2_ wearing away
                                gradually
4 inclination   _3_ shape or size of
                                something
5 panel
6 violation

1 alternative
2 ambiguous   _6_ last or most
                                important
3 empirical   _1_ something different
                                that can be chosen
4 ethnic
5 mutual   _4_ concerning people
                                from a certain nation
6 ultimate

$\frac{30}{30}$

6

PART B - Vocabulary Size Test

Instruction: Circle the letter a-d with the closest meaning to the keyword in the question.

Third 1000

1. SOLDIER: He is a soldier.
   a. person in a business
   b. student
   c. person who uses metal
   d. person in the army

2. RESTORE: It has been restored.
   a. said again
   b. given to a different person
   c. given a lower price
   d. made like new again

3. JUG: He was holding a jug.
   a. A container for pouring liquids
   b. an informal discussion
   c. A soft cap
   d. A weapon that explodes

4. SCRUB: He is scrubbing it.
   a. cutting shallow lines into it
   b. repairing it
   c. rubbing it hard to clean it
   d. drawing simple pictures of it

5. DINOSAUR: The children were pretending to be dinosaurs.
   a. robbers who work at sea
   b. very small creatures with human form but with wings
   c. large creatures with wings that breathe fire
   d. animals that lived a long time ago

6. STRAP: He broke the strap.
   a. promise
   b. top cover
   c. shallow dish for food
   d. strip of material for holding things together

7. PAVE: It was paved.
   a. prevented from going through
   b. divided
   c. given gold edges
   d. covered with a hard surface

8. DASH: They dashed over it.
   a. moved quickly
   b. moved slowly
   c. fought
   d. looked quickly

9. ROVE: He couldn't stop roving.
   a. getting drunk
   b. travelling around
   c. making a musical sound through closed lips
   d. working hard

10. LONESOME: He felt lonesome.
    a. ungrateful
    b. very tired
    c. lonely
    d. full of energy

7

Fifth 1000

1. DEFICIT: The company had a large deficit.
    a. spent a lot more money than it earned
    b. went down a lot in value
    c. had a plan for its spending that used a lot of money
    d. had a lot of money in the bank
2. WEEP: He wept.
    a. finished his course
    b. cried
    c. died
    d. worried
3. NUN: We saw a nun.
    a. long thin creature that lives in the earth
    b. terrible accident
    c. woman following a strict religious life
    d. unexplained bright light in the sky
4. HAUNT: The house is haunted.
    a. full of ornaments
    b. rented
    c. empty
    d. full of ghosts
5. COMPOST: We need some compost.
    a. strong support
    b. help to feel better
    c. hard stuff made of stones and sand stuck together
    d. rotted plant material

6. CUBE: I need one more cube.
    a. sharp thing used for joining things
    b. solid square block
    c. tall cup with no saucer
    d. piece of stiff paper folded in half
7. MINIATURE: It is a miniature.
    a. a very small thing of its kind
    b. an instrument to look at small objects
    c. a very small living creature
    d. a small line to join letters in handwriting
8. PEEL: Shall I peel it?
    a. let it sit in water for a long time
    b. take the skin off it
    c. make it white
    d. cut it into thin pieces
9. FRACTURE: They found a fracture.
    a. break
    b. small piece
    c. short coat
    d. rare jewel
10. BACTERIUM: They didn't find a single bacterium.
    a. small living thing causing disease
    b. plant with red or orange flowers
    c. animal that carries water on its back
    d. thing that has been stolen and sold to a shop

Tenth 1000

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    b. interest
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    a. his healthy body

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b. the secret way he makes other people think he has special power or skill ✓

c. the woman who has been his lover while he is married to someone else

d. the hair on his top lip

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   a. hollow between the stomach and the top of the leg
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   d. race across a field of snow

10. LECTERN: He stood at the lectern.
   a. desk to hold a book at a height for reading
   b. table or block used for church sacrifices
   c. place where you buy drinks
   d. very edge

4/10

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                   behavior of a society
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                   can be used
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                    lowest
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1. accommodation
2. team   3 something that
                   people do not agree about
3. controversy 2 a group of people
                    working together
4. vision   1 a place to stay
5. portion
6. manual

26/30

1. forthcoming
2. straightforward 6 not wanting to do
                        something
3. odd   3 unusual
4. persistent   5 very large
5. enormous
6. reluctant

11

Morphological Awareness Test

A. Analysis (morpheme identification)

Please segment the following words into meaningful chunks, and state the meanings
of those chunks.

> e.g. **Childhoods:** child: little human being, - hood: the state of being, -s: to
> indicate plural

washing machine: wash: to clean something   ing: Continuous
tense marker. Machine: An object That helps to
make work easier and faster.

freedom: Free: Outside bondage or Captivity.
dom: A State of being.

likelihood: Like: to prefer something
hood: a state of bein.

harden: hard: of concrete of solid
en: Infledtional murpheme indicating

demotivation: de:
motivation: Inceentive to do something.

spaciousness: Spacious —— Something having a lot of
space.
ness - the State of being.

1

oxen: Ox : an animal
       en : plural marker.

partially: Part : of a whole or half of something
          ? ally : a marker indicating adverbial

productive: Product : a finished good or service
            ive : indicating an adjective.

babysitting: baby : a small child or an enfant.
            Sitting : a posture that depicts one is
            relaxing in a chair or on a surface.

nationwide: nation : a country
           wide : depicts coverage

unpredictability: Un : indicating negativity
                 ? Predictability : the the ability to know
                 something will happen.

education: educate : to impact knowledge
          ion : indication it is a noun.

eyebrow eye : the part of the body that is use
        to see.
        brow : relating to hair!

2

007

37

Morphological Awareness Test

A. Analysis (morpheme identification)

Please segment the following words into meaningful chunks, and state the meanings

of those chunks.

> e.g. **Childhoods:** child: little human being, - hood: the state of being, -s: to
> indicate plural

washing machine:

washing A State of Cleaning, machine An item
that makes work faster.

freedom:

free - A state of no disturbance from external Source
dom - A prefix

likelihood:

Like - the act of Preferring Something to another
Lihood - A State of being.

harden:

hard - The An Indication that Something is difficult
en - to Show past Participle.

demotivation:

de - a negative affixation   tion- Prefix to Indicate
motivate- State of being Inspired   Part of Speech (Noun)

spaciousness:

Space- An open place
?

1

oxen:

Ox - An Animal

en -   ?

partially:

Partial? - Not too clear

lly - to Indicate Part of Speech

productive:

Product - An Item

Ive - to show it is an adjective.

babysitting:

baby - A child who has not start walking

sit - A state on being down

ing - to indicate continuity

nationwide:

nation - A bigger State

wide - to show its coverage.

unpredictability:

Un - Prefix to show negativity

Predict - to be able to guest

tablety - to show it is a noun.

education:

educate - to teach someone

tion - to show its a noun.

eyebrow

eye - a part of the body use for seeing

brow - to indicate the particular part of the eye.

2

B. Synthesis (morphological structure)

Using only one word, come up with names for the objects or actions that are described below. See the example. ž

A ballpoint pen that is blue in color. We call that **blue ballpoint pen**.

Ahmed **lived longer** than Ali. Ahmed **outlived** Ali.

James **performed better** than Juliet in the reading test. James…… Passed Juliet.

There is a kind of train that runs **under the ground**. We call that an **underground train**. There is another kind of train that **runs over the ground**. What do we call that?

?

If a researcher **examined** James. James is an **examinee**

If a researcher **interviewed** Ahmed. Ahmed is an … Interviewee

If Ali can only see **short distanced** things. He is **short-sighted**.

If James can only see **near things** more clearly than distant ones. He is long- Sighted

There is a **passer- by** near your house. Now, there are three of them. So there are

Passer- by's

Some people wear rings on their **ears**, they are called **earrings**.

Some people wear rings on their **nose**, what should we call that? Nose rings

3

Many people wear laces on their **neck** called a **necklace**. Some people wear laces

on their **foot**, what should we call that? _socks_ ✓

Basketball is a game where you throw a **ball through a basket.** Tim made up a new

game where he throws a **ball into a bucket.** What should he call the game?

?

Look at John. John is **stotting**. Yesterday he did this. What did he do yesterday?

Yesterday, he ___Stotted___

This animal is called a **wug**. There are four of them. There are four

___wugs___

James is professional in taking **photographs**. He is **a photographer**.

Jerry is good at **eavesdropping.** His is an ___eavesdropper (gossip)___

Joe knows how to **fleamp**. He is **fleamping** something. He did the same thing
yesterday. What did he do yesterday?
Yesterday he ___plea fleamped___

This is a **krest**; it's used on letters. This letter has been **krested**. The postman is

___the one who krest___ ✓ the letters.

Sometimes the **raindrops** fall from the sky and we call that **raining**. Very rarely, **frogs**

Fall from the sky, we call that ___fogs___ ✓

4

B. Synthesis (morphological structure)

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Subrodai over grand train ✗

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bucket ball

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Yesterday, he _____ ~~was stotting~~ _stot_

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Fall from the sky, we call that _____ _frogdrops_ _____

4

Do you agree or disagree with the state-
ment people spend too much time on enjoyment
and not on serious duties and obligations.

I agree to the fact that people today spend
too much time on enjoyment and not enough
time on more serious duties and obligations.
Why do I say this? This is because people do
not pay much attention on what they are
supposed to do as an Individual but rather
spend much time on what makes them
happy and that is what they call going
living. let us take students in the University
of Cape Coast for Instance. These students
are obliged to study hard in school in order
to become someone Important in the future.
It's good to enjoy alright because stress
can really kill and can lead to depression
as well. But it is not really necessary to spend
all your study hours attending parties and
other enjoyable social gatherings which they
term as stress relievers. Instead of a student
to focus on his/her academic work more
than any other things, they tend to enjoy
these social gatherings. Meanwhile it is the
academic work that will be graded after
school. Most of the students who go

Candidate's Number:.. Page............................

Question No.:...

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wayward or dedicate from their obligations to study as student most of the time do not pass with the grades they anticipate and even adds up more stress to their life.

Also, to take parents for Instance, when they are not focused on their responsibilities, tend out not to be respected by the society. Some parents especially the rich fathers spend more time on things that makes them happy that their obligations. They most of the time go after women, visit bars and also buy goods for themselves and the girlfriends. There people, deviate from the norm and so are known as people who hold enjoyment high esteem than their obligations.

To conclude, I agree to the fact that people today spend too much time on enjoyment and not enough time on more serious duties and obligations. This essay focused on that of students and parents.

Candidate's Number:...................
Question No:...................
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(076)

Do you agree or disagree with the statement
People spend so much time on enjoyment than
on serious duties and obligations

Duty is a job that one is morally or legally
obligated to do without complain and this
helps me to explain obligation as the act of
binding oneself by a social legal or moral tie
to someone or something. With this we can
see that duty and obligation is something that
one is supposed to do to become a responsible
citizen. Enjoyment on the other hand is when
one gets or recieves pleasure or satisfaction
form doing something. There is a saying that all
work and no play makes Jack a lazy boy.
With this explanation I disagree with the
statement that says that people spend
too much time on enjoyment and not on
serious duties and obligations. This is because
in this generation with the economy being
hard the youth prefer to work hard in
order for them to get money and take
care of themselves. First and foremost, people
in this generation or era don't really like to
waste much time on enjoyment enj does not
pay but rather duties and obligations pays.
Such duties duty and obligation includes; work,

Candidate's Number:................................... Page..........................

Question No.:.......................................

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school and the others. For examples in the university, even during celebrations, we can see that not every student will attend that celebration, you will see them must back to the classrooms to return to their duty as being students.

Furthermore, people do not spend much time entertainment but on serious duties and obligations in the sense that people know that enjoyment is a good thing but work is important than enjoyment. This is because when you go some companies or duties are like the army, they know that when they make them enjoy they won't obey to the obligations of the work and become lazier so they won't limit enjoyment and focus more on their duty and obligations.

To conclude, I strongly disagree with the statement that enjoyment is not important or not taken serious but take duty and obligations serious because it pays more than enjoyment.

009

Q. Do you agree or disagree with the statement: People spend so much time on enjoyment than on serious duties and obligations.

A. One cannot over-emphasize on the fact people so much time on enjoyment and more making than on serious duties and obligations. I, however disagree with the statement. I know that people, especially the youth, spend so much time having fun and enjoying themselves than on serious than on serious duties and obligations. Instead of being dedicated to their assigned duties and obligations of their various work places, house chores and whenever there is the need to; they will be reluctant and lazy and rather be energetic when there is enjoyment.

I believe there are people who are devoted to their duties and assigned obligations. People have aims and ambitions they want to achieve and so they make it their priority to work towards those aims and ambitions. They make it a point to achieve greater things and so therefore do not spend so muc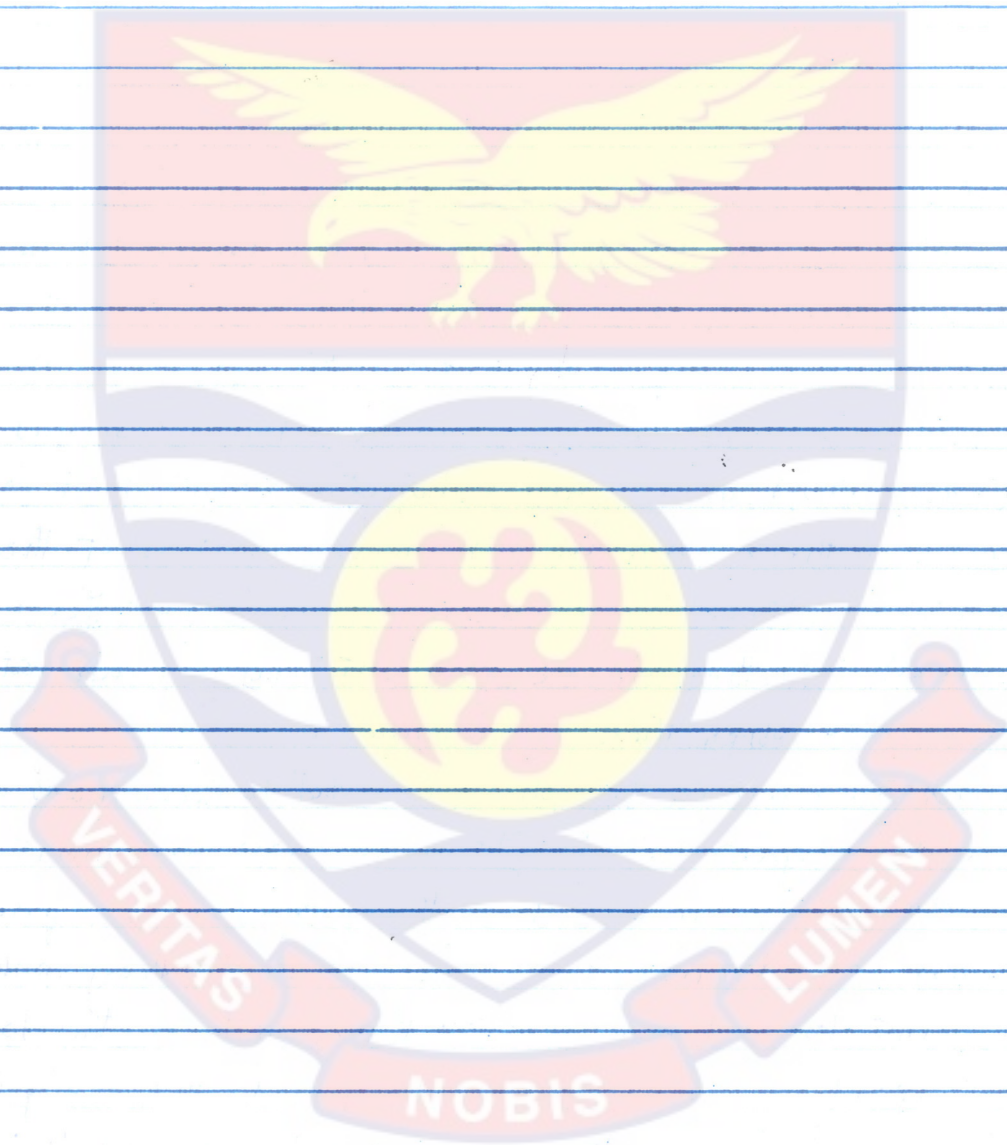h time on enjoyment and having fun. To sum up, I believe there are people who still have dedication to their duty. I disagree with the statement that people spend so much time on enjoyment rather than serious duties duties and obligations.

Candidate's Number:..   Page...........................

Question No.:...

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128

Do you agree or disagree with the statement: People spend too much time on enjoyment and not on serious duties and obligations.

Duty is a job that one is morally or legally obligated to do without complain and this helps me to explain obligation as the act of binding oneself by a social legal or moral tie to someone or something. With this we can see that duty and obligation is something that one is supposed to do to become a responsible citizen. Enjoyment on the other hand is when on gets or receives pleasure or satisfaction from doing something. There is the saying that all work and no play makes Jack a dull boy and all play and no work makes Jack a lazy boy. With this explanation, I disagree with the statement that says people spend too much time on enjoyment and not on serious duties and obligations. This is because, in this generation with the economy being hard, the youth prefer to work hard in order for them to get money and take care of themselves.

First and foremost, people in this generation or era don't really like to waste much time on enjoyment because enjoyment

does not pay but rather duties and obligations pays. such duty and obligation includes; work, school and others. For example in the university, even during celebrations, we can see that not every student will attend that celebration even after the celebration, you will see them back to the classrooms to their duty as being students.

Futhermore, people do not spend much time on entertainment but on serious duties and obligations in the sense that people know that enjoyment is a good thing but work is important that enjoyment. This is because when you go to some companies or duties like the army, they know that when they make enjoy they won't obey to the obligations of the work and become lazier so they limit enjoyment and focus more on their duty and obligations.

To conclude, I strongly disagree with the statement that enjoyment is not important or taken serious but take duty and obliga- tions serious because it pays more that enjoyment.