



# The Relationship Between Vocabulary Depth and Argumentative Essay Writing Proficiency Among IELTS Test Takers in Pakistan

## Correspondence:

Arbia Abdullah  
<arbiaabdullah1@gmail.com>

MPhil, Department of Applied Linguistics, Government College University, Faisalabad, Punjab, Pakistan.

Dr. Aleem Shakir  
<almsha@yahoo.com>

Assistant Professor, Department of Applied Linguistics, Government College University, Faisalabad, Punjab, Pakistan.

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## Abstract

The main object of this correlational study was to determine the relationship between vocabulary depth and argumentative essay writing proficiency among Pakistani IELTS test takers. Students with greater vocabulary knowledge and discourse expertise would produce texts of higher quality as compared to students with less of these skills. For this purpose, it manipulated three instruments for collecting the required data: a prompt for writing an argumentative essay, an IELTS band descriptor for scoring writing tasks, and the Word Association Test (WAT) for assessing vocabulary depth knowledge. It involved 129 Pakistani IELTS test-takers as its population. The sample comprised 42 females and 87 male participants. The data was analysed using SPSS version 23. Pearson's product moment analysis was used to determine the relationship between both continuous variables (vocabulary depth and argumentative essay writing), and the results revealed a negative or weak relationship between vocabulary depth and IELTS essay band scores ( $r = -.032$ ,  $p = .721$ ). The current findings concluded that there was no statistically significant correlation between both variables. Furthermore, this research study would have certain suggestions for teachers, test designers, and material originators on how to incorporate the dimension of word associations into the creation of word knowledge. It would have some pedagogical implications and instructions for increasing linguistic aptitude levels, which would be useful in academic institutions, language assessment, and language teaching and learning centres such as IELTS training centers.

**Keywords:** language proficiency, correlation, vocabulary depth, argumentative essay writing, IELTS test-takers, statistical package for social sciences

## 1. Introduction

Writing and vocabulary depth play significant roles in the achievement of academic success. Researchers recognised that vocabulary is a significant factor in infant linguistic learners' initial writing development, but they could not decide which aspects of vocabulary have the greatest influence on this process. Their disagreement is further compounded by the fact that productive and receptive vocabulary have different operationalizations of vocabulary knowledge. Oral, written, written back, and listening vocabulary; or breadth and depth of vocabulary. By clarifying these arguments, it may become clearer how vocabulary and writing relate to one another and offer substantial support for the acquisition of powerful, multifaceted vocabulary during the writing process. The central intention for this importance is that word knowledge is essential in taming the ability in language skills (Zhang & Li, 2011). There is broad agreement among scholars, educators, and language learners that vocabulary is a crucial step in learning a language since words are the main unit of communication because they serve as meaning-transformers and transport the bulk of the information in communication (Schmitt, 2008). As Wilkins (1972) indicated, "without grammar, very little can be conveyed; without vocabulary, nothing can be conveyed" (Wilkins, 1972, p. 111).

Vocabulary knowledge has been researched in relation to various linguistic abilities. For instance, it was discovered that vocabulary proficiency is highly correlated with comprehension of reading (Akbarian, 2010; Feng, 2014; Moinzadeh & Moslehpour, 2012; Milton, 2013; Nassaji, 2004; Cheng & Matthews, 2018). Some studies have inquired about the function of the breadth and depth proportions in L2 listening (e.g., Cheng & Matthews, 2015; Dabbagh, 2016; Matthews, 2018; Staehr, 2008), speaking fluency (Mohammadi, 2015; Nergis, 2013; Staehr, 2008). Furthermore, it has acknowledged that vocabulary is one of communication's fundamental and vital elements (Nergis, 2013). The relationship between vocabulary breadth and depth, reading, and listening as accessible skills has received a good deal of attention in studies (Henriksen, 2008; Nassaji, 2006; Nation, 2006; Qian, 2002; Qian and Schedl, 2004; Shiotsu & Weir, 2007; Staehr, 2009; Zhang, 2008). Speaking generally, vocabulary knowledge includes both the range and the depth of vocabulary (Nation, 2001; Wesche & Paribakht, 1996).

Argumentative essay writing demonstrates the writer's views on a particular subject are accurate or straighter than other views on the given subject (Spangler, 1987). According to Eemeren's (2015) argumentative theory, argumentative writing requires students to explore a topic, generate ideas, and provide evidence to build a position on the topic in a summarising manner. Moreover, argumentative compulsion is created with the expectation of an actual or fictional difference of opinion about a controversial subject (Eemeren, 2015). Researchers are investigating the use of content and function words in writing because of the importance of vocabulary knowledge in assessing writing skills (Lee 2003). According to Corson (1997), a word collection encourages less frequent but more appropriate words. According to Engber's (1995) research, "etymological competency" was linked to students' ability to write essays in that those who used a variety of terms appropriately (i.e., had a wider vocabulary) got higher composition ratings. Additionally, she discovered that poor lexical choices had a considerable detrimental impact on assessors of L2 compositions. She argued, "the variety of lexical choice and the exactness of verbal form have a considerable influence on readers" (Engber, 1995). In contrast, Staehr (2008) discovered a strong connection between the writing abilities of EFL students and the richness of their receptive vocabulary. In spite of the fact that writing is a dynamic skill, The close relationship among writing ability and vocabulary depth, as reinforced by Albrechtsen, Haastrup, and Henriksen (2008).

In this current research project, persuasive writing was selected for evaluating the association between vocabulary depth and argumentative writing proficiency. Although previous studies have shown that vocabulary knowledge is a major indicator of writing quality (Albrechtsen,



Haastrup, & Henriksen, 2008; Lee, 2003; Nation, 2001). Moreover, a number of research studies have been reviewed on vocabulary dimensions related to L2 writing. Writing exercises can help improve vocabulary (Hulstijn & Laufer, 2001; Keating, 2008; Kim, 2008). There are extremely few research studies on the vocabulary depth association with L2 writing, particularly the vocabulary depth relationship with argumentative essay writing proficiency among IELTS test-takers. The purpose of the current study is to determine the relationship between vocabulary depth and argumentative essay writing. Students who are more skilled perform better in writing than those who have less command.

### 1.1 Problem Statement

The study of the relationship between vocabulary depth and writing ability has a long history in the field of English as a second language (ESL). A major challenge in learning English as a foreign language is vocabulary. On the other hand, writing is a broad area that requires more consideration by language investigators. Writing is a complex activity that calls for highly developed metacognitive abilities. Despite prior studies linking vocabulary depth to linguistic abilities such as reading, listening, writing, and speaking (Mehrpour, 2011; Staehr, 2008; Wang, 2015), This research study further examined the relationships between vocabulary depth and argumentative writing proficiency among Pakistani IELTS test-takers. The main objectives of this study were to fill some gaps; since there has been no research conducted in the past on the relationship between vocabulary depth and argumentative writing proficiency among IELTS test-takers, this idea provided the inspiration for the present study. Additionally, a thorough evaluation of the literature in the context of the current study revealed a considerable gap in the research on this issue in Pakistan. There has been no research conducted in the past on the correlation between vocabulary depth and argumentative essay writing among IELTS test-takers. Statistical techniques were used to investigate the extent of association between vocabulary depth and writing proficiency of Pakistani IELTS test-takers.

### 1.2 Objectives of Current Study

This study observed the relationship between Pakistani IELTS test takers' vocabulary depth knowledge and their ability to write persuasive essays. Whether or not producing an argumentative essay requires a high level of vocabulary knowledge, and if so, how closely they are related This study also investigated if there is a positive or negative relationship between the ability to write persuasive essays and vocabulary depth.

## 2. Literature Review

Before delving into argumentative writing and vocabulary depth, it is necessary to understand writing and vocabulary in general. Writing requires putting ideas into written form. According to Brown, writing is a complicated activity since it requires a variety of skills, including choosing what to write, deciding how effectively to explain it, and choosing how to place the concepts into a paper as a text that the readers can understand. It is essential to learn a foreign language at the fundamental level in order to develop a practical vocabulary. In writing, vocabulary competence is crucial. Students cannot write well unless they expand their vocabulary (Cameron, 2001, p. 72). Writing skill is influenced by vocabulary knowledge, and writing plays an important role in mastering lexical proficiency. According to Read (2004), academic writing requires a broad and deep vocabulary; this refers to both the size and depth of one's vocabulary, or the number of words one identifies, as well as the latter, which includes knowing which words typically go together, or their collocations (Read, 2004).

### 2.1 Vocabulary Knowledge

Lexical knowledge is extremely important when learning English as a foreign language. "What does it mean to know a word?" a question arises. L1 and L2 lexical researchers have made different proposals for understanding what the word "knowing" means (Nation, 1990; Richard, 1976; Qian, 1998). One was an initial study on vocabulary achievement that expressed a framework for telling what comprised knowing a word. The following aspects of lexical competence are defined by the sequence of assumptions about what it means to know a lexical item: frequency, register, syntax, derivation, association, semantic values, and polysemy. Richard's framework is highly influential in the area of vocabulary acquisition. While this set of assumptions is not exhaustive or complete because it excludes aspects of spelling and pronunciation, Meara (1996) clarified that although Richard's framework for word knowledge does not serve as a theoretical model for word knowledge, it can be helpful for classroom training. A generic structure for describing vocabulary knowledge (Meara, 1996), meanwhile, showed the assorted character of word knowledge. By combining Richards' framework with a number of additional components, Nation (1990) argued that there are three practises of vocabulary knowledge, each of which includes both receptive and productive elements: a. form grammatical functions, collocations, and usage constraints; b. meaning form and meaning, concept and reference, and relationships; and c. use grammatical functions, collocations, and usage constraints (Nation, 1990). Nation (2001) offered a comprehensive model for elaborated word knowledge, covering every aspect of what understanding a term entails. He proposed that vocabulary knowledge has two components: receptive knowledge, which refers to how students perceive words when reading or listening, and productive knowledge, which addresses how students utilise words when speaking or writing.

Various frameworks proposed by researchers in the past indicated that mastering specific levels and qualities of lexical information is one of the key prerequisites for successfully learning a language and that learning a language entail increasing lexical knowledge. Language acquisition researchers, especially those who are learning English as a second language (ESL) or as a foreign language, have adequately corroborated this assumption with empirical data (EFL). Read (2002) specified, a sufficient vocabulary is a requirement for efficient language use. When all other factors are equal, language learners with a larger vocabulary outperform those with a lesser vocabulary in a wide variety of language skills (Read, 2000). Vocabulary knowledge was explained in a different way. Many scholars use "dimension" to characterise the composition and significance of vocabulary knowledge by presenting their conceptual frameworks for the definition of its constituent parts and features. To categorise vocabulary information. This definition overlooked other components of word information, such as spelling, articulation, morphology, syntactic qualities, and collocation, by focusing solely on meaning (Qian, 2002).

#### 2.1.1 Dimensions of Vocabulary Knowledge

There are multiple dimensions of vocabulary knowledge that are described by L2 vocabulary investigators. Different, but corresponding, frameworks were elaborated (Nation, 1990; Qian, 2002; Richards, 1976) in order to know a word. Knowing a word needs multiple components and types of knowledge; the process of vocabulary learning has not been fully understood without knowing its dimensions (Schmitt, 2000). The split of word knowledge into receptive/passive and productive/active knowledge is one of the key distinctions in the area of vocabulary development (Milton, 2009). These two ideas are difficult to distinguish in spite of the large number of investigators and language instructors who offer multiple definitions and distinctions. The aptitude to recognise a word's form while listening to or reading it and remembering its significance is known as 'receptive knowledge,' while 'productive knowledge' is the capacity to create a spoken or written form of a word and the capacity to express a word's meaning through speech production or writing (Nation, 2001). Having a thorough comprehension of a word, its associations with word knowledge quality, or the degree to which a learner understands a word The depth and breadth of vocabulary knowledge are two categories as defined by the International Standard Language Framework. While the breadth of vocabulary knowledge refers to the quantity or number of words learners know at a certain level of language ability, the depth of vocabulary knowledge refers to the quality of vocabulary information or how effectively learners comprehend a term (Nation, 2001).

#### 2.1.2 Vocabulary Depth

The level of word knowledge and clarity of a word is defined as vocabulary depth (Read, 2000). This could include the ability to employ lexical items fluently, the degree and kind of lexical organisation, knowledge of various word knowledge components, knowledge of

polysemy meaning senses, knowledge of derivative forms (word family members), and knowledge of collocation (Schmitt, 2014, p. 922). Vocabulary depth assesses the quality of a learner's lexical knowledge (Read, 1993), taking into account "pronunciation, spelling, meaning, register, frequency, and morphological, syntactic, and collocational features," whereas vocabulary breadth counts the number of terms with which they are at least somewhat familiar (Qian, 2002, p. 514).

## 2.2 Argumentative Writing

Writing argumentative essays is a crucial component of academic writing. Here, writing an argumentative essay is defined as an active literacy activity in which the author establishes a dialogic relationship with a reader while defending a position and trying to persuade, sway, or convince them (Álvarez, 2001). Writers develop their reasoning by using a suitable logical framework, appropriate pictorial language, and proper details that an audience would find persuasive when outlined in a genre. It is the ability to present logical arguments in support of or against any controversial issue. According to Spangler (1997), argumentative writing is used to show that the writer's beliefs on a certain subject are correct or truer than other opinions on the subject. Argumentative writing helps writers communicate their point of view on a subject and back it up with solid logic and facts (Spangler, 1997). Eminent theorists have created a variety of models or frameworks for the structure of argumentative essay writing. Eggins labelled as "generic structures" For instance, Toulmin (2003) asserted that every argument is based on three key components: the claim, the supporting evidence, and the justification. These components, which had been improved and renamed over time, better met the pedagogical needs in a variety of situations. According to Troyka (2004), the term "claim" can be interpreted as a conclusion, assertion, or opinion; "information" can be interpreted as "grounds, reasons, premises, support, or proof;" and "warrant" might denote a connection or a supposition. Many scholars have proposed a variety of standards for argumentative essay writing, such as those in logic for its capacity for analysis and reasoning and in contrastive rhetoric. The most comprehensive definition and examination of the argumentative essay can be found in the Systemic Functional Linguistics (SFL) and English for Specific Purpose (ESP) traditions (Eggins, 1994). According to SFL theory, the register, or situational context, and the genre, or cultural context, defined the text's structure and meaning. In other words, contextual variables affect language characteristics inside and between texts, allowing meaning to be realised in meta-functions like ideational (the writer's worldview), interpersonal (the writer's connection with the audience), and textual (the writer's involvement with the text) (text texture and arrangement). According to Hyland (2004), the generic structure of an argumentative essay can be identified in three stages: thesis, argument, and conclusion. Every so often, or when you move, the entire generic framework crumbles to allow for the development of more microstructure. These strategies may be necessary or optional parts of the argumentation system. The lexicon-grammatical system, which modifies these moves into various forms, is superior to the hierarchy of these moves. As a result, writing an argumentative essay in academic settings becomes a challenging task involving a variety of cognitive, rhetorical, linguistic, and sociocultural circumstances.

## 2.3 The Relationship between Vocabulary Depth and Argumentative Writing

It is beyond dispute that vocabulary plays a key role in writing, higher-order abilities like idea generation, process monitoring, and text editing can be concentrated on more when a writer is able to use lower-order skills like proper word choice to free up more working memory space. The positive correlation among vocabulary varieties and writing ability has been demonstrated by empirical studies in the past. According to Laufer and Nation (1995), students who scored higher on receptive vocabulary breadth exams also performed better on writing examinations (Laufer & Nation, 1995). learners with a bigger productive vocabulary also showed greater vocabulary supremacy in their work (Staehr, 2008). This association, which is also affected by students' understanding of general and content vocabulary, is consistently positive across a variety of writing genres. According to Olinghouse and Wilson (2013), students wrote better stories when they knew more words, whereas they created more compelling and informative texts when they knew more content words. A powerful predictor of some aspects of writing abilities is vocabulary depth, particularly productive vocabulary depth. The capacity to orally explain terms or construct words in English was examined in research with Japanese university students (Baba, 2009) and ESL primary school kids (Babayit, 2014). A sizeable amount of the variation in overall writing quality might be explained by the same word family. Writing is a difficult task that necessitates a wide range of cognitive and metacognitive abilities. It was predicted that students with greater subject and discourse expertise would produce texts of higher quality as compared to students with less of these skills. Vocabulary scope is especially important in productive skills in writing, where "vocabulary items bear the essential material burden of the meanings [L2 writers] desire to understand and express" (Read, 2004, p. 146). Several studies examined how EFL students picked up vocabulary through their reading, listening, and speaking comprehension skills (Mehrpour et al., 2011). Rarely have studies endeavoured to discover the key role of vocabulary depth knowledge in L2 writing performance in educational settings. Schmitt (2009) proclaimed that "it goes without saying that vocabulary knowledge is necessary for writing" (Schmitt, 2009), and the importance of evaluating writing ability has inspired researchers to look into how words are used in writing and how they function (Lee, 2003). According to Carson (1997), words of choice activate less frequent but more suitable words. In the context of English as a second language learning, vocabulary depth knowledge and proficiency in writing argumentative essays were related. A conceptual framework of vocabulary depth is considered a base for increasing writing proficiency; the students who have more understanding of the richness of lexical knowledge are more proficient in writing than those who have less command of vocabulary knowledge. According to research on vocabulary depth and written or oral evaluation, there is a substantial predictive association between the written component of the Kanda English Proficient Test (KEPT) and vocabulary depth, especially in writing (Batty, 2007). Fang (2015) examined the relationship between writing ability and vocabulary depth as well as the impact that contextual circumstances had in determining that correlation; their sample consisted of 150 students that took part in the study (Fang, 2015). The Word Associates Test (WAT) is employed to gauge vocabulary profundity in relation to writing ability. Writing ability and vocabulary depth or breadth were highly associated, and the depth dimension of word knowledge offered an individual prediction of their writing score. Exporting the relationship between depth and breadth modules of vocabulary knowledge and writing performance in L2 (Iravani, 2021) revealed a positive correlation in both descriptive and narrative writing ( $r = .28$  and  $.24$ , respectively). "Depth of vocabulary knowledge should be a guide to the value of a person's vocabulary," as claimed by Pullido and Hambrick (2008). For measurement of script, reading, listening, and speaking skills, vocabulary knowledge is considered a yardstick. According to Engber (1995), "students' demand to understand the sense of the word and its application in the background of writing abilities" indicates that a student's depth of vocabulary knowledge significantly effects the quality of their writing. According to Milton (2013), "vocabulary knowledge as a benchmark of language proficiency may influence learners' quality of writing." Writing is a process to convey meaning that is intricate and requires coordination of several metacognitive talents (Milton, 2013). To generate good writing, a writer must be able to think creatively, set a variety of productivity goals, review and edit their work, and assess their writing performance (Olinghouse & Leaird, 2009). The vocabulary used in writing reflects the learners' maturity and authenticity in word choice, as stated in one of the theories of writing in second or foreign languages. Writing is a difficult process that calls on the linguistic, cognitive, and metacognitive skills of the writer. Flower et al. (1981). Another study looked at the function of vocabulary depth, as determined by the Word Associates Test (WAT), in how well EFL students write while using words from a semantic set. Participants were given a list of eight keywords from a semantic set linked to the writing task's theme for each writing challenge, and they were told to use five of those words in their writing. The function and context changes, syntactic behavior, and shapes of the stimulus words were given satisfactory ratings (Atai & Dabbagh, 2010). As markers of vocabulary depth, Li identified the provision of the specific phrase, choosing the right usage of words, and accurately detecting morphological word building. They identified that vocabulary depth and summary writing had a strong and meaningful correlation. They suggested that having a good command of words was helpful for drawing out the meaning of words from the text and for drafting summaries that included supporting details for important ideas. Contrarily, it was noted that the productive depth and breadth of word knowledge offer a more noticeable contribution to the content, word choice, and style of narrative writing. The role of breadth and depth of word knowledge in descriptive writing tasks was one of the various task types that were explored. They measured the size and depth of the receptive vocabulary using VLT and WAT, respectively. Their research demonstrated the correlation between vocabulary size and the overall L2 descriptive writing performance score. They concluded, nonetheless, that vocabulary depth only had an impact on L2 students'

writing abilities. There are few studies examining the two vocabulary dimensions' functions in various sorts of writing tasks. The major aims of the study were to determine the connection between learners' depth of vocabulary knowledge and argumentative writing proficiency, whether depth of vocabulary knowledge is associated with argumentative writing proficiency, and, if they are, to what extent they relate to each other.

Despite earlier studies that found a correlation between vocabulary and other skills (Mehrpour et al., 2011; Staehr, 2008; Wang, 2015), the current investigation is more interested in another potential connection that has not yet been thoroughly investigated: the correlation between vocabulary depth and argumentative essay writing. Consequently, this study's objective is to look into how EFL students' writing skills and vocabulary knowledge relate to one another. A research study by Atai and Dabbagh (2010) looked into how well EFL learners used words from a semantic set in their writing by using the Word Associates Test (WAT), which measures vocabulary depth. Participants were given a list of eight terms that were part of a semantic set connected to the writing task for each exercise, and they were instructed to use five of those words in their work.

## 2.4 Research Gap

By reviewing previous relevant research studies on current issues at the national and international level, the researcher found some gaps in terms of population, context, and methodology. In Pakistan, the association between vocabulary depth and writing proficiency has not been investigated in the field of English as a second language (ESL). However, writing is a broad area that requires more attention by language investigators. Complex processes require high levels of metacognitive skills. Despite previous research on vocabulary and other language abilities such as vocabulary depth and reading proficiency, comprehensive ability, productive depth of vocabulary knowledge, and writing and speaking skills (Mehrpour et al., 2011). This study is more interested in the relationships between vocabulary depth and argumentative writing proficiency. The main aim of this study is to fill some gaps; there has been no research conducted in the past on vocabulary depth and argumentative writing proficiency among IELTS test-takers, which provides the inspiration for the current study. In the context of the current issue, no work on IELTS test-takers was discovered in Pakistan, and no research study was discovered in which IELTS band descriptor instrument was used for scoring writing task. Furthermore, the researcher reviewed the literature at the international level. The main concern of this current study is to determine whether the depth of vocabulary knowledge correlates with writing proficiency. After reviewing literature, the researcher selected Pakistani IELTS takers as the population of the study, with 131 participants, male and female, to find out the correlation between vocabulary depth knowledge and argumentative essay writing proficiency.

## 2.5 Research Question

The current study examines the distinct roles, relationship issues, and relationship between vocabulary depth knowledge and argumentative essay writing proficiency among IELTS test takers, taking into account the significance of vocabulary knowledge in general and aspects of lexical knowledge in particular. It emphasises the following research questions: Whether there is a negative or positive correlation between vocabulary depth and proficiency in writing argumentative essays How closely do vocabulary depth and argumentative writing ability correlate?

**Question:** What is the relationship between vocabulary depth and argumentative essay writing proficiency among Pakistani IELTS test-takers?

## 3. Methodology

A correlational research design was adapted in this research because it was considered the best method for tracking the strength of associations between variables. Correlational research investigates the relationships between two variables without manipulating or controlling any of the variables. It is also called the non-experimental research method, which is used to find out the associations between two variables with the help of statistical analysis. A correlational research design was chosen to determine the degree or relationship that exists between vocabulary depth and proficiency in writing argumentative essays.

### 3.1 Participants

The population for this study were designated IELTS test takers in Pakistan. The data collected from Lahore, Faisalabad, Gujranwala, and Okara The participants for this study were nominated from different preparatory IELTS academies in Pakistan; they were preparing themselves to take part in the actual IELTS test that was held in Pakistan (the academic module). The sample comprised both male and female students who spoke English as their second language. Participants ranged in age from 18 to 27. The sample size was 131 IELTS test-takers. The number of female participants was 42, whereas the number of male participants was 87. Sampling techniques used in this research were non-probability sampling, which involved non-random selection based on convenience. In non-probability sampling, participants are selected on the basis of non-random criteria, and this type of sampling is considered easy and cheaper to access.

### 3.2 Instruments

Three instruments were used in this present research work: the first was the Word Association Test (WAT), the second was the prompt for essay writing, and the third was the Rubrics IELTS band descriptor. Details about these instruments are given below:

#### 3.2.1 Word Associates Test (WAT)

Read (1998) established the WAT for evaluating participants' profundity of vocabulary knowledge or prosperity of word knowledge in English. It had been used in a number of previous research studies to measure productive vocabulary depth with respect to three features of word knowledge, like synonymy, polysemy, and collocation (Qian, 2002). The Word Association Test had a capability that enabled the researchers to measure the quality of words, their use, and their association with other words. It is a valid and reliable instrument for assessing the richness of word knowledge (Read, 1998). The test's reliability was 0.93, and the test's split-half reliability was 0.89. In this present research work, the Word Association Test (WAT) was adapted to evaluate the vocabulary depth knowledge of IELTS test takers; it covered all dimensions of vocabulary depth, such as paradigmatic knowledge and syntagmatic knowledge. This test consisted of the original 40 items developed by Read (1998). The Word Association Test (WAT) was used to assess vocabulary depth or word knowledge. This test contained 40 items planned to measure two components: synonyms and collocation. Test takers were required to recognise four words that linkage the target word:

#### Easy

Accessible	Difficult	Job	Mountain
Smooth	Harsh	Chair	Bag

The target word in the preceding example is "easy," and the primary box contains two synonyms (i.e., "accessible" and "smooth," both of which have similar senses) of the target word (easy), though the next block contains two collocations (i.e., "job" and "chair"). Test takers were asked to select the four accurate associate words by implementing one target word in each of the following three conditions: As illustrated in the above extract, they can select one associate from the left box and three associations from the right box (1-3), three acquaintances from the left box and one associate from the right box (3-1), or two associates from the left box and three associates from the right box (2-2). The target words were scored appropriately.

### 3.2.2 Argumentative Essay Writing

The second tool that was employed in this research study for the writing task was a prompt: "Some people think that men are naturally more competitive than women; to what extent do you agree or disagree with this statement?" It was selected from the IELTS (International English Language Testing System) original website, [www.ielts.org](http://www.ielts.org).

### 3.2.3 Scoring Rubrics for Measurement of Argumentative Essay

The rubrics of the IELTS band descriptor, developed by the British Council, IDP Education, and Cambridge, were the third instrument used to score the writing task. The IELTS writing rubrics assess four different aspects of given responses: coherence and cohesion of the written work, different lexical resources, grammatical ranges, accuracy, and task achievement. task response that indicates the full address of all fragments of the task and presents a fully established point in the answer to the question with logic and well-supported ideas. Cohesion and coherence indicate there should be consistency in all parts of the essay; cohesion should be used in such a way that it attracts no attention and expertly accomplishes paragraphs and ideas that are appropriately developed logically. Lexical resources refer to a wide range of vocabulary that should be very natural and sophisticated; fluency and flexibility in the use of vocabulary should be found so that it conveys precision of meaning and grammatical range and accuracy show that use of multiple types of sentences and use of different types of complex grammatical structures are grammatically accurate.

A number of previous studies were reviewed to determine which IELTS band descriptors were employed for assessing the writing proficiency of the students. The adapted analytical rubrics of the International English Language Testing System (IELTS) writing scales were also used (Mehdipour, 2015) as scoring rubrics for measuring writing tasks and were constructed using IELTS band descriptors. In a previous research study on argumentative essay writing, essay writing tasks were evaluated using the main criteria of IELTS rubrics, and IELTS Task 2 was evaluated using analytical scoring based on IELTS rubrics and grids (Abdelrahim, 2020; Morales, 2011; Soleymanzadeha, 2014).

### 3.3 Procedure

Data for this research was collected from different preparatory IELTS academies in Pakistan. Dates were collected over two periods, the first of which included a writing assignment. Before the task, students were given a prompt for writing an essay of 250 words (some people believe that men are naturally more competitive than women; to what extent do you agree or disagree with this statement) organisation of the trials, the chief purpose of the research study was explained to the participants. They were fully briefed on how to complete the test and assured of its confidentiality. The Word Association Test (WAT) was administered during the second session to assess vocabulary depth. This version of WAT consisted of 40 items. The next procedure after collecting the data was data analysis. Two steps followed for data analysis. Firstly, the vocabulary depth test (WAT) was scored by the researcher herself; one point was given for each accurate answer. The maximum score on WAT was 160. Second argumentative essays were scored by an IELTS expert examiner according to the rubrics of the IELTS band descriptor established by the British Council. Essays were assessed on four main points: task response, coherence and cohesion, grammatical accuracy range, and lexical resources. After marking the data, it was entered in a Microsoft Excel sheet. Before entering the data, a coding book was generated. In the coding book, every variable was given specific codes and numbers; cities, gender, and academy participants were all given numbers, such as male number 1 and female number 2. In the second step, the Statistical Package for the Social Sciences (SPSS) (latest version 23) was used for data analysis. Multiple types of analysis were done to find out the actual results. In quantitative research, it is important to apply some basic requirements of the Pearson product moment, such as normal distribution, outlier analysis, and linearity checking. The first step in data analysis was to ensure that the data distribution was normal. Normal distribution is a requirement of Pearson's product moment. Following that, outlier analysis was performed. Another requirement of correlational research is outlier analysis; outliers are a cause of intricacy in correlation analysis as well as modelling performance analysis. A solitary outlier can have an important influence on the correlation coefficient. Outliers are detected by plotting the two variables against each other. Moreover, keeping in mind the requirements of correlational research, outlier analysis was done. Then linearity was checked; linearity indicates that the data tracks a linear relationship. Pearson product moment was performed to find a correlation between vocabulary depth and proficiency in writing argumentative essays.

## 4. Data Analysis

The most recent version 23 of SPSS was used to analyse the acquired data in order to resolve the current study issue. Pearson Product Moment is used to examine the correlation between the two variables (vocabulary depth and argumentative writing proficiency).

### 4.1 Normal Distribution

The data is considered normal if the skewness value is between  $\pm 1$ . Secondly, in accordance with the central limit theorem, if the sample size is sufficiently large (30 or above), the sampled data may be considered to be normally distributed. By virtue of these two principles, the data of both continuous variables (vocabulary depth scores and IELTS writing band scores) may be considered to be normally distributed. The descriptive statistics table revealed that the skewness value for WAT was  $-0.396$ , while for the IELTS essay band score, it was  $0.116$ . The sample consisted of 129 cases ( $>30$ ) (males 87 and females 42). Both the skewness values and the volume of the sample indicated that the data was normally distributed.

### 4.2 Linearity

The purpose of the linearity test was to ascertain whether the continuous variables (vocabulary breadth and IELTS essay band scores) were appropriate for Pearson product moment correlation.

Table 4.1: Statistical Results Produced through ANOVA Table

ANOVA Table							
			Sum of Squares	df	Mean Square	F	Sig.
Essay_Band * WAT	Between Groups	(Combined)	37.574	47	.799	.923	.611
		Linearity	.109	1	.109	.125	.724
		Deviation from Linearity	37.465	46	.814	.941	.583
	Within Groups		70.135	81	.866		
	Total		107.709	128			

As may be seen from the table above, the p-value was greater than 0.05 (.583>0.05), which indicated that the association between the two continuous variables (vocabulary depth scores and IELTS band scores) is linear. In summary, the data met the requirements of the Pearson product moment correlation because the data passed the randomness test. Both continuous variables involved (vocabulary depth scores and IELTS essay band scores) were continuous, the observations were independent, the data was free of outliers, both dependent variables were normally distributed, the data assumed homogeneity of variances, and the continuous variables had a linear relationship.

**4.2 Descriptive Statistics**

The following table of frequencies of gender (GEN) representation shows that the total number of participants in the data was 129, out of which 87 were male and 42 female.

Table 4.2: Descriptive Statistics of Gender

Descriptive Statistics of Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	87	67.4	67.4	67.4
	Female	42	32.6	32.6	100.0
	Total	129	100.0	100.0	

The percentage of men is more than double that of women, which might have had an effect on the results. However, the results of Levene's test of variance homogeneity do not support this suspicion because the results show equality of variances in both continuous variables (i.e., vocabulary depth score and IELTS essay band score). The following tables of statistics give a description of both the vocabulary depth score and the IELTS essay band score, which are both continuous variables.

Table 4.3: Descriptive Statistics of Word Association Test Scores and IELTS Band Scores

Descriptive Statistics of Word Association Test Scores and IELTS Band Scores			
		WAT	Essay_Band
N	Valid	129	129
	Missing	0	0
Mean		128.155	3.802
Std. Error of Mean		1.1226	.0808
Median		128.000	4.000
Mode		124.0 <sup>a</sup>	4.0
Std. Deviation		12.7503	.9173
Skewness		-.396	.116
Std. Error of Skewness		.213	.213
Kurtosis		-.364	-.292
Std. Error of Kurtosis		.423	.423
Minimum		91.0	2.0
Maximum		150.0	6.5
<ul style="list-style-type: none"> <li>Multiple modes exist. The minimum value is shown</li> </ul>			

The total marks of the WAT test were originally 160 (synonym: 80, collocation: 80). The overall test scores were cut to 150 in order to equalise the students' acquired scores. As a result, the total marks for the test after reduction were 150, with each aspect receiving 75 points. The mean score on the word association test was 128.155 (total 150 score), the median was 128.000, and the mode was 124.0. The skewness value (i.e., -0.396) being within the +/-1 range indicates normal distribution.

The IELTS essay received a score of 9. The mean of the essay band was 3.802, and the standard deviation of the essay band score was .9173, which indicated that the essay band scores lacked enough spread. On the other hand, the word association test, with a standard deviation of 12.7503, showed relatively more spread. The skewness value of the IELTS band score (i.e., .116) falls within the range of +/-1, which indicates that the data was normally distributed.

In summary, the descriptive statistics about the word association test score and the IELTS essay band score revealed that the data on both variables was normally distributed.

**4.4 Correlation between vocabulary depth and Argumentative essay writing**

The current study looked at the relationship between vocabulary depth and argumentative essay writing proficiency hypothesised that vocabulary depth was negatively related to IELTS essay band scores. A Pearson correlation coefficient was calculated to evaluate the relationship, which is the result of both variables, which appear below.

Table 4.4: Correlations of vocabulary depth and IELTS band

Pearson Correlations of vocabulary depth and IELTS band			
		WAT	Essay_Band
WAT	Pearson Correlation	1	-.032
	Sig. (2-tailed)		.721
	N	129	129
Essay_Band	Pearson Correlation	-.032	1
	Sig. (2-tailed)	.721	
	N	129	129

The above table shows that there was a very weak negative relationship between the vocabulary depth score and IELTS essay band scores (r (127) = -.032, p = .721). Thus, the null hypothesis accepts that there is a negative correlation between vocabulary depth and IELTS essay band scores.

**5. Results and Discussion**

The observed investigation provided information to report on the study's present research topic. What is the relationship between vocabulary depth and IELTS essay band? what extent these two variables correlate with each other. A Pearson product moment analysis was done to look into the relationship between IELTS essay band and vocabulary depth. The current research found no connection between IELTS essay band scores and vocabulary depth that was statistically significant. In order to support the study's findings, we must

compare and contrast the current findings with those of other studies on the connection between vocabulary depth and writing ability. Vernaseri's (2015) study on the relationship between vocabulary depth and writing performance found a high and significant correlation between both variables. Another study investigated the relationship between vocabulary depth and overall writing proficiency, specifically the ability to accurately select words from those semantically related to writing; the results revealed a low correlation between vocabulary depth and descriptive writing (Dabbagh, 2016). According to Ramjoo and Qain (2002), vocabulary depth has a strong correlation with comprehensive reading abilities, whereas writing proficiency has a moderate correlation.

Moreover, according to the results of this present study, there was a weak and negative correlation between vocabulary depth and IELTS essay band scores. These results are unexpected as compared to previous research studies on vocabulary depth and writing proficiency. There were some reasons that indicated a negative correlation between vocabulary depth and IELTS essay band scores; no study had been piloted on the relationship between vocabulary depth and IELTS writing task 2 in the past in the Pakistani context. Some studies were discovered in such a context, but they were not written down. The reason for the negative correlation was that the vocabulary depth knowledge checked through the WAT test was based on specific words, some of which were tough enough that students were unable to understand their meaning. The third reason was that the quality of the argumentative writing product demands great ideas, rhetorical features, good argumentation, a high level of vocabulary, grammatical accuracy, coherence, and cohesion in sentences. Writing is a complicated procedure that demands many cognitive and metacognitive skills. According to the cognitive theory of writing (Flower et al., 1981), for developing high-quality writing, lower-order skills such as aspects of linguistic knowledge should be active and automatic in generating, organizing, and revising coherent ideas in writing. The writing process demands a high and rich knowledge of words. Writing task 2 of IELTS required all the features that were described in the cognitive theory, but unfortunately all these rules were not properly followed by students, which is why the current result is not supported by previous study results.

## 6. Conclusion

The goal of the current study was to determine the relationship between Pakistani IELTS test takers' ability to write argumentative essays and their vocabulary breadth. The current research found a weak and unfavourable association between the two factors. Because there is a negative link between vocabulary depth and writing ability, our findings were contradicted by earlier research. Prior research studies have established a strong and significant correlation between writing ability and vocabulary depth. Due to several factors, no study has yet directly examined the connection between vocabulary depth and IELTS writing assignment 2 in the context of Pakistan. In this area, certain studies were discovered, although they lacked a writing component. These studies were mostly based on other language skills like reading, listening, etc. On the other hand, argumentative writing demands strong ideas, rhetorical devices, compelling reasoning, a wide vocabulary, grammatical accuracy, coherence, and cohesion in sentences; these are the basic requirements of argumentative writing. However, not all of these terms were used in the writing task, which explains why the current results are inconsistent. The WAT test was employed to gauge students' depth of vocabulary knowledge, and because some of the terms were too complex for pupils to understand, the results of the current study do not corroborate those of earlier studies.

### 6.1 Limitations of the Study and Suggestions for Future Research

The significant experimental support explored for the claims that were made in the present study and some important limitations related to this study are discussed below.

The sample size of this current study consisted of 131 Pakistani IELTS test takers. After the outlier analysis, this sample size was reduced to 129 participants. A limited sample can create problems for the validation and reliability of the research; on the other hand, the largest sample size yields smaller margins of error and raises the value of the research. If a sample of this research were raised, the current results could be more accurate. The second limitation was weather conditions; data for this current study was collected within the months of May and July. Because these three months are the hottest of the year, collecting data from December to March will make it easier for students to complete tasks. The third limitation of this study was that the cost of scoring writing tasks by a professional IELTS trainer was prohibitively expensive for the researcher; as a result, writing tasks were scored by one rater; if two raters were hired for scoring, results could have been more accurate and most significant issue was the lack of motivation and non-serious behaviour of these students due to the non-availability of any reward or incentive. Due to this, students were less interested in solving tests and writing tasks. All these issues affected the quality of the research. Students would be more motivated to maintain the quality of this research if they were rewarded; students would be enthusiastically involved in this process if they were rewarded.

### 6.2 Pedagogical Implication of the Present Study

The study yields some pedagogical suggestions for classrooms and fellows. Practitioners, testers, and teachers need to think about vocabulary depth far more than they have in the past. To assist students in expanding their vocabulary and producing coherent essays, teachers should focus on creating projects with an appropriate degree of vocabulary depth. Additionally, teachers should consider two different approaches to teaching vocabulary: enhancing and extending students' vocabulary knowledge and teaching students appropriate word usage in context by fostering vocabulary knowledge. The current study can be used to learn more about language testing for analytical purposes. English language instructors can use language tests to assess students' proficiency in the vocabulary knowledge construct. From this point on, it will give educators more precise guidelines for developing the curriculum or lesson plan for the students. Additionally, they will also be able to avoid giving the pupils extraneous, meaningless assignments or materials on subjects they have already understood. The consequences of the current study will contribute to the consideration of vocabulary's role in language learning, particularly in writing. It also provides more information to back up the related investigations. The study yields some pedagogical suggestions for classrooms and fellows. Practitioners, testers, and teachers need to think about vocabulary depth far more than they have in the past. To assist students in expanding their vocabulary and producing coherent essays, teachers should focus on creating projects with an appropriate degree of vocabulary depth. Additionally, teachers should consider two different approaches to teaching vocabulary: enhancing and extending students' vocabulary knowledge and teaching students appropriate word usage in context by fostering vocabulary knowledge. The current study can be used to learn more about language testing for analytical purposes. English language instructors can use language tests to assess students' proficiency in the vocabulary knowledge construct. From this point on, it will give educators more precise guidelines for developing the curriculum or lesson plan for the students. Additionally, they will also be able to avoid giving the pupils extraneous, meaningless assignments or materials on subjects they have already understood. The consequences of the current study will contribute to the consideration of vocabulary's role in language learning, particularly in writing. It also provides more information to back up the related investigations.

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**Bio-note:**

**Miss Arbia Abdullah** is lecturer of English in Government College. She has completed her MPhil in Applied Linguistics in 2022. She is passionate about raising the quality of English language teaching. Her area of interests are ELT and Testing and Evaluation.

**Dr. Aleem Shakir** is an Assistant Professor in the Department of Applied Linguistics, Government College University, Faisalabad. His areas of interests are ELT, Phonetics and Phonology, ESP, Testing and Evaluation and Corpus Linguistics.

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