

People's Democratic Republic of Algeria
Ministry of Higher Education and Scientific Research
University of Mohamed Seddik BenYahia. Jijel
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**The Place of Lexical Richness in EFL Teachers' Holistic
Assessment of English Majors' Essays**

The Case of EFL Teachers at the Department of English Language,
University of Mohammed Seddik Ben Yahia, Jijel

Dissertation submitted in partial fulfillments of the requirements for the degree of Master in
didactics of foreign languages

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2022/2023

Declaration

We hereby declare that the dissertation entitled “**The Place of Lexical Richness in EFL Teachers’ Holistic Assessment of English Majors’ Essays**” is our own work and all the sources we have used have been acknowledged by means of references. We also certify that we have not copied or plagiarized the work of other students or researchers partially or fully. In case any material is not documented, we shall be responsible for the consequences.

Signature

Date

Dedication

In the Name of God, Most Gracious, Most Merciful

All the Praise is due to God alone, the Sustainer of all the worlds

I dedicate this work to my beloved ones:

To my parents, whose love, guidance, and sacrifices have shaped me into the person I am today.

To my brothers and sister, I wish you all the best in your endeavors. Your presence in my life has brought joy and companionship.

To all my friends, with whom I have shared both the bitter and the sweet, and whose friendship has made my academic journey memorable.

To all the teachers who have guided me, imparted knowledge, and inspired my intellectual growth since my first year at the university.

Moussa

I dedicate this work to:

My ever-present parents, who have consistently supported and guided me throughout my academic journey.

My dear brothers and sister, whose love and companionship have been a source of strength and inspiration.

And to all the beautiful souls I have had the pleasure of crossing paths with during my time at the university.

Reda

Acknowledgment

We would like to express our sincere gratitude and appreciation to all those who have supported us throughout the journey of completing this dissertation.

First and foremost, we are deeply thankful to our supervisor, Dr. Zahia BOUCHAIR, for her invaluable guidance, expertise, and feedback throughout the entire process. Her unwavering support, patience, and insightful directions have been instrumental in our journey toward the successful completion of this research project.

We extend our profound appreciation to Dr. Meryem KEHAL and Dr. Fateh BOUNAR, from the board of examiners, for their generous commitment of time and effort in carefully evaluating our dissertation.

Furthermore, we would love to express our deepest gratitude to all the teachers who generously took the time to respond to our questionnaire, as well as those who have been there for consultation and support.

Last but not least, we are thankful to our family members and friends for their support, understanding and encouragement throughout this academic journey. Their support has been the cornerstone of our success.

Abstract

Vocabulary is one of the elements that teachers highlight in their assessment of students' writing. Several studies have shown that lexical richness, that encompasses lexical diversity, lexical density and lexical sophistication, has an impact on the quality of students' essays. The present study aimed at investigating the relationship between lexical richness and teachers of English as a foreign language (EFL) holistic assessment of English Majors' essays. The study, also, attempted to identify the teachers' perceptions of the place of lexical richness assessment of EFL majors' essays. To achieve these aims, a correlational test is conducted to measure the strength and direction of the relationship between lexical richness in 15 essays written by third-year students at the Department of English, University of Mohamed Seddik Ben Yahia and the holistic scores allocated by four raters. Additionally, a questionnaire was administered to 13 EFL teachers to gather their perceptions regarding the importance of lexical richness in their assessment practices. The overall analysis of the results revealed a moderately significant relationship between lexical sophistication and essay ratings. However, the findings regarding lexical diversity and lexical density highlighted contradictions between the theory and the practice. The findings of this study did not provide enough evidence to confirm the hypothesis stating that there is a relationship between lexical richness and the ratings given by EFL teachers at Mohamed Seddik Ben Yahia University to English majors' essays. Nevertheless, these findings contributed to our understanding of the role of lexical richness in the assessment of students' essays and have implications for EFL teachers' practices, as well recommendations for future research.

Keywords: Lexical richness, Holistic assessment, Assessment of writing, Lexical diversity, Lexical density, Lexical sophistication.

List of Abbreviations and Acronyms

AWL: Academic Words List

EFL: English as a Foreign Language

L1: First Language

L2: Second Language

LFP: Lexical Frequency Profile

MATTR: Moving Average Type-Token Ratio

TTR: Type-Token Ratio

UWL: University Word List

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General Introduction

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3. Aims of the Study
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5. Research Hypotheses
6. Methodology
7. Outline of the Dissertation

1. Background of the Study

Vocabulary constitutes a crucial component of learners' proficiency in a second language (L2). A growing body of literature has been concerned with investigating its significance in the instruction and assessment of the four language skills (e.g., Daller, Milton, & Treffers-Daller, 2007; Nation, 2001). The findings of several studies consistently supported the idea that a rich vocabulary positively impacts students' progress in L2 acquisition. More specifically, knowledge of different aspects of words, such as their sounds, forms, meanings, and associations is required to achieve successful communication (Nation, 2001). This emphasis on vocabulary knowledge is particularly relevant in academic writing, where the appropriate use of vocabulary plays a crucial role (Engber, 1995). Therefore, numerous studies have explored the use of vocabulary in English as a Foreign Language (EFL) contexts, focusing particularly on writing (e.g., Engber, 1995; Lemmouh, 2010). The findings of these studies have highlighted the role of vocabulary in EFL writing and its influence on the quality and effectiveness of written communication.

Lexical richness, which is considered as one aspect of vocabulary use, has received considerable attention in research related to L2 writing. This vocabulary feature pertains to the use of several lexical strategies to avoid repetition and to convey meanings using advanced words. It consists of three main components, which are lexical diversity, density and sophistication (Read, 2000). A pioneering study by Engber in 1995 attempted to link lexical richness and the quality of students' written texts. Engber's methodology involved comparing essay scores with the ratio of lexical richness components. Her findings indicated that the use of a diverse vocabulary, characterized by a high proportion of unique words, influenced the scores assigned by essay graders. Although several subsequent studies have supported these

results (e.g., Auensen, 2018; Kwon, 2008), the topic remains controversial as several other studies reported no correlation between lexical richness and essay quality, suggesting that other elements such as grammar, content and structure are more important than a rich vocabulary when assigning holistic scores to students' essays (Mellor, 2011).

In sum, previous research has established a solid theoretical foundation for several hypotheses regarding the significance of lexical richness in assessing L2 proficiency, particularly in the context of writing.

2. Statement of the Problem

The importance of the writing skill and also of vocabulary for EFL learners is undeniable. A thorough review of the existing body of literature makes it clear that lexical richness is an important element of vocabulary use that directly and indirectly contributes to the quality of students' writing. While some studies stress that lexical richness is a predictor of the quality of writing, other studies claim that writing quality is not only related to lexical features. In the Algerian context, there is still room for further investigation and exploration of the relationship between lexical richness and the human assessment of students' essays. By conducting a thorough analysis of the place attributed to lexical richness in the assessment of English majors' essays, this study aims to provide valuable insights into the criteria Algerian EFL university teachers rely on when assigning scores to their students' written work. More specifically, the results of this study have the potential to enhance our understanding of how lexical richness is perceived and accounted for in the Algerian EFL context and contribute to the broader topic of vocabulary assessment in L2 writing.

3. Aims of the Study

The primary purpose of the current study is to investigate the relationship between lexical richness and teachers' assessment of EFL majors' essays. This investigation also seeks to gain insights into the perceptions of EFL teachers regarding the significance of the features of lexical richness, namely lexical density, lexical diversity and lexical sophistication as indicators of essay grades. Additionally, the study aims to compare the assessment of students' essays with the theoretical perspectives of the teachers.

4. Research Questions

This study aims to answer two main research questions. The first research question is subdivided into three sub-questions.

1. Is there a relationship between the lexical richness of Third-year EFL students' essays and teachers' holistic rating of their essays?
 - 1.1. Is there a correlation between the lexical diversity of Third-year EFL students' essays and the teachers' rating of their essays?
 - 1.2. Is there a correlation between the lexical density of Third-year EFL students' essays and the teachers' rating of their essays?
 - 1.3. Is there a correlation between the lexical sophistication of Third-year EFL students' essays and the teachers' rating of their essays?
2. What are the EFL teachers' perceptions of the importance they assign to lexical richness in the assessment of their students' essays?

5. Research Hypotheses

Based on the background information provided about the topic of this investigation, the null hypothesis states that:

There is no relationship between lexical richness and the ratings given by EFL teachers at Mohamed Seddik Ben Yahia University to English majors' essays. Thus, essays with a high degree of lexical richness and those with a low degree of lexical richness are given the same rating by the teachers.

The alternative hypothesis states that:

There is a relationship between lexical richness and the ratings given by EFL teachers at Mohamed Seddik Ben Yahia University to English majors' essays. Thus, essays with a high degree of lexical richness are more likely to receive higher ratings, while essays with a low degree of lexical richness are more likely to receive lower ratings.

6. Methodology

The current research will be conducted at the University of Mohamed Seddik Ben Yahia in Jijel. The target population of this investigation consists of EFL teachers and learners from the department of English. To address the first research question, a correlational design was employed to examine the relationship between lexical richness in 15 essays written by third-year students and the overall grades assigned to the essays by four EFL teachers. For the second research question, a questionnaire will be administered to 13 EFL teachers who have experience

in teaching and assessing writing. The questionnaire aims to gather insights into teachers' perceptions regarding the importance of lexical richness in correcting students' writing.

7. Outline of the Dissertation

This dissertation is divided into two main chapters, in addition to a general introduction and a general conclusion. The general introduction includes the background literature on the topic, the research questions, the aims of the study, a summary of the methodology section, as well as the outline of the study. The first theoretical chapter includes a comprehensive definition of the key concepts dealt with in this research, such as vocabulary knowledge, vocabulary use, lexical richness and assessment frameworks. It also includes a thorough review of the previous literature about the relationship between lexical richness and essays grading. The second chapter is devoted to the practical part of this dissertation. It encompasses the detailed methodology, the analysis of the results, the discussion of the findings and some suggestions and recommendations. Finally, the general conclusion summarizes the main findings and explains how the research aims were achieved.

Chapter One: Literature Review

Introduction

Over the past two decades, the field of applied linguistics has witnessed a plethora of investigations that have explored the multifaceted aspects of vocabulary knowledge and its relation to the four language skills, particularly in the context of writing. One of the trends in this area is lexical richness, which is getting more attention after the development of several automated aids to measure it in the written corpora. This chapter is divided into four main sections. The first section focuses on the broader domain of writing assessment in L2 contexts and provides an overview of the main elements involved in evaluating writing proficiency. It discusses the criteria and assessment methods commonly employed in L2 writing assessment. The second section is dedicated to exploring lexical richness and its relationship with writing assessment. It delves into the definition of key concepts, such as vocabulary knowledge, vocabulary use, lexical richness, and its components. Lastly, this chapter concludes with a review of previous studies that have investigated the relationship between lexical richness and the overall quality of writing, as well as teachers' assessment. The section synthesizes the findings from empirical research, highlighting the diverse perspectives and outcomes reported in the literature.

Section One: Assessment of Writing in a Second Language

1.1.1. Second Language Writing

Writing is considered an important language skill that reflects the level of learners' proficiency in the second language. Essentially, students who possess the capacity to write effectively are generally expected to have more chances for academic success (Cooper & Odell,

1998). Moreover, writing effectively is viewed as a sign of mastery of both linguistic and non-linguistic competences. To explain, when writing a text, a number of techniques are integrated to make it clear and to convey the intended ideas in a concise manner. This process involves taking into account the target audience, adapting the style, and using the appropriate linguistic baggage. Due to the importance of this language skill, research on the topic has started to increase since the 1980s, resulting in the distinction between L1 and L2 writing (Cooper & Odell, 1998). This section explains some of the key differences between writing in L1 and L2, emphasizing the challenges encountered by L2 writers.

1.1.2. Differences between Second Language Writing and First Language Writing

Writing in L2 differs significantly from writing in L1, both in terms of the final written product and the writing process itself. The main distinction between L1 and L2 writers lies in their linguistic proficiency and their intuitive understanding of the language (Hyland, 2003). According to Weigle (2002) first-language education involves learning a specialized version of the language already known to students. This means that the learners are already familiar with the vocabulary and grammar of the language, and they only need to develop other aspects such as punctuation, unity and coherence. Additionally, the learning objectives and needs of students in their first and second languages differ, leading to distinct learning experiences (Hyland, 2003). Therefore, these dissimilarities affect the rapidity at which individuals learn to write effectively. Another distinction is that cultural differences between L1 and L2 learners influence their ability to think and perceive the world around them, leading to distinct ways of generating and organizing ideas (Hyland, 2003). Overall, these distinctions highlight the main factors contributing to the writing difficulties encountered by L2 students.

One of the main challenges faced by EFL learners in writing revolves around the cognitive load that arises from making linguistic decisions while doing the writing task. To clarify, when faced with a writing task, L2 learners must effectively organize their thoughts and actions to ensure they attend to all necessary aspects without neglecting any (Flower & Hayes, 1981). This entails understanding and decoding the task instructions, generating and organizing ideas, selecting appropriate vocabulary, constructing it into meaningful sentences, and ensuring overall text cohesion (Manchón & Polio, 2022). What makes it more challenging is that these aforementioned processes occur simultaneously while the learners are still in the process of acquiring the language. In other words, the task of finding suitable vocabulary related to the topic and identifying appropriate transitional signals that match the pattern of writing demands increased cognitive effort and consumes valuable time. As a result, EFL writers tend to overlook the importance of planning and goal setting, which ultimately has a negative impact on the overall quality of their compositions.

In conclusion, it is important to highlight the distinction between L1 and L2 writing compositions. Such a distinction provides valuable insights into the specific challenges that L2 learners face when approaching writing tasks.

1.1.3. Assessment of Second Language Writing

Writing is considered an essential language skill; therefore, its assessment is equally essential. Weigle (2002) stressed that “whenever the acquisition of a specific language skill is seen as important, it becomes equally important to test that skill, and writing is no exception” (p.1). In the context of EFL, there is no defined written composition that can be considered the ideal written product (Bacha, 2001). Thus, teachers in writing classrooms or during written

examinations seek to evaluate students' compositions based on a predetermined set of criteria. These criteria typically focus on different elements, including content, style, organization, cohesion, mechanics, vocabulary, grammar, spelling, register and others (Bacha, 2001; Cooper & Odell, 1999; Ferris & Hedgcock, 2023). Additionally, there is a general agreement among EFL teachers that creative ideas, personal voice, word choice, organization, sentence fluency, and presentation are indicators of a good essay (Nauman, Stirling, & Borthwick, 2011).

1.1.4 Writing Assessment Frameworks

There are two commonly followed approaches that teachers can adopt to assess students' writing: analytic assessment and holistic assessment. Those approaches have distinct advantages and considerations.

1.1.4.1. Analytic Assessment

Analytic assessment rubrics consist of multiple scales that encompass various aspects of a written composition. These scales enable teachers to provide separate evaluations for each element individually. Consequently, this assessment approach is believed to offer more comprehensive insights into the overall quality of students' texts, particularly essays (Hyland, 2003). An example of analytic scoring rubrics includes three or four levels based on the writing proficiency of the learners in different aspects such as content, organization, and language. The primary advantage of using these rubrics is their ability to identify weaknesses in students' essays, enabling both teachers and learners to address and resolve them (Ferris & Hedgcock, 2023; Hyland, 2003). Nonetheless, this approach has been criticized because the task of writing is supposed to be a reinvestment of all the linguistic and cognitive abilities combined rather than separate elements in isolation (Ferris & Hedgcock, 2023).

1.1.4.2. Holistic Assessment

Holistic rating of essays refers to the approach of assigning an overall score to the text without considering individual aspects separately. According to Hyland (2003), this framework “reflects the idea that writing is a single entity, which is best captured by a single scale that integrates the inherent qualities of the writing” (p. 227). In other words, raters are encouraged to provide subjective impressions that capture the overall quality of the text (Ferris & Hedgcock, 2023). One of the advantages of employing a holistic framework is its applicability across diverse text types, enabling its use in various contexts (Ferris & Hedgcock, 2023). However, one drawback of this approach is its inability to offer diagnostic insights into the specific elements that teachers consider important when evaluating an essay (Hyland, 2003). These insights are specifically significant in the context of L2 writing because learners need to know what aspects of their writing need more work.

In short, when assessing students’ writing, teachers tend to adopt one of these approaches: the holistic approach and the analytic approach. These approaches reflect different perspectives and methodologies in evaluating the quality of written work.

Section Two: Lexical Richness and its Relationship with Assessment of Writing

1.2.1 Key concepts

1.2.1.1. What is a word?

A Word is usually perceived as a basic concept that is part of more complex structures such as phrases, and sentences. As described by to Read (2000), “words are the basic building blocks of language, the units of meaning from which larger structures such as sentences,

paragraphs, and whole texts are formed” (p. 1). This definition is typically accepted among L2 students and instructors alike. Moreover, others simply conceptualize words as a group of letters divided by blanks without taking into consideration their meaning or the relationship between the separated units (Dóczy & Kormos, 2016). The aforementioned definitions are, for the most part, acceptable. However, in the context of vocabulary assessment, as in the case of this dissertation, a word is not a straightforward concept (Read, 2000). It necessitates a number of distinctions, namely those between types, tokens, lemmas, and word families.

To begin with, types and tokens are the terms that are generally used to distinguish words when counting their occurrence in a piece of writing. Each of the two reflects a distinct perspective on what a word signifies. Simply put, tokens refers to the whole set of word structures in a text, regardless of their repetition. Types, on the other hand, refer to the number of unique word forms present in a text (Daller et.al, 2007; Read, 2000). For example:

My favorite hobby is nature photography. This hobby enables me to discover new details about my favorite places in nature. I also love sharing my nature photography with my friends and family.

In the italicized text above, there are 31 tokens, which represent the total number of separated words. Additionally, there are only 25 types because the word forms *favorite*, *hobby*, *nature* and *photography* occurred more than once. Thus, when counting based on unique word forms, only their first occurrence is counted. On the whole, this distinction between types and tokens will be elaborated in subsequent sections, specifically when introducing the type-token ratio measure of lexical diversity.

Second, a lemma serves as an alternative metric for quantifying textual words. This implies that words that share a common morphological or semantic root or headword are considered as a solitary unit. To illustrate, the verb to enjoy along with its various inflections such as *enjoys*, *enjoying*, and *enjoyed* are categorized as a single lemma. Finally, it is important to note that a lemma only encompasses those inflections that do not alter the grammatical category of the headword. Alternatively, any other words that are similar in form and meaning, but belong to different parts of speech, such as *enjoyment*, *enjoyable*, and *enjoyably* are known as a word family (Daller et al., 2007; Read, 2000).

1.2.1.2. The Aspects Involved in Knowing a Word

Vocabulary knowledge constitutes a critical component of second/foreign language acquisition, playing a pivotal role in the development of the four language skills and facilitating successful communication. It serves as a crucial gauge of the learner's mastery of the second/foreign language, highlighting the extent to which the learner has attained proficiency in that language (Moghadam, Zainal, Ghaderpour, 2012). Hence, the following is an overview of certain definitions of word knowledge, along with a few of its dimensions.

In an initial attempt to provide a comprehensive definition of vocabulary knowledge, Richards (1976) outlined a set of eight components that collectively constitute a person's lexical competence. Among the components included were various aspects, such as knowledge of a word's grammatical variations, its semantic values, and the range of contexts in which it could be appropriately utilized (Read, 2000). Read (2000) asserted that although Richards' definition of vocabulary knowledge was not entirely precise, it effectively captured the dynamic and multifaceted nature of vocabulary development. Moreover, his definition served as the basis for

the broader and more comprehensive articulation of vocabulary knowledge suggested by Nation (2013) as demonstrated in Table 1.

Table 1

What is Involved in Knowing a Word?

Form	spoken	R	What does the word sound like?
		P	How is the word pronounced?
	written	R	What does the word look like?
		P	How is the word written and spelled?
	word parts	R	What parts are recognisable in this word?
		P	What word parts are needed to express the meaning?
Meaning	form and meaning	R	What meaning does this word form signal?
		P	What word form can be used to express this meaning?
	concept and referents	R	What is included in the concept?
		P	What items can the concept refer to?
associations	R	What other words does this make us think of?	
	P	What other words could we use instead of this one?	
Use	grammatical functions	R	In what patterns does the word occur?
		P	In what patterns must we use this word?
	collocations	R	What words or types of words occur with this one?
		P	What words or types of words must we use with this one?
constraints on use (register, frequency ...)	R	Where, when, and how often would we expect to meet this word?	
	P	Where, when, and how often can we use this word?	

Note: R = receptive knowledge, P = productive knowledge

Source: Nation, I. (2013, p. 49).

This table highlights the importance of incorporating different aspects of linguistic knowledge when assessing one's understanding of a word. Additionally, it draws attention to the crucial distinction between receptive and productive lexical knowledge across all of its aspects. It is crucial to keep this differentiation in mind when assessing someone's capacity to understand and utilize a word proficiently in various situations. Nevertheless, a straightforward definition of vocabulary knowledge would involve not only the effortless ability to recognize a word's structure and its meaningful linguistic value but also the ability to put the word into appropriate use.

As stated earlier, Read (2000) affirmed that “The distinction between receptive and productive vocabulary is one that is accepted by scholars working on both first and second language vocabulary development, and it is often referred to by the alternative terms passive and active” (p. 154). Accordingly, he proposed using alternative words, namely recognition, and recall, to clarify the confusion regarding the differentiation between the two facets (Lemmouh, 2010). On the one hand, receptive lexical competence, which involves recognition, refers to the ability of a learner to comprehend and interpret meanings through listening or reading by utilizing their knowledge of lexemes. On the other hand, productive lexical competence involves recall and pertains to a person's capacity to utilize their stored mental representation of words through writing or speaking (Dóczy & Kormos, 2016; Nation, 2013; Read, 2000). According to Nation (2013), “For receptive use, learners may only need to know a few distinctive features of the form of an item. For productive purposes, their knowledge of the word form has to be more precise” (p. 51). Therefore, it is claimed that productive vocabulary knowledge is more challenging.

Following with the dimensions of knowing a word, it is important to mention the breadth and depth of vocabulary. Dóczy and Kormos (2016) stated that Anderson and Freebody (1981) initially suggested the differentiation between the two aspects. Firstly, breadth knowledge refers to the size or range of words that a learner is familiar with in terms of their meaning, i.e., “the number of words the meaning of which one has at least some superficial knowledge” (Qian, 2002, p. 515). Further, this kind of knowledge is of great importance for successful communication in either the first or second language (Zhang & Lu, 2015). Secondly, the definitions proposed for depth in the context of vocabulary knowledge varied in two respective views (Dóczy & Kormos, 2016). From a word-based perspective, it refers to the extent to which

the learner is aware of the given word. The lexicon-centered view, however, pertains to the degree of knowledge about the way words are interlinked with each other (Dóczy & Kormos, 2016; Lemmouh, 2010; Schmitt, 2010). “In addition to needing a large vocabulary size to function in a language, a person must also know a great deal about each individual lexical item in order to use it well” (Schmitt, 2010, p. 15). In the idea put forward by Schmitt, the place of depth in vocabulary is highlighted as being equally significant to the number of words a learner knows.

1.2.1.3. Vocabulary Use

Vocabulary use entails the practical implementation of acquired lexical knowledge. The concept of vocabulary use is widely recognized in the literature as distinct from vocabulary knowledge and is attributed an important role in lexical studies (e.g., Daller et al., 2007; Lemmouh, 2010; Nation, 2013; Read, 2000). According to Lemmouh (2010), quantifying vocabulary use is inevitable, although the focus of research may be on the aspect of vocabulary knowledge itself. In other words, to gather balanced data on the breadth and depth of vocabulary, it is essential to analyze the application of words within a particular context (Read, 2000). One of the recommended approaches for evaluating vocabulary use is by analyzing lexical richness in writing (Daller et al., 2007). Therefore, the current study operationalizes the construct of vocabulary use by using a similar method as Lemmouh (2010), which is to measure it through the lexical richness of timed essays. Daller, Milton, and Treffers-Daller (2007) noted that “measures of language use currently cannot tell the size of a learner's vocabulary, productive or otherwise, but they indicate how skillful the learner is in drawing on vocabulary knowledge to perform communicative tasks” (p. 42). This means that the investigation of lexical richness is assumed to yield thorough insights into various aspects that are directly related to word use,

such as lexical diversity and sophistication. Hence, the subsequent section offers a detailed description of the construct of lexical richness.

1.2.1.4 Lexical Richness

It is supposed that “measures of lexical richness attempt to quantify the degree to which a writer is using a varied and large vocabulary” (Laufer & Nation, 1995). This implies that the endeavor of assessing the quality of one’s vocabulary use in writing is usually associated with lexical richness. Indeed, it is not just a matter of vocabulary use, but it also reveals the extent of an individual's lexical knowledge (Daller & Xue, 2007). Kristopher Kyle (2019) mentioned that the term lexical richness was first introduced by Yule in 1944. The latter concept gained its relevance in the field of second language acquisition (SLA) research due to its positive correlation with effective communication in the second language (Daller et al., 2007; Lu, 2012). Malvern & Richards (2012) affirmed that the terms lexical richness and lexical diversity often occur interchangeably. Some researchers, conversely, advocated a broader view of the construct, being an umbrella term that encompasses multiple aspects (e.g., Engber, 1995; Nation, 2001; Read, 2000).

In the present study, the broader scope of the construct was adopted, drawing on Read's (2000) definition of lexical richness. Four elements that contribute to the quality of one’s written production were proposed. Firstly, the manifestation of “a variety of different words rather than a limited number of words used repetitively” (Read, 2000, p. 200) is referred to as lexical variation, which is also commonly known as lexical diversity. Secondly, another element advanced by Read (2000) is lexical sophistication. It refers to the implementation of a high number of low-frequency words that are context-oriented rather than general basic terms.

Thirdly, there is lexical density, which is manifested through the use of a greater number of content words compared to function words like pronouns and prepositions. Lastly, Read (2000) suggested another aspect which is the number of errors in the text, noting that “one obvious feature of the writing of second language learners is that it contains vocabulary errors of various kinds” (p. 200).

In conclusion, it is widely recognized that these elements represent the fundamental concepts that should be considered when assessing the lexical richness of a text. Nevertheless, it is not necessary to measure all of them at once. For example, several recent studies focused mainly on the lexical diversity and lexical sophistication of students’ productions (e.g., Lemmouh, 2010; Lutviana, Kadarisman, & Laksmi, 2015; Vedder & Benigno, 2016).

1.2.2 Measures of Lexical Richness

As previously discussed, several dimensions can be evaluated in the pursuit of measuring lexical richness. This section will provide an overview of certain popular approaches used for assessing the three dimensions highlighted in Read’s (2000) definition of lexical richness: Lexical diversity, sophistication, and density.

1.2.2.1. Lexical Diversity

Lexical diversity measures have been employed in studies of lexical richness in either written or spoken discourse (e.g., Engber, 1955; Tömen, 2016). The Type-Token Ratio (TTR) is the traditional word-list-free approach used for quantifying the proportion of unique words (types) to the overall number of words (tokens) in a given text: $TTR = \frac{\text{number of types}}{\text{number of tokens}}$

(Johansson, 2008; Kyle, 2019; Lemmouh, 2010). However, TTR's sensitivity to text length has led to significant criticism of its reliability in certain circumstances (Covington & McFall, 2010; Lemmouh, 2010; Lu, 2012; Malvern & Richards, 2012). For instance, longer texts may exhibit lower ratios of lexical variation, leading to unreliable results, specifically in the comparison of two essays of varying lengths. Hence, scholars have proposed various modifications to the original TTR metric and developed new approaches such as MATTR, Maas' Index, Yule's K, Giraud's Index, Malvern and Richards' D and vocD, in addition to other indices, to address the length limitation (Daller & Xue 2007). However, none of the aforementioned indices proved to be flawless, and only a few could practically overcome the main problem of the traditional TTR. All said, to explore more about the existing measures of lexical diversity, Kyle (2019) presented a comprehensive review of several metrics that can be referred to for further reading. Moreover, he added that "care must be taken when selecting an index to use" (p. 471); this suggests that choosing the most appropriate measure depends on the nature of the research topic, as different metrics may be more appropriate for certain types of analyses solely. Nevertheless, this section describes the moving average type-token ratio (MATTR), which is going to be employed in the current study.

The Moving Average Type-Token Ratio (MATTR) is a metric commonly employed to assess the diversity of vocabulary in a written text. While MATTR shares its foundation with traditional TTR, it differs significantly in that it eliminates the shortcoming of text length, which enhances the internal validity of its results (Covington & McFall, 2010). To perform a MATTR analysis, the text must first be divided into smaller segments of a fixed size, with each segment overlapping the previous one (Kyle, 2019). For instance, when evaluating a 250-word essay, the text can be divided into segments or windows, with each comprising 50 words. The first segment

encompasses words 1 to 50, the second 2 to 51, the third 3 to 52, and so forth until all words in the text are accounted for. The MATTR value of the essay is then determined by calculating the simple TTR values of all the windows and counting their mean (Covington & McFall, 2010). While the manual computation of this metric may appear impractical, there are now various software programs available to simplify its use (Kyle, 2019). For example, in this study, MATTR is going to be calculated using TAALED, which is The Tool for the Automatic Analysis of Lexical Diversity. This tool can be downloaded for free from Kristopher Kyle and Scott Crossley's website (www.linguisticanalysistools.org).

Overall, the decision to use MATTR in this investigation is grounded in the recommendations of several scholars, including Covington (2010), and Kyle (2019). For instance, Covington and McFall (2010) highlighted the advantage of MATTR in that “it uses a smoothly moving window. Thus, MATTR yields a value for every point in the text except for those less than one window length from the beginning” (p. 96). As a result, MATTR provides more comprehensive data for those who are interested in tracking the variation of TTR values within the same text. Additionally, Kyle (2019) pointed out that “the preceding four indices described favorably [in his article] (Maas'index, MATTR, MTLT, and HD-D) appear to be attractive options in light of their relative independence of text length” (p. 471).

1.2.2.2. Lexical Sophistication

Kyle and Crossley (2015) asserted that “the construct of lexical sophistication involves both the depth and breadth of lexical knowledge [emphasized in Section 1.2.2] available to speakers, readers, and writers” (p. 3). This implies that the concept is more intricate in nature than lexical diversity and may involve multiple components to operationalize (Kyle, 2019). To

illustrate, factors such as word recognition norms, contextual distinctiveness, and psycholinguistic word information could all be examined to determine the level of complexity in a piece of writing (Kyle, 2019). Nevertheless, the most commonly investigated factor is the frequency level of words based on a standardized corpus or list (e.g., Laufer & Nation, 1995; Lemmouh, 2010; Tömen, 2016). In this regard, lexical sophistication can be practically described as the manifestation of a larger number of context-specific, less common words instead of basic, general terms in the learner's written or spoken production of language (Read, 2000). In other words "spoken and written texts that include higher proportions of less frequent words are considered to be more sophisticated than those that contain higher proportions of more frequent words" (Kyle, 2019). Indeed, even when narrowing the scope of this research on the frequency-based approach to lexical sophistication, several measures for the concept are now available such as the Lexical Frequency Profile, P_{lex} , S , and Mean Frequency (Kyle, 2019). However, this study specifically opts for the Lexical Frequency Profile to measure lexical sophistication. Consequently, the following paragraphs provide an evaluation of this index.

The lexical frequency profile (LFP) is a model used for assessing lexical sophistication advanced by Laufer and Nation (1995), and was commonly employed in previous investigations. This model involves categorizing the lexical items (word families) within a piece of writing or a collection of texts under analysis into groups based on their frequency on a predetermined list. Initially, these lists were comprised of the top 1000 most frequent words, the subsequent 1000 most frequent words, Nation's (1990) University Word List (UWL), as well as words that were not included in any of the aforementioned lists (Laufer & Nation, 1995). After the classification is complete, the next step involves calculating the percentage of lexical items

that fall under each frequency band. Furthermore, Laufer and Nation (1995) illustrated the way LFP works with the following example:

Let us imagine a composition of an intermediate learner which consists of 200 word families. Among the 200, 150 belong to the first 1000 most frequent words, 20 to the second 1000, 20 to the UWL, and 10 are not in any list. To calculate the LFP, we convert these numbers (the number of word families at each frequency level) into percentages out of the total of 200 word families. The LFP of the composition is therefore 75% -10% -10% -5%. (Laufer & Nation, 1995, p. 312)

The aforementioned procedures can be automated through the use of VocabProfile, an online tool available at (www.lextutor.ca/vp/). This tool is capable of calculating lexical sophistication by utilizing word families as the unit. According to Nation (1995), using word families in this sense is an advantage because it represents the learners' actual understanding of what a word means.

Similarly to the traditional measure of lexical diversity (TTR), the implementation of LFP to measure lexical sophistication also encountered some challenges. In particular, as demonstrated in the previous example, the LFP results come in separate scores, which some experts consider a drawback for the measure (Kyle, 2019). Moreover, another constraint of the index is that the divergence between the 1000th and 1001st most frequent words is deemed the same as that between the most frequent word and the 2000th most frequent word (Kyle, 2019). Despite the two aforementioned limitations, research by Laufer and Nation (1995) provided empirical evidence supporting their claim that "the Lexical Frequency Profile [is] a reliable and valid measure of lexical use in writing" (p. 319). Building on this, Lemmouh (2010) argued that LFP is particularly suitable for establishing relationships between variables because it offers "an objective picture of a learners' vocabulary size" (p. 89).

1.2.2.3. Lexical Density

Lexical density is another aspect investigated in studies of lexical richness in written corpora, although being the least common one. As already described, “Indices of lexical density compare the number of content words to the number of total words in a text” (Kyle, 2019, p. 457). Put differently, this aspect of lexical richness compares the number of lexical verbs, nouns, adjectives, and adverbs, referred to as content words, to the number of auxiliary verbs, articles, and prepositions, considered function words (Kyle, 2019). This comparison is calculated using the following formula:

$$\textit{Lexical density} = \frac{\textit{number of content words}}{\textit{number of total words}}$$

The ratio of lexical density can be extracted automatically using different programs. For example, TAALED, which is employed in this study to calculate lexical diversity, provides two sets of data about lexical density: one of which counts types as the unit representing the total number of words in the texts, and the second counts tokens.

In light of the findings of previous researchers, this index of lexical richness is often neglected in studies of lexical richness and writing proficiency because it yields no significant correlation between the two variables. The detailed review of the existing literature found in Section 1.2.4 emphasizes the previous statement. Additionally, Kyle (2019) argued in an article about measures of lexical richness that lexical density is not useful in studies of productive vocabulary use. Despite Kyle’s comment on the matter, lexical density is a major component that should be analyzed to obtain a broader view of the degree of correlation between lexical richness and productive language use.

1.2.3. Lexical Richness and Writing Proficiency

The successful retrieval of vocabulary knowledge is of great importance in L2 writing, especially in performing timed tasks such as university examinations (Engber, 1995). This quality can be manifested through the presence of different features of lexical richness, such as the use of a varied vocabulary and the avoidance of unnecessary repetition of a limited number of common words. A large and growing body of literature has started investigating the truthfulness of the previous statement. For instance, Engber (1995) suggested that using a varied vocabulary that is free of errors adds more value to one's written composition and shows a relatively high level of proficiency in L2. Moreover, in an analysis of the LFP results of two groups of two different levels (first and fourth year), Gregori-Signes and Clavel-Arroitia (2015) found that learners at each level use words from various frequency bands. More specifically, first-year students used more high-frequency words to accomplish the tasks encountered in their courses, while fourth-year students demonstrated a high number of low-frequency words. This latter implies that the vocabulary utilized by learners can predict their progress in the target language and highly affect the overall quality of their writing. In the same vein, a recently conducted study by Ha (2019) revealed that high ratios of lexical sophistication and lexical diversity strongly contribute to the quality of a piece of writing. Lastly, commenting on the importance of lexical richness in relation to writing, Gregori-Signes and Clavel-Arroitia (2015) asserted that "knowledge of lexical richness obtained through reliable quantitative and qualitative measures ... may provide teachers with a more accurate picture of lexical progress" (p. 555). In light of all that has been mentioned so far, studies of the relationship between lexical richness and writing proficiency are vital for the field of second language acquisition.

1.2.4. The Relationship between Lexical Richness and Teachers' Assessment of Writing

The place attributed to lexical richness in essay scoring has been widely investigated. In recent years, several scholars have tried to find a correlation between different indices of lexical richness and EFL teachers' overall judgment of students' written productions. However, as it is detailed below, the findings of these studies remain contradictory.

Firstly, Engber (1994) was among the first scholars to attempt to establish the aforementioned relationship. Her study consisted of analyzing features of lexical richness in 66 timed essays written by students who were enrolled in an Intensive English Program. The essays were rated by 10 experienced teachers. The results revealed a significant correlation between lexical diversity and the holistic scores of the analyzed essays. Building on this, Kwon (2009) reported in subsequent research, encompassing a larger sample of 122 essays, that lexical diversity, which is manifested through the use of a varied vocabulary, can be a predictor of essays' overall rating. These findings were further supported by more recent investigations; for example, Crossley, Salsbury, McNamara, and Jarvis (2011) indicated that the index D used for quantifying lexical diversity is capable of anticipating human assessment. Additionally, Auensen (2018) concluded his study on Norwegian lower secondary learners by confirming that lexical diversity positively interlinks with teachers' judgments of essays' quality, and he noted that lexical richness is not the only factor determining the scores of students' texts, as he highlighted certain exceptions supporting this claim. Nonetheless, to date, there has been little agreement on the place of lexical diversity in teacher assessment. For instance, Mellor (2011), Tömen (2016), and Daller and Phelan (2007) all reported in their studies a low correlation between the two variables and added that text length and other non-lexical features are better determinants of essay grading.

Secondly, just like lexical diversity, there is an ambiguous relationship between lexical sophistication and teachers' ratings. On the one hand, several previous studies reported that learners who demonstrate a large number of advanced and low-frequency words are more likely to obtain higher scores for their writing. This idea was initially put forward by Laufer and Nation (1995) after analyzing the written compositions of 65 students of three different proficiency levels. The main focus of their study was to develop a reliable measure for lexical richness; hence, the discussion of the correlation between lexical sophistication and teachers' assessment was not detailed enough. Subsequently, the same idea was supported by the findings of Daller and Phelan (2007), who used other word-list-based approaches in their analysis of 31 essays to address their second hypothesis. As a result, a high correlation was reported between the use of rare words and teachers' positive judgment of written compositions. This was justified by the ease of focusing on rare words in a text rather than more complex lexical features (Daller & Phelan, 2007). In the same vein, Auensen (2018) argued that "teachers take this component of lexical richness into account when assessing students' written production" (p. 41). On the other hand, in 2015, Lutviana, Kadarisman, and Laksmi published a paper in which they aimed at revealing the degree to which vocabulary use correlates with the quality of argumentative essays. They opted for the LFP as a measure of lexical richness in their research on 42 written compositions. Ultimately, their investigation resulted in a low correlation with the overall rating of students' argumentative essays. Furthermore, in a corpus analysis of texts collected from different sources, Kwon (2009) found that lexical sophistication did not yield any correlation with holistic scores. Kwon (2009) holds the view that learners are not necessarily obliged to employ sophisticated words, or words beyond 2000 on the frequency spectrum, to ensure higher scores in their essays.

Thirdly, lexical density is another element that was examined in studies investigating the place of lexical richness in teachers' evaluation. Nevertheless, this aspect did not receive the same attention as the two elements mentioned earlier, probably because it was not found to correlate with the overall quality of texts. To illustrate, Kwon (2009) reported in her study that lexical density does not contribute to teachers' judgment of the quality of a piece of writing. Additionally, Auensen (2019), who dedicated a special sub-question for this element, concluded with the same results as Kwon (2009) and asserts that lexical density does not discriminate between learners of different proficiency levels.

Overall, several researchers took on the responsibility of testing the reliability of different measures of lexical richness as well as the value of the correlation between them and students' grades. However, the innovation in these indices and the development of automatic programs to calculate them created more research opportunities. For example, although extensive research has been carried out on lexical diversity to identify its correlation with teachers' assessment, no existing study employed MATTR to quantify the construct. Moreover, this topic has been dealt with on a worldwide level. This section, in particular, included studies from three different continents. To illustrate, Engber (1995) conducted her research in the United States; Lemmouh (2010) in Sweden; and Lutviana, Kadarisman, and Laksmi (2015) in Indonesia. What is not clear yet is the place attributed to lexical richness in rating students' essays from an Algerian perspective. As a result, this research aims to address this uncertainty by performing a corpus analysis of written compositions at an Algerian university

Chapter Two: Field Work

Introduction

In the previous theoretical chapter, the focus was on providing definitions and discussions of the key terms and issues related to the field of lexical richness and assessment of second language writing as well as highlighting the major findings of previous researchers in the field. This practical chapter aims to provide readers with a comprehensive overview of the actual processes involved in data collection and analysis. The first section of this chapter includes a detailed overview of the methods and procedures used to gather data from the participants. It also sheds light on the measures used to quantify different aspects of lexical richness in a practical manner. The second section involves presenting the findings of the study. Finally, the last section of this chapter consists of a comprehensive discussion of the findings and their implications.

Section One: Research Methodology

Introduction

Research is a systematic undertaking that aims at investigating different phenomena to reach final conclusions (Kothari, 2004). In the field of EFL, researchers aim at answering questions revolving around various aspects of language development, acquisition, and assessment. This process follows a set of procedures that include gathering information, analyzing data, and drawing conclusions. Furthermore, the researcher is required to carefully select the most appropriate methodology that fits the aims of the study, the research questions and other considerations. The commonly recognized and utilized approaches are the quantitative

and qualitative approaches (Kothari, 2004). It is recognized that the basis of the quantitative method is the generalizability of findings, which is made possible through the use of inferential statistics. Furthermore, quantitative research is categorized by hypothesis testing, which gives it more credibility. Conversely, qualitative research is based on the subjective interpretation of its participants and investigators to answer research problems (Kothari, 2004). Each of the two approaches has its own characteristics and requires different research tools. Consequently, this section outlines the approach opted for in this study in addition to the procedures followed by the researchers.

2.1.1. Research Design/Instruments

The present study adopts a deductive, quantitative, and non-experimental approach to examine the significance assigned to lexical richness by EFL teachers when grading students' essays. A correlational design was chosen as it is the most appropriate method to test the proposed hypotheses and generate strong predictions using descriptive and inferential statistics. The research aims to determine the extent to which EFL teachers prioritize lexical richness in their holistic assessment of students' written work. To achieve this objective, a cross-sectional time frame was employed for data collection and analysis, taking into account available resources and time constraints. In addition to correlational analyses, a teacher questionnaire was conducted to gather subjective insights directly from EFL teachers themselves. This additional step enhanced the discussion of the findings by incorporating the perspectives of the instructors.

2.1.2. Setting

The current study was conducted as a master's dissertation at the University of Mohamed Seddik Ben Yahia in Jijel. The target population of the research consist of EFL teachers and

learners at the English department. The research aimed to address two main research questions revolving around the potential role of lexical richness as a predictor of essays scores. To achieve this objective and address the identified gap in the literature, a correlational study and a teachers' questionnaire were used. The subsequent sections provide a detailed description of the methods employed in this study, including the data collection procedures, research instruments, and analysis techniques utilized to answer the research questions.

2.1.3. Population and Sampling

To represent the first research population in the correlational stage, a non-probability sampling approach based on convenience was followed. To illustrate, a total number of 138 essays written by third-year English learners were collected from the faculty archive. The chosen texts constituted the responses for a written expression exam of the academic year 2021\2022. This choice is justified by the need for authentic research materials that reflect the spontaneous performance of the learners. Moreover, 15 essays were selected from the corpus of texts based two main criteria, namely handwriting and the original scores to ensure a varied distribution of essays quality. Finally, each of the fifteen essays was typed into a word document with slight adjustments on spelling mistakes to ensure accurate results from the analysis software.

As far as the second research population is concerned, four raters were also chosen by convenience due to availability and time factors. The raters were permanent EFL teachers at the same faculty. The raters were two males and two females known for their wide experience in teaching and assessing writing expression at the university level. The four EFL teachers were asked to give a score from 0 to 20 to the essays using the same correction rubrics that they use

in correcting exam papers. Furthermore, the raters were not informed about the topic of study until the end of the correction, and the names and original scores of the learners have been erased to avoid any bias.

2.1.4. Correlation Procedures

To address the first research question, a correlational study was opted for to statistically examine the relationship between lexical richness and essays scores. Accordingly, the operationalization of lexical richness, along with other procedures related to essay rating, was necessary to carry out this investigation.

2.1.4.1. Measuring Lexical Richness

As discussed in Section 1.2.2, lexical richness is considered as an umbrella term that covers multiple aspects of vocabulary knowledge and use. It encompasses the use of a varied vocabulary that enables students to avoid redundancy (lexical diversity), the ability to convey meanings using advanced and impressive terminology (lexical sophistication) and the appropriate use of a dense vocabulary with fewer grammatical words (lexical density). In this study, our objective was to measure these three elements of lexical richness in a way that provides readers with an understanding of the actual vocabulary level demonstrated in the analyzed texts, regardless of their length variations.

Among the various aspects of lexical richness, lexical diversity has the highest number of measures to quantify it in written texts. However, most of these measures face a common issue regarding the reliability of their results when analyzing texts of different lengths. In this study, following Kyle's (2019) recommendation, the MATTR metric was chosen to analyze this lexical feature in the sample essays. As explained in Section 1.2.2, this metric divides a text into

segments of a specific length, known as windows. The length of the window can range from 10 words to 500 words, depending on the study's objectives and research questions. In our case, a window size of 50 words was used. It is evident that manually conducting this measurement can be a tedious and time-consuming task. Therefore, we opted to use the TAALED software, which automatically calculates the ratio of diverse vocabulary in the essays. TAALED offers three options for analyzing the nature of words: all words, function words and content words. In this study, we selected all words to assess the variation in vocabulary usage by third-year students.

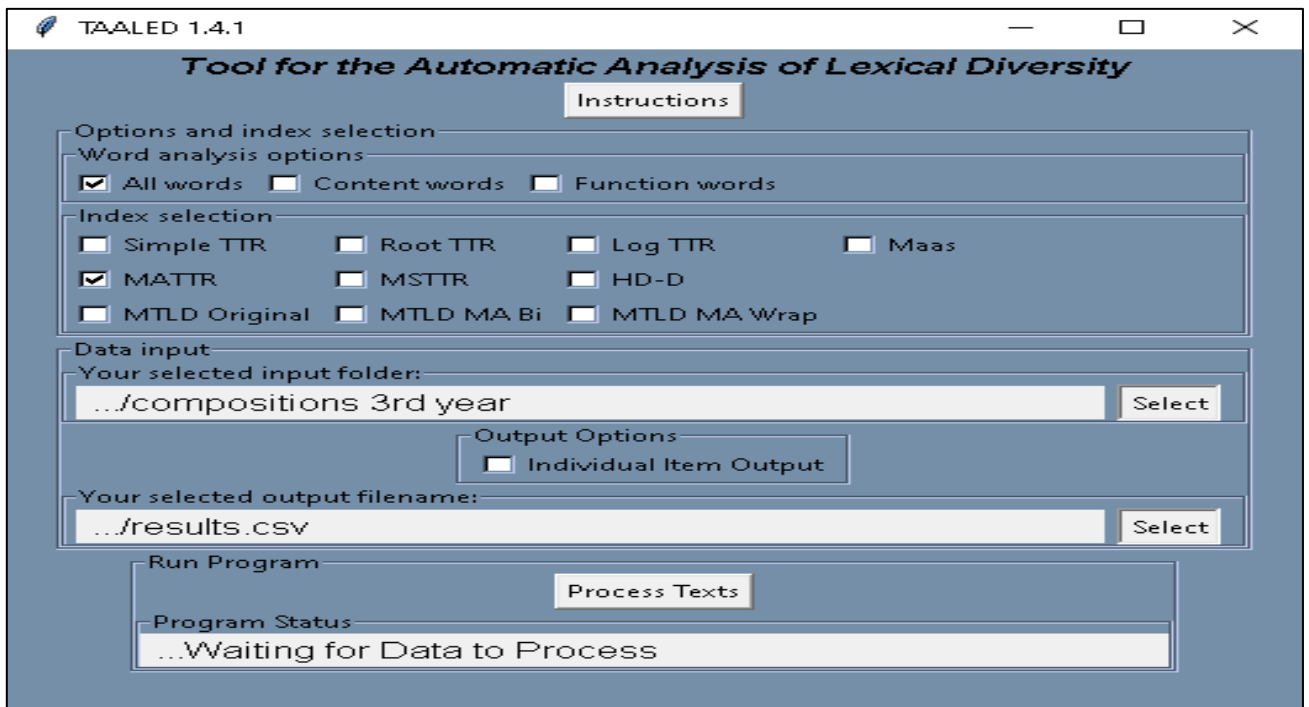


Figure 1. TAALED User Interface

Regarding lexical density, a decision was made regarding whether to measure it using types or tokens. TAALED produced results for both units, but we only collected the data generated using tokens since they account for the occurrence of all words, including repetitions. This allowed us to gain more insights into the density of vocabulary among the learners.

Finally, lexical sophistication was measured following the frequency principle. The LFP of 15 essays was generated using the Vocabulary Profile tool available online at www.lextutor.ca. To collect the necessary data for our investigation, we specifically chose the VP-Classic option, which is based on Coxhead's (1998) word list (AWL). Moreover, the LFP provides a comprehensive dataset that includes the number and percentage of words from four distinct frequency bands. Nevertheless, we specifically considered the number of types from the AWL list and the number of types beyond the 2000 most commonly used words to reflect the level of sophistication in the learners' vocabulary.



Figure 2. VocabProfile User interface

2.1.4.2. Calculating the Coefficient of Correlation

After gathering all the required data, which included the ratios of lexical richness features and the essay scores, the data analysis option in Microsoft Excel was used to compute the Pearson Product Moment Correlation Coefficient. This statistical test was utilized to assess the strength and direction of the relationship between the datasets (Kothari, 2004). Specifically, each aspect of lexical richness was individually compared with the learners' scores.

The results of the correlation test were interpreted based on a scale ranging from -1 to 0, indicating a negative correlation, and from 0 to 1, indicating a positive correlation. Furthermore, the calculation of the p-value was carried out to assess the significance of the correlation between the variables. The p-value provided insights into the likelihood of the results being due to chance alone, which in turn affects the generalizability of the research findings.

In this study, an alpha value of $\alpha=0.05$ was selected as the threshold for statistical significance. This means that there is 5% possibility that the results of the correlation were due to chance. Therefore, a p-value lower than 0.05 indicates that the results are statistically significant, suggesting a non-random relationship between the lexical richness features and the essays scores.

2.1.5 Description/Administration of the Teacher Questionnaire

To address the second research question, a teacher questionnaire was distributed and subsequently analyzed. The purpose of this questionnaire was to collect teachers' perceptions regarding the significance of lexical richness features in assessing students' essays. It served as a means to compare the correlation results with the theoretical perspectives of EFL teachers. The questionnaire consisted of three sections comprising 12 closed-ended questions, with an

optional open-ended item in section 4. The first section sought to elicit general information about the participants, including their educational degrees and years of experience. The second section aimed to obtain subjective data on the lexical profile of EFL learners. Finally, Section 3 focused on the significance of lexical richness in teachers' evaluation of students' writing.

We employed a purposive sampling technique to specifically select thirteen teachers who taught writing as a module at the university to respond to the 13-item questionnaire. As for the administration of the questionnaires, it took place at the department of English, Faculty of Letters and Languages. The majority of the questionnaires were distributed in person to the teachers in the same department, while three were sent online. After gathering and compiling the data, it was analyzed using the Statistical Package for the Social Sciences (SPSS).

2.1.6 Ethical Considerations

Prior to the process of data collection, an official request was prepared and submitted to the head of the English department, seeking her consent to use students' examination papers for the purpose of this study. The objective of this request was to ensure compliance with ethical guidelines and obtain the necessary permissions. Furthermore, the identities of the students and teachers were kept confidential, and their data were used exclusively for the purposes of this research.

Section Two: Data Analysis and Interpretation

Introduction

This section provides a comprehensive overview of data analysis and presents the outcomes of the correlation test and the questionnaire administered to EFL teachers. The

findings emphasize the importance of lexical richness in relation to essay ratings and teachers' perceptions.

2.2.1 Descriptive Analysis of the Analyzed Essays

The data demonstrated in Table 2 was automatically generated using TAALED, the tool used in this study to calculate lexical diversity and lexical density. Table 2 displays the results of the analysis of 15 essays written by third-year English language students at the University of Mohamed Seddik Ben Yahia in Jijel. Moreover, TAALED program provides insights into some of the units that form the basis of more complex formulas of lexical richness. For example, in this research, content types and function types were considered units when calculating lexical density using the same tool.

Table 2

Characteristics of the Sample Essays

Essays	All words		Content words		Function words	
	Tokens	Types	Tokens	Types	Tokens	Types
1	503	175	271	123	232	52
2	246	117	131	74	115	43
3	392	130	215	74	177	56
4	309	162	167	114	142	48
5	352	140	183	92	169	48
6	324	153	156	97	168	56
7	199	94	114	65	85	29
8	390	160	191	109	199	51
9	404	167	215	116	189	51
10	389	159	200	113	189	46
11	316	151	147	97	169	54
12	225	102	117	64	108	38
13	328	125	177	79	151	46
14	187	71	101	42	86	29
15	479	182	240	124	239	58

Table 3*Descriptive Analysis of the Sample Essays*

	<i>tokens</i>	<i>types</i>	<i>content tokens</i>	<i>content types</i>	<i>function tokens</i>	<i>function types</i>
Mean	336.2	139.2	175	92.2	161.2	47
Median	328	151	177	97	169	48
Mode	#N/A	#N/A	215	74	169	56
Standard Deviation	94.42	32.09	48.77	24.86	47.33	9.016
Range	316	111	170	82	154	29
Minimum	187	71	101	42	85	29
Maximum	503	182	271	124	239	58

Table 3 presents a summary of the descriptive analysis conducted on the sample essays. It includes various statistical measures, including the mean, median, mode, and standard deviation. The mean represents the average value of each variable, while the median indicates the middle point of the values. The mode corresponds to the most frequently occurring value in the dataset. Additionally, the standard deviation serves as a measure of how much values in a given dataset deviate from the mean. A small standard deviation indicates that the data values are less diverse and more closely clustered around the mean. Conversely, a larger standard deviation suggests greater diversity and a wider spread of values in the dataset. The range of a dataset refers to the difference between the maximum and minimum of its values. Finally, the meaning of the last two statistical units in the table is evident from their names.

The number of tokens in each essay ranged from 187 to 503. To account for this difference in text length, the current study employed the MATTR metric, as explained in the previous chapter. Moving on to the number of types in the essays, they ranged from 42 to 124 content types and from 29 to 58 function types. The average number of types in each essay was 139.2, which accounts for nearly 45% of the average number of tokens in the analyzed texts.

Overall, these statistics provide valuable insights into the sample essays and help in understanding the distribution and characteristics of the collected data.

2.2.2 Teachers' Holistic Rating

As aforementioned, four teachers were asked to give holistic scores (ranging from 0 to 20) to the collected essays. However, little agreement between the four raters was found across the 15 essays. Additionally, in certain cases, such as essay n=1, the variation between scores exceeded 4 points. The full results of the holistic scores are presented below in Table 4.

Table 4

Teachers' Holistic Rating Results

	<i>Rater 1</i>	<i>Rater 2</i>	<i>Rater 3</i>	<i>Rater 4</i>
Essay 15	10	12	12.5	/
Essay 14	8	6	4	8
Essay 13	9.5	9	6	9
Essay 12	6	5	5	/
Essay 11	11	14	11	/
Essay 10	13.5	13.5	15.5	/
Essay 9	13	13	12.5	/
Essay 8	10	13	13	11
Essay 7	8.5	6	3	8
Essay 6	7.5	8	6	7
Essay 5	11.5	11	12	/
Essay 4	13.5	13.5	15	/
Essay 3	9.5	8	8	/
Essay 2	11.5	11.5	7.5	10
Essay 1	15.5	16	16	/

Taking into consideration the variation in teachers' scores, consensus rating, which is the process of combining or averaging the scores given by all the raters involved, was not feasible for this particular study. To address this issue, we employed a modified approach. Only the scores of the first three raters were taken into account for calculating the mean score. Consequently, the scores provided by teacher number four were considered only when there

was a difference of more than two points among the scores given by the first three examiners.

The use of the described approach yielded a dataset that can be grouped into three categories based on the average scores on a scale ranging from 0 to 20. In other words, essays (10,9,4,1) with scores highlighted in green in Table 5 are considered to be of high overall quality (A-level); those with scores highlighted in red (14,13,12,7,6,3) indicate weak essays (C-level); and essays with scores highlighted in blue (15,11,8,5,2) are classified as having a moderate level of overall quality (B-level).

Table 5

Essays Holistic Scores

	<i>Raters</i>	<i>Score</i>		
Essay 15	R1;R2;R3	11.5		
Essay 14	R1;R2;R4	7		
Essay 13	R1;R2;R4	9		
Essay 12	R1;R2;R3	5		
Essay 11	R1;R2;R3	12		
Essay 10	R1;R2;R3	14.25		
Essay 9	R1;R2;R3	13		
Essay 8	R2;R3;R4	12		
Essay 7	R1;R2;R4	7.5	<i>Descriptive Statistics</i>	
Essay 6	R1;R2;R4	7.5	Mean	10.6
Essay 5	R1;R2;R3	11.5	Median	11.5
Essay 4	R1;R2;R3	14	Mode	12
Essay 3	R1;R2;R3	8.5	Standard Deviation	3.06
Essay 2	R1;R2;R4	11	Minimum	5
Essay 1	R1;R2;R3	16	Maximum	16

Table 5 also includes a summary of the descriptive statistics of the essays' grades. It displays that the lowest value in this data set was 5, which is regarded as a very low score on a scale of 20. The maximum value was 16, which reflects the score of the essay with the highest overall quality based on the judgments of three examiners. Furthermore, the standard deviation of the scores was 3.06, indicating the spread or variability of the data around the mean, which

can be said to be moderate, taking into consideration the small sample size.

2.2.3 Lexical Richness in the Sample Essays

In this section, a descriptive analysis of different measures of lexical richness is presented in the form of tables and figures. For each illustration of statistics, a comment emphasizing the important results is provided.

Table 6

Descriptive Analysis of Lexical Richness Results

	Lexical Diversity	Lexical Density	Lexical sophistication
Mean	0.76	0.52	24.4
Median	0.76	0.53	24
Mode	#N/A	0.54	33
Standard Deviation	0.05	0.03	7.72
Minimum	0.63	0.47	9
Maximum	0.82	0.57	40

Table 6 indicates that the mean ratio of lexical diversity in the analyzed essays was 0.76, which is identical to the median of the same variable. A low standard deviation of 0.05 suggests that the values in the data set are clustered closely around the mean, indicating low dispersion or variability within the sample. Put differently, the essays collected as demonstrated in Figure 3 exhibited a relatively consistent level of lexical diversity.

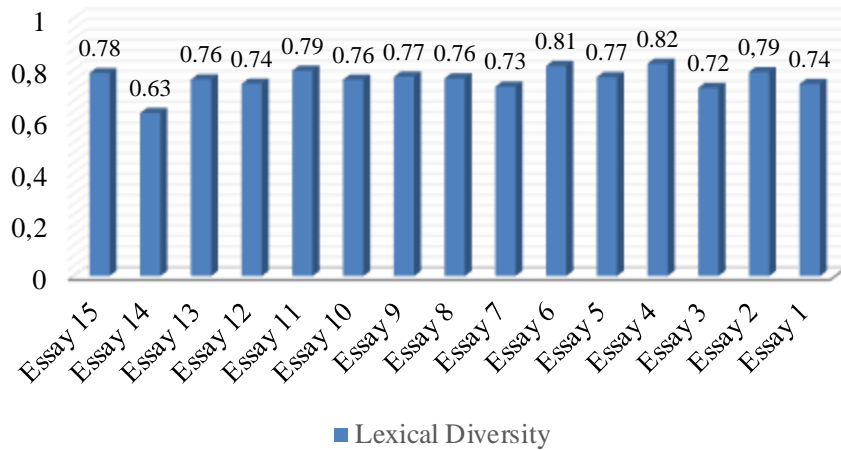


Figure 3. Lexical Diversity in the Sample Essays

The data set for lexical density also exhibit a low standard deviation of 0.03. This indicates less dispersion or variability in the use of content words relative to function words among the students in the sample essays as shown in Figure 4. Table 6 shows that the mean value for lexical density was 0.52, which is relatively smaller when compared to lexical diversity. However, this difference was expected, as the calculation of lexical density was based on types rather than tokens.

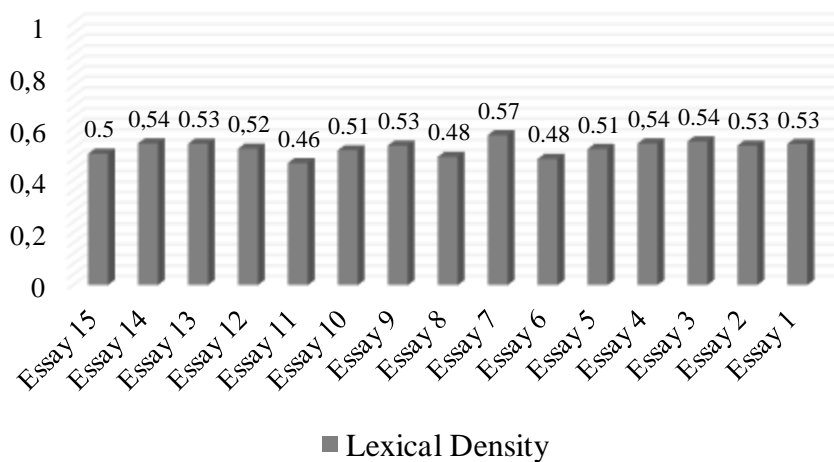


Figure 4. Lexical Density in the Sample Essays

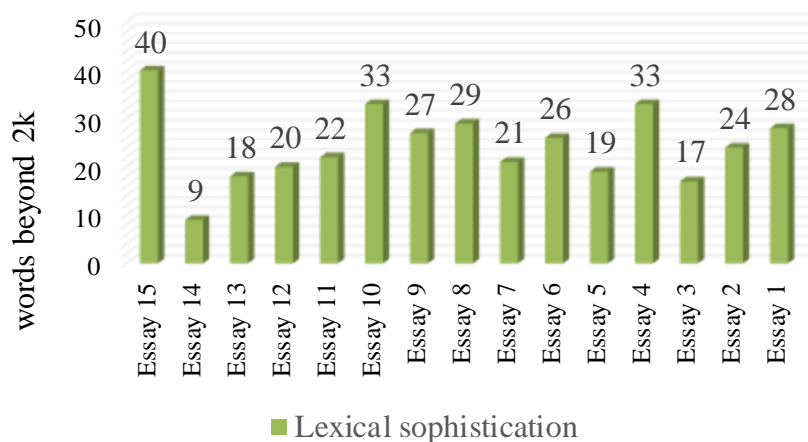


Figure 5. Lexical Sophistication in the Sample Essays

The analysis of lexical sophistication, defined in this study as the use of advanced words beyond-2000 most frequent words list, revealed the highest degree of variation among the observed values across the sample. Table 6 shows that the standard deviation was 7.72, indicating a notable dispersion or spread around the mean (24.4). In terms of specific examples within the collection, the essay with the highest occurrence of advanced words had 40 items, while the essay with the least occurrence of low-frequency words had only 9 items (Figure 5).

2.2.4 The Correlation between Lexical Richness and Teachers' Assessment

To address the first research question, which is concerned with the relationship between the lexical richness of Third-year EFL students' essays and teachers' holistic rating, the present study involved calculating the Pearson Correlation Coefficient to test the relationship between each of the three lexical richness features (lexical diversity, lexical density and lexical sophistication) and the mean scores of the essays. This section outlines the findings of the inferential test used, as well as their interpretations.

2.2.4 .1 Lexical Diversity

Table 7

Correlation Statistics: Lexical Diversity and Essays Grades

<i>Correlation Statistics</i>	
R	0.40
P-value	0.14
Observations	15

*Correlation is significant at the $\alpha = 0.05$

Based on the correlation results presented in Table 7, there was a weak positive correlation observed between lexical diversity and the scores of the third-year students' essays, with a correlation coefficient of 0.40. However, the analysis yielded a relatively high p-value of 0.14, indicating that the observed correlation was not statistically significant ($p > 0.05$).

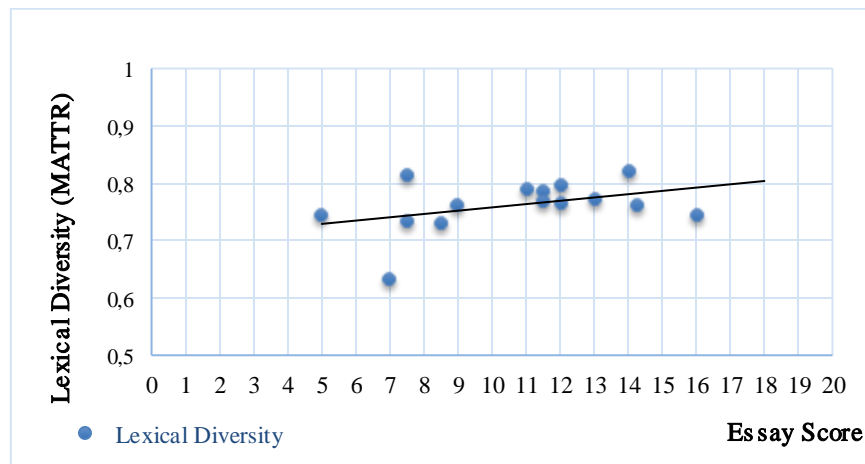


Figure 6. Relationship between Lexical Diversity and Essay Grades

Figure 6 shows the low positive linear relationship between lexical diversity and essays scores. This means that incorporating a range of distinct words, including synonyms and antonyms, to avoid repetition slightly influences teacher's judgement of the overall quality of students' essays.

2.2.4.2 Lexical Density

Table 8

Correlation Statistics: Lexical Density and Essays Grades

<i>Correlation Statistics</i>	
R	0.13
P-value	0.63
Observations	15

**Correlation is significant at the $\alpha = 0.05$

The results of the Pearson Coefficient Correlation test in Table 8 reveal a very low correlation between students' use of lexical density in writing and the scores given by the teachers to their texts ($r=0.13$). As expected from the distribution of lexical density ratios in Table 6, the results of this correlation were also found to be statistically not significant at a high P-value of 0.63.

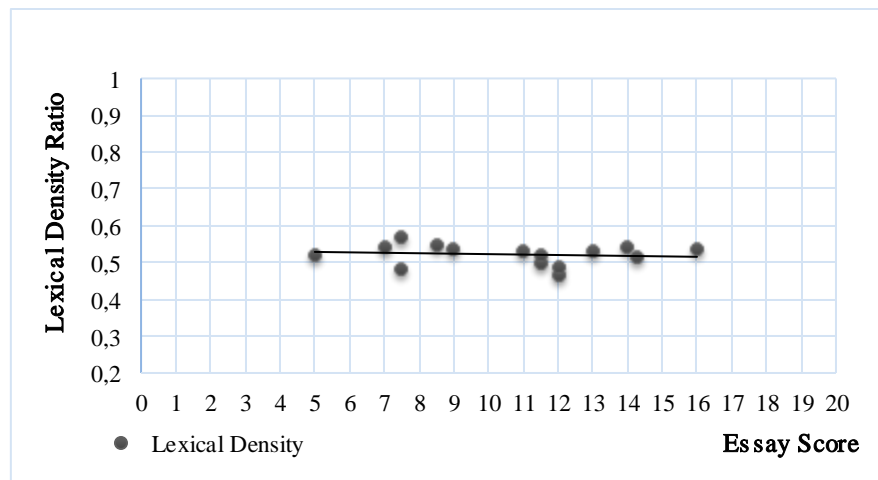


Figure 7. Relationship between Lexical Density and Essay Grades

Figure 7 represents a scatter plot depicting the very weak positive linear relationship between lexical density and essays scores. This indicates that using a high proportion of content words can help learners obtain higher marks for their essays.

2.2.4.3 Lexical Sophistication

Table 9

Correlation Statistics: Lexical Sophistication and Essay Grades

<i>Correlation Statistics</i>	
R	0.62
P-value	0.01
Observations	15

**Correlation is significant at the $\alpha = 0.05$

The r value 0.62 in Table 9 indicates a moderate positive correlation between lexical sophistication and essays rating. In other words, when the number of advanced words increases the overall score of the essay increases as well. The correlation between the two variables was found statistically significant at a p-value of $0.01 < 0.05$.

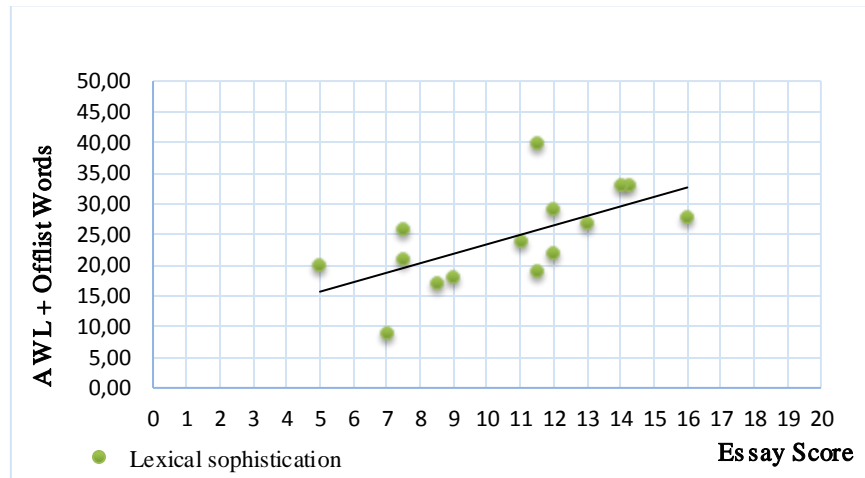


Figure 8. Relationship between Lexical Sophistication and Essay Grades

Figure 8 illustrates the moderate positive relationship between lexical sophistication and essays scores. This suggests that incorporating less frequent words (beyond the 2000-word list) enhances the overall quality of students' essays and contributes to their academic achievements in writing.

2.2.5 Results of the Teacher Questionnaire

As mentioned earlier, the questionnaire was administered to 13 EFL teachers at the University of Jijel, all of whom possessed experience in instructing and assessing writing tasks. The responses collected from them have provided us with general information about the participants, the vocabulary profile of English majors at the University of Jijel as perceived by their teachers, the teachers' perceptions of the importance of the constituents of lexical richness and the place of lexical richness in teachers' assessment of EFL majors' writing, specifically essays.

Section One of the Questionnaire: General Information

Q1: What is your educational highest degree?

Table 10

Participants' Highest Educational Degrees

	Frequency	%
PHD	10	76.92%
Magister	3	23.08%
Total	13	100%

This question was meant to identify the educational degree of the teachers. Table 10 shows that 76.92% of the participants held a PhD degree, while the remaining 23.08 % possessed a magister degree. This entails that the majority of the participating teachers possess a very high educational degree.

Q2: How long have you been teaching English at the university?

Table 11

Participants' Years of Experience at the University

	Frequency	%
Less than five years	3	23.08%
From five to ten years	1	7.69%
Ten years and over	9	69.23%
Total	13	100%

The aim of this question was to know the teachers' experience. Table 11 demonstrates that the participants' experience of teaching English at the university ranged from 3 to 20 years. Notably, nine teachers, comprising 69% of the sample, had over 10 years of experience in teaching at the university level. This wide experience is expected to contribute in generating valuable data for this study.

Q3: How often do you mark students' paragraphs/essays per semester?

Table 12:

The Frequency of Rating Students' Essays per Semester

	Frequency	%
Once (exams)	2	15.38%
Twice to three times	7	53.85%
Three times or over	4	30.47%
Total	13	100%

It was important to determine the teachers' experience in grading essays, so this question about the frequency of rating students' essays per semester was addressed. Table 12 reveals that a significant portion of the participants (53.85%) grade students' essays and paragraphs two to three times per semester. Furthermore, 30.47% of the respondents assess students' writing three

times or more per semester. These findings indicate that the teachers in this study have substantial experience in evaluating written compositions, adding further value to their responses and insights.

Q4: Have you ever had any training regarding the correction of essays/paragraphs?

Table 13:

Teachers' Training Regarding the Assessment of Writing

	Frequency	%
Yes	2	15.38%
No	11	84.62%
Total	13	100%

This question aimed to see whether the teachers had received enough training on rating essays as the latter is related to their attitudes and their assessment practices. Table 13 reveals that only 15.38% of the surveyed teachers had received special training regarding the assessment of students' writing, while the majority of them (84.62%) did not. These findings suggest that the vast majority of teachers do not rely on previous training when evaluating students' written compositions. Accordingly, it is fair to conclude that those teachers might experience difficulties in grading essays.

Q5: Do you think that you have had enough training/experience on marking essays?

Table 14:

Teachers' Perceptions of the Adequacy of their Training in Rating Essays

	Frequency	%
Yes	6	46.16%
No	7	53.84%
Total	13	100%

The aim of this question was to elicit data on whether the teachers perceive their training in grading essays as adequate or not. As demonstrated in Table 14, 46.16% of the teachers answered the question concerning their confidence in their level of training/experience in grading essays positively. However, 53.84% of the participants responded to the same question by choosing 'No'. The fact that more than half of the teachers do not think that they have enough training/experience in rating students' essays is a clear.

Q6: From your experience in rating your students' essays, how would you rate their vocabulary?

(Please fill in the gaps with **All, Many, A few,** or **None**)

- of my students have rich vocabulary.
- of my students have acceptable vocabulary.
- of my students have poor vocabulary.
- of my students have very poor vocabulary.

Table 15:

Teachers' Evaluation of the Vocabulary Profile of their Students

	None	A Few	Many	All	Total
• Students who have a rich vocabulary	1 7.69%	12 92.31%	0	0	13 100%
• Students who have acceptable vocabulary	0	10 76.92%	3 23.08%	0	13 100%
• Students who have poor vocabulary	0	0	12 92.31%	1 7.69%	13 100%
• Students who have very poor vocabulary	1 7.69%	4 30.77%	8 61.54%	0	13 100%

This question aimed at finding out how the teachers evaluation of the vocabulary profile of their students. Table 15 demonstrates that 92.31% of the respondents affirmed that only a

small number of EFL students at the Department of English, University of Mohamed Seddik Ben Yahia possess a rich vocabulary. Additionally, 92.31% of the responses indicated that a significant proportion of students have a limited vocabulary. This consensus among the teachers involved in the study emphasizes their ability to anticipate the potential vocabulary level of their students. It also implies that vocabulary is one of the aspects that EFL teachers prioritize and consider significant in their assessment of students.

Section Two of the Questionnaire: Teachers' Perceptions of the Importance of Lexical Richness

Q7: How would you rate these vocabulary features?

Table 16:

Teachers' Perceptions of the Importance of the Features of Lexical Richness

Item	Not important	Somewhat Important	Moderately important	Important	Very important	Total	\bar{x}
• Lexical Diversity	0	0	5	3	5	13	4
			38.46%	23.08%	38.46%	100%	
• Lexical Density	0	3	3	6	1	13	3.38
		23.08%	23.08%	46.15%	7.69%	100%	
• Lexical Sophistication	2	3	3	3	2	13	3
	15.38%	23.08%	23.08%	23.08%	15.38%	100%	

The aim behind this question was to investigate the teachers' perceptions of the importance of each aspect of lexical richness. Table 16 shows a variation and inconsistency in the answers; therefore, the mean is considered to interpret the data. Table 16 indicates that the majority of respondents consider lexical diversity to be of high importance ($\bar{x}=4$), while a

majority agreed that lexical density is important ($\bar{x}=3.38$). Similarly, lexical sophistication was also deemed important by the majority of teachers ($\bar{x}=3$). According to the findings, no significant differences were observed in the perceived importance of these aspects, as all of them were considered almost equally important by the 13 respondents. The only deviation in the data was noticed in the perception of lexical sophistication, as it was considered not important at all by two teachers.

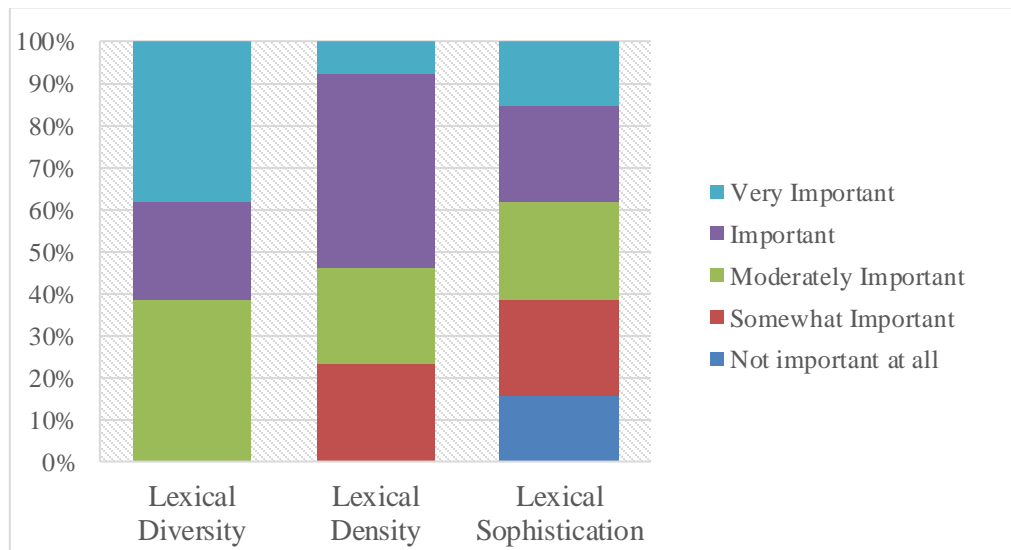


Figure 9. Teachers’ Perceptions of the Importance of the Features of Lexical Richness

Figure 9 displays the results presented in Table 16. It shows that lexical diversity is the only aspect that was not considered less than moderately important. Additionally, it is the aspect that received the highest ranking in terms of being considered very important by the teachers.

Q8: From the features listed above, which is the vocabulary aspect that you think is more challenging for your students?

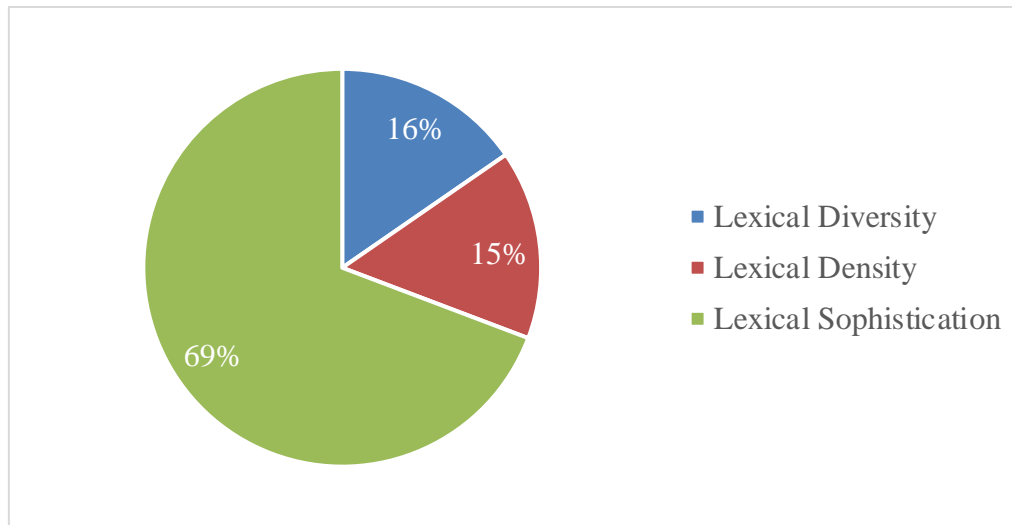


Figure 10. The Most Challenging Aspect of Lexical Richness for L2 Students

This question meant to identify the most challenging aspect of lexical richness from the teachers' perspective. Figure 10 demonstrates that approximately 70% of the participants (9 teachers) thought that their students faced more challenges in using advanced and academic vocabulary in their writing. This observation implies that their perceptions of the importance of this aspect may be influenced by the difficulty it causes their students in mastering it.

Section Three of the Questionnaire: The place of Lexical Richness in Teachers' Assessment of EFL majors' Essays

The purpose of this section of the questionnaire was to elicit data concerning the place of lexical richness in teachers' assessment of EFL majors' writing, specifically essays. Hence, questions (9), (10), (11), and (12) were formulated to compare the importance assigned by EFL

teachers to lexical richness in relation to different aspects of a well-written essay. There answers are presented below.

Q9: When evaluating essays, how much weight do you put on content and language?

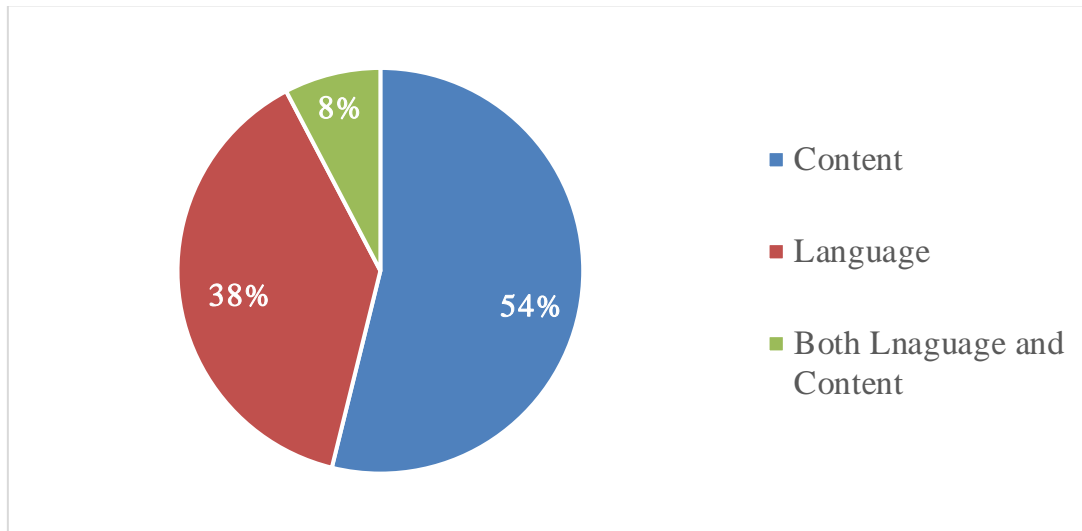


Figure 11. Aspect Prioritized when Evaluating Essays

This question aims at identifying the importance teachers assign to language in general in comparison to content when evaluating essays. Figure 11 shows that 7 respondents representing 53.83% reported allocating more than 50% of their attention to content when assessing students' essays. In contrast, only one respondent indicated that they put more emphasis on language when evaluating the overall quality of essays. These results suggest that most EFL teachers prioritize ideas conveyed in their students' texts over the linguistic aspects they employ.

Q10: Within language, please rate the importance of the following elements in your students' essays.

Table 17

Teachers' Perceptions of the Importance Assigned to Different Aspects of Language when Evaluating Essays

Item	Not important	Somewhat important	Moderately important	Important	Very important	Total	\bar{x}
• Grammar	0	0	4 30.77%	5 38.46%	4 30.77%	13 100%	4
• Style	0	2 15.38%	3 23.08%	4 30.77%	4 30.77%	13 100%	4.07
• Vocabulary	2 15.38%	2 15.38%	6 46.16%	2 15.38%	1 7.70%	13 100%	2.84
• Punctuation	0	3 23.08%	3 23.08%	5 38.46%	2 15.38%	13 100%	3.46
• Spelling	0	1 7.70%	3 23.08%	4 30.77%	5 38.46%	13 100%	3.61

The aim of this question was to determine the degree of importance the teachers assign to different elements of language when correcting essays. The average of teachers' answers as displayed in Table 17 reveals that the majority of them consider Grammar ($\bar{x}=4$) and Style ($\bar{x}=4.07$) as important aspects in good writing. Additionally, they believe that spelling ($\bar{x}=3.61$) and punctuation ($\bar{x}=3.46$) have a moderate importance in good writing ($\bar{x}=3$) while vocabulary with a mean of 2.84 as the least important. This suggests that among the linguistic elements, vocabulary is considered less important compared to other aspects of language such as grammar.

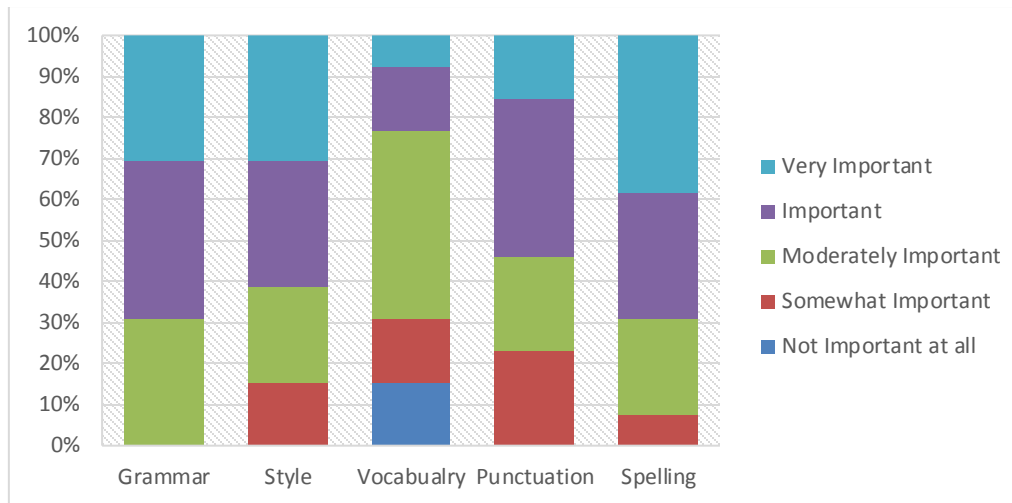


Figure 12. Teachers' Perceptions of the Importance Assigned to Different Aspects of Language when Evaluating Essays

Figure 12 further illustrates despite of the fact that all the elements were considered important, grammar and style were regarded as the most significant indicators of a good essay while vocabulary is considered as the least important.

Q11: Please rate your degree of agreement with each of the following statements.

Table 18

Teachers' perceptions of the Place of Grammar and Vocabulary in their Judgment of the Overall Quality of Essays

Statement	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	Total	\bar{x}
• A student can have a good essay with poor grammar	7 53.85%	5 38.46%	0	1 7.69%	0	13 100%	1.61
• A student can have a good essay with a poor vocabulary	5 38.46%	5 38.46%	3 23.08%	0	0	13 100%	1.84
• A student can have an advanced vocabulary but a weak essay	1 (7.69%)	1 (7.69%)	2 (15.38%)	8 (61.55%)	1 (7.69%)	13 100%	3.53

This question was addressed to further determine the place of vocabulary in essay grading according to the teachers. Table 18 indicates that the overwhelming majority (92.31%) of the respondents, disagreed with the statement that students can have a good essay with poor grammar ($\bar{x}=1.61$). Furthermore, 10 participants, representing 76.92%) disagreed with the statement stating that students can have a good essay with poor vocabulary ($\bar{x}=1.84$). Moreover, 9 teachers (69.23%) agreed that even though some students use an advanced and impressive vocabulary, they can still have a poorly written composition ($\bar{x}=3.53$). These responses highlight that advanced vocabulary alone cannot serve as a predictor of essay quality, emphasizing the need for a strong mastery of both vocabulary and grammar in written tasks.

Q12: Please answer how the following aspects of vocabulary are important to you.

The aim behind asking this question was to identify which aspects of lexical richness are more stressed by the teachers when grading essays. Table 19 below shows the mean values of the listed aspects ranged from at least ‘moderately important’ to ‘important’. For instance, using correct spelling, avoiding redundancy, using domain-specific terms, and minimizing the use of grammatical words were highlighted as important elements in the assessment of written compositions by the majority of respondents ($\bar{x}=4$). Moreover, using advanced and varied vocabulary was considered to be of moderate importance ($\bar{x}=2.84$). Nonetheless, a detailed analysis of the importance of lexical sophistication data (items 3 and 5) reveals that 15.38% of the participants considered the use of advanced vocabulary instead of basic terms (off-list words) as ‘not important at all’, while 38.46% considered using domain-specific words (Academic Word List) as ‘very important’. Overall, the results presented in Table 19 highlight the relatively similar importance assigned of lexical features in the assessment of students' essays by EFL teachers.

Table 19*Teachers' Perceptions of the Importance of different Lexical Features*

Item	Not important	Somewhat important	Moderately important	Important	Very important	Total	\bar{x}
• Spelling all the lexical items correctly	0	0	4 30.77%	5 38.46%	4 30.77%	13 100%	4
• Not using redundant words which convey the same meaning	0	2 15.38%	3 23.08%	4 30.77%	4 30.77%	13 100%	3.76
• Using advanced/low-frequency and impressive words instead of basic terms	2 15.38%	2 15.38%	6 46.16%	2 15.38%	1 7.69%	13 100%	2.84
• Using various synonyms and antonyms	0	3 23.08%	3 23.08%	5 38.46%	2 15.38%	13 100%	3.46
• Using domain-specific words to convey the intended meaning instead of descriptive vocabulary	0	1 7.69%	3 23.08%	4 30.77%	5 38.46%	13 100%	3.61
• Using fewer grammatical words.	0	2 15.38%	3 23.08%	5 38.46%	3 23.08%	13 100%	3.84

Section Four of the Questionnaire: Further Suggestions

Q13: Please add any other suggestion or comment as far as considering/not considering vocabulary when grading students' essays is concerned.

This question was included to allow teachers to provide any relevant information about the procedures for writing assessments. A total of five participants shared valuable comments based on their experience in evaluating their students' essays. Three of the respondents emphasized that vocabulary is indeed an important factor in determining learners' ability to express their ideas effectively. For instance, one teacher commented, "*Vocabulary terms are the*

building blocks of every piece of writing and should be prioritized.” In contrast, another respondent stated, *“It is better to use basic vocabulary with correct grammar than advanced vocabulary with poor grammar”* and further added that *“what matters is the mastery of domain-specific vocabulary, along with correct spelling and grammar, as well as the skillful use of transitional words”*. Similarly, another teacher highlighted the significance of various elements such as spelling, word choice, redundancy, connotation, clarity, and others in their evaluation process. These comments emphasize the importance of using clear and comprehensive language that demonstrates mastery of different aspects of good writing, including grammar, spelling, word choice, coherence and cohesion.

Section Three: Discussion of the Findings

Introduction

This section aims to provide a comprehensive interpretation and synthesis of the findings obtained from both the correlation test and the teachers’ questionnaire. The discussion of these findings will help in addressing the questions and objectives of this study. Additionally, it will delve into the implications and significance of these findings for future research.

2.3.1 The Relationship between Lexical Richness and Essay Scores: A Correlation Analysis

The first question of this study investigated the relationship between lexical richness and teachers’ judgment of the overall quality of students’ essays. This investigation yielded interesting results, particularly regarding lexical sophistication.

The analysis of lexical diversity, quantified using the MATTR index, revealed a weak positive correlation with essay scores. This suggests that students who employed a wide range of words, such as using synonyms and antonyms, in their timed essays achieved higher grades than those who repetitively used the same words. Our findings are consistent with a few prior

studies that highlight the influence of a varied vocabulary in avoiding redundancy and its impact on EFL teachers' judgment of the overall quality of students' essays (Daller & Phelan, 2007; Mellor, 2011; Tömen, 2016). However, it is important to note that this correlation was not statistically significant, which contradicts the majority of studies exploring the same relationship (e.g., Auensen, 2018; Crossley, Salsbury, McNamara, & Jarvis, 2011; Engber, 1995; Sun-Hee Kwon, 2009). This contradiction in the findings could be attributed to the MATTR values observed in the analyzed essays. Put simply, the data showed a relatively low dispersion, indicating that the levels of lexical diversity were consistently similar across all the essays. This leads to two possible interpretations: first, the sample size may not have been sufficient to accurately represent the target population for this study; second, it is possible that the majority of the students possessed a consistently similar vocabulary level.

Lexical density was found to have a non-significant, very low positive correlation with essay scores. The high p-value associated with this correlation suggests that the observed results, as indicated by the trend-line in Figure 7, may be attributed to chance, resulting in a false positive correlation. Therefore, the present study corroborates earlier findings that support the idea that the use of more content words, including nouns, verbs, adjectives, and adverbs in writing, does not significantly influence teachers' judgment of the overall quality of essays (Auensen, 2018; Kwon, 2009). Furthermore, this study suggests that lexical density is not a reliable predictor of essays' scores or writing proficiency.

Lexical sophistication was measured in this study by calculating students' use of advanced and impressive vocabulary beyond the 2000 most frequently used words. The analysis of data revealed that lexical sophistication exhibited the strongest correlation with teachers' judgment among all three aspects of lexical richness in this study. In other words, the Pearson Coefficient test indicated a moderately significant correlation, suggesting that the LFP of

students influenced teachers' ratings of their written compositions. These findings are consistent with the established knowledge that using multiple advanced and domain-specific terms to convey intended meanings is related to higher proficiency in L2 writing (Auensen, 2018; Daller & Phelan, 2007; Laufer & Nation, 1995). In particular, Table 5 reveals that essays categorized as A-level exhibited a higher number of Beyond-2000 most common words compared to those grouped as C-level. For instance, in essays 4 and 10, belonging to the A-level category, a high number of AWL words such as *constantly*, *intense*, *overlaps*, *perspective*, and *promotes* were identified. Additionally, these essays contained words that did not belong to any frequency list, including *parenting*, *addictive*, *vast*, *fantasy*, *impression*, and *illusion*. According to the findings of this study, there is a significant positive relationship between using such words in timed essays and obtaining high holistic scores.

Regardless of the moderate relationship observed between essay scores and lexical sophistication, the non-significant correlations with lexical diversity and lexical density do not provide enough evidence to reject the null hypothesis and adopt the alternative hypothesis. This indicates that there is no significant relationship between lexical richness and the ratings given by EFL teachers at Mohamed Seddik Ben Yahia University to English majors' essays. Consequently, essays with a high degree of lexical richness and those with a low degree of lexical richness are given similar ratings by the teachers.

2.3.2 The Place of Lexical Richness in the Teachers' Assessment of Essays: the Questionnaire Findings

The current section explores the key patterns identified in the findings of the questionnaire administered to EFL teachers. This will provide an opportunity to delve into the subjective perspectives and experiences of the teachers to address the second research question, which focuses on the importance of lexical richness in teachers' assessment of students' essays.

Based on the analysis of the responses of the questionnaire participants, it can be deduced that while language is recognized as an important element of good writing, it is not the sole indicating factor for the overall quality of students' essays. Teachers' responses revealed that content is considered the primary reference for their holistic judgments of essay quality. However, there are certain linguistic components that EFL teachers attribute a varying degree of importance. For instance, the questionnaire findings highlighted the significant role of grammar, style, spelling and vocabulary in enhancing the quality of writing.

Regarding lexical richness, a significant number of the participating teachers agreed that lexical diversity and lexical density are important features of students' vocabulary. These findings suggest that incorporating a diverse and dense vocabulary in timed essays positively influences the holistic scores assigned by EFL teachers. While having an advanced and impressive vocabulary was considered somewhat important by most respondents, it was not deemed essential. For instance, one comment in response to Q13 stated that "*low-frequency words are good in essays, but they are not a necessity*". In contrast, word choice and redundancy were highlighted as areas that receive greater attention during the assessment of students' writing, according to another respondent of the same question.

The results regarding the significance of lexical sophistication, as reported by the teachers, were unexpectedly surprising. The majority of them agreed that their students can display an advanced vocabulary but still obtain low ratings for their essays. The findings suggest that this feature is given less emphasis, possibly due to the belief among EFL teachers that a large number of their students have poor vocabulary and are not expected to employ a high number of less frequently used words. Additionally, it might be because they consider lexical sophistication as the most challenging vocabulary feature for their students.

2.3.3 The Place of Lexical Richness in Teachers' Assessment of Students Essays: Teachers' Practice and Perceptions

Based on the analysis of the findings from both the correlation test and the teachers' questionnaire, this study reveals a contradiction between theory and practice regarding the role of lexical richness in the assessment of writing.

The teachers expressed the significant role of lexical diversity and lexical density in their essay grading process, considering them to be more crucial than lexical sophistication. However, the correlation test conducted between these two features in the analyzed essays and the scores assigned by the four raters did not yield a significant correlation, particularly with regard to lexical density. Additionally, the teachers' perceptions of the importance of lexical density did not align with any of the existing literature. These contradictions raise interesting questions for further investigation, such as the potential benefits of involving a larger sample of EFL teachers to evaluate students' essays, thereby enhancing the validity of the correlation results.

Regarding the role of lexical sophistication in predicting the overall quality of essays, consistent findings were reported from both research instruments. A majority of the surveyed teachers expressed the belief that the use of domain-specific terminology to convey meanings enhances students' writing. These beliefs were supported by the results of the correlational analysis, which revealed a moderately significant correlation between lexical sophistication and the holistic scores assigned by teachers, as well as by the findings of previous researchers (e.g., Auensen, 2018; Daller & Phelan, 2007; Laufer & Nation, 1995). This indicates that the theoretical understanding of the importance of this vocabulary feature is reflected in teachers' practical approach when evaluating students' timed compositions.

2.3.4 Pedagogical Implications

Based on the discussion of both the findings of the correlation test and the teachers' questionnaire, several pedagogical implications are suggested:

- By exploring teachers' perceptions of the importance of lexical richness, training programs can be designed to enhance their awareness and understanding of how vocabulary use impacts essay evaluation. This can contribute to more consistent and valid assessment practices.
- This study highlights the importance of incorporating advanced and diverse vocabulary in EFL writing. Therefore, students should also be encouraged to expand their linguistic repertoire and learn more academic terms through explicit instruction and practice opportunities.
- Teachers of written expression should also emphasize the aspects of good writing that they consider to be of great importance to help students enhance the quality of their essays.

2.3.5 Limitations of the Study

During the course of this investigation, we encountered certain limitations, particularly in the practical part of our study. One of the main limitations was the restricted sample size at our disposal. We were only able to analyze a total of 15 essays, which might not adequately represent the entire population under study. However, it was the maximum that we could analyze because it was not possible to ask university teachers to evaluate more than that. Additionally, a considerable amount of time and effort was required to manually input the essays into a Word document. Furthermore, our options for obtaining the writing expression exam papers were limited as they are usually discarded after exams. Therefore, the essays we managed to obtain constituted the sole available source for our data collection.

2.3.6 Suggestions for Future Research

Based on the challenges and limitations faced by the researchers of this study, the following directions for future research are provided:

- Future investigators examining the relationship between lexical richness and essay ratings in Algerian contexts should consider increasing the size of their sample to enhance the generalizability of the findings.
- Another recommendation for future research is to analyze a variety of essay types, as this is expected to yield different results.
- Further recommendations include comparing the assessments of trained teachers with those who have not received specialized training in order to evaluate the impact of training on essay ratings.

Conclusion

This chapter focused on the data collection and analysis procedures of the dissertation. It provided an overview of the research methodology, highlighting the two approaches used: the correlational study and the teachers' questionnaire. It also presented information about the population and sample of the study. The chapter also delved into a comprehensive analysis of the results and discussed the main findings and their connection to the existing literature. Finally, the major limitations of the study along with some valuable recommendations and suggestions for future research on the relationship between lexical richness and the overall quality of essays were stated.

General Conclusion

Due to the pivotal role of vocabulary in mastering writing, numerous studies have explored the relationship between various aspects of lexis and writing development and assessment. In line with this, the present research specifically aimed at investigating the place of lexical richness in the overall judgment of teachers of their students' essays. Additionally, it sought to identify the similarities and differences between the theoretical and practical considerations of lexical richness when assessing students' timed essays. To achieve these aims, two research questions were investigated: (1) Is there a relationship between lexical richness and teachers' assessment of EFL majors' essays and (2) What are teachers' perceptions of the importance they assign to lexical richness in their evaluation of writing ?

To answer the first research question, a correlation test was conducted to examine the relationship between lexical richness and essay writing proficiency. The results of this analysis revealed that there was a significant correlation between lexical sophistication and essay ratings. However, no significant correlations were found between lexical diversity and lexical density with essay ratings. These findings are consistent with a substantial body of previous research, although they do deviate from some other studies.

To address the second research question, a questionnaire was distributed to a considerable number of teachers in the Department of English to explore their subjective perspectives on the significance of lexical richness in evaluating written texts. Accordingly, several interesting findings were reported, particularly regarding lexical sophistication, which exhibited a moderate relationship with essays scores, aligning with both theoretical expectations and practical observations. Furthermore, the perceptions of EFL teachers indicated that lexical diversity and lexical density played a significant role in determining the overall quality of a text.

Comparing the findings obtained from both research tools has revealed a relatively high divergence from the findings of previous studies. This highlights the need for further investigations employing different research methodologies to thoroughly examine the role of lexical richness in teachers' assessment of students' compositions. Finally, the findings related to lexical sophistication emphasized the need for formal instruction aimed at improving students' vocabulary profile, as it was found to have a significant influence on their writing grades. By enhancing their vocabulary skills, students can increase their chances of achieving higher scores in writing tasks.

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Appendix I: Teachers' Questionnaire

This research instrument is part of a master's dissertation. It aims to gather spontaneous data from EFL teachers at the English Department at Mohamed Seddik Ben Yahia University. All the required information in this questionnaire is needed to investigate the place of lexical richness in teachers' assessment of English majors' essays.

Section 1 : General Information

1. What is your highest educational degree?

.....

2. How long have you been teaching English at the university?

..... years

3. How often do you mark students' paragraphs/essays per semester?

Once (only in exams)

Twice to three times

Three times or over

4. Have you ever had any training regarding the correction of paragraphs/essays?

Yes

No

5. Do you think that you have had enough training/experience in marking essays?

Yes

No

6. From your experience in rating your students' essays, how would you rate their vocabulary?
(Please fill in the gaps with **All**, **Many**, **A few**, or **None**.)

..... of my students have rich vocabulary.

..... of my students have acceptable vocabulary.

..... of my students have poor vocabulary.

..... of my students have very poor vocabulary.

Section 2: Teachers' Perceptions of the Importance of Lexical Richness

7. How would you rate these vocabulary features?

	Not important at all	Somewhat important	Moderately important	Important	Very important
Lexical diversity (the use of unique and varied lexical items)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lexical density (the use of a high proportion of content words in comparison to function words)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lexical sophistication (the use of advanced/low-frequency words)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. From the features listed above, which is the vocabulary aspect that you think is more challenging for your students?

.....

Section 3: The place of Lexical Richness in Teachers' Assessment of EFL majors' Essays

9. When evaluating essays, how much weight do you put on content and language? (Please give a rough estimate as a percentage)

Content%

Language%

10. Within language, please rate the importance of the following elements in your students' essays.

	Not important at all	Somewhat important	Moderately important	Important	Very important
Grammar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Style	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vocabulary	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Punctuation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spelling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11. Please rate your degree of agreement with each of the following statements.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
A student can have a good essay with poor grammar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A student can have a good essay with poor vocabulary	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A student can have an advanced vocabulary but weak essay	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. Please answer how the following aspects of vocabulary are important to you.

When grading students' essays, I consider..

	Not important at all	Somewhat important	Moderately important	Important	Very important
Spelling all lexical items correctly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not using redundant words which convey the same meaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using advanced/low - frequency and impressive words instead of basic terms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using various synonyms and antonyms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using domain- specific words to convey the intended meaning instead of descriptive vocabulary (e.g., <i>irrelevant</i> instead of ' <i>not related to the topic</i>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using less grammatical words (Students who use a high proportion of function words are likely to obtain lower scores)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section 4: Further Suggestions

13. Please add any other suggestion or comment as far as considering/not considering vocabulary when grading students' essays is concerned.

.....

.....

.....

.....

Thank you for taking the time.

Appendix II: Sample Essays

Essay 1:

The excessive use of social media

Human beings by nature are social creatures. They were born to live together and build relationships. As social media came to existence, the way that people used to socialize changed through time. Some people started to see social media as the main tool to build relationships with others. However, they believed that spending too much time on it can in fact ruin the already existing relationships. People should not use social media excessively; it can ruin their personal relationships by making the users detached from the real life, and become socially anxious and introverted.

On one hand, the excessive use of social media isolates and detaches the users from the real world. They start to see the Internet world as the main world while the real one is only a plus. Many users can find the life in social media so perfect for the opportunities it can provide for them. They can pretend to be whoever they want in that fake world to the point that they start avoiding to face the truth which is the real world. Many researchers came to conclusion that the excessive use of social media isolates the users from the world, and due to that, their relationships get ruined especially the ones with family.

On the other hand, spending too much time on social media can change the user's personality. People interact with many other users and have access to different contents. This can change the way they think. They can become introverted for many reasons such as comparing themselves to people who are better than them on social media, due to cyber bullying, and due to the isolation and detachment from the real world. Users then, can become socially anxious and introverted which lead them to ruin their personal and family relationships. Statistics show that a great amount of social media users from generation Z are socially anxious, and this can be related to the excessive use of social media.

Opponents of this idea claim that social media is in fact a great tool to build relationships for it can make connecting with different people easier, and make the world a smaller place. They claim that social media can be a good way to make people more informed about their family and friend's lives. To a certain extent they may be right. However, social relationships are not only about chatting and seeing others' lives. People need face to face interactions in real life in order to keep their relationships good. Also, family relationships need to be more than just social media because they are so important without forgetting that too much usage of something is always unhealthy, and so is social media. People need to balance between real life interactions and social media usage in order to keep good relationships with others.

To sum up everything that has been stated so far, the excessive use of social media can lead to losing real life relationships and swallow the users into that fake world. No matter how people try to normalize using only social media to socialize, real life interactions stay always the realest and the healthiest.

Essay 2

Social media take a prominent place in our daily life, everyone is connected 24\24, 7\7; people become separated of the real life and social life and spend all of free time in virtual world. Some sociologies think that this practice make them lonely and more stressed and that has a disadvantage in the society, this point of view is not totally correct.

For sociology and psychology, social media has a fast impact in the social life and separate people from the real life, by time the people became more connected in the virtual and avoid the real.

They think that the man became more and more addicted and uncontrollable and has less contact with other people and this approach is correct at certain degree; however, the social media take more places in different domains, social media become an important factor in communication, business, education, and also lobbying.

Social media facilitate communication for people around the world, it can separate man from social life but can relate different society and different culture, man became more open for the world, and with this manner he became more creative.

Social media had one disadvantage and more advantage, the importance is in the good manipulation and optimum midrise.

Résumé

Le vocabulaire est l'un des éléments que les enseignants mettent en évidence dans leur évaluation de l'écriture des élèves. Plusieurs études ont montré que la richesse lexicale, qui englobe la diversité lexicale, la densité lexicale et la sophistication lexicale, a un impact sur les rédactions des étudiants. La présente étude visait à étudier la relation entre la richesse lexicale et l'évaluation holistique des enseignants de l'EFL des essais des majors d'anglais. Cette relation est explorée à la fois du point de vue théorique et pratique. L'étude a également tenté d'identifier les perceptions des enseignants sur la place de l'évaluation de la richesse lexicale des essais des majors EFL. Pour atteindre ces objectifs, un test de corrélation est mené pour mesurer la force et la direction de la relation entre la richesse lexicale dans 15 essais écrits par des étudiants de troisième année au Département d'anglais, Université de Mohamed Seddik Ben Yahia et les scores holistiques attribués par quatre évaluateurs. En outre, un questionnaire a été administré à 13 enseignants de l'EFL pour recueillir leurs perceptions sur l'importance de la richesse lexicale dans leurs pratiques d'évaluation. L'analyse globale des résultats révèle une relation modérément significative entre la sophistication lexicale et les notes d'essai. Cependant, les conclusions concernant la diversité lexicale et la densité lexicale ont mis en évidence des contradictions entre la théorie et la pratique. Cependant, les résultats concernant la diversité lexicale et la densité lexicale ont mis en évidence des contradictions entre la théorie et la pratique. Les résultats de cette étude n'ont pas fourni suffisamment de preuves pour confirmer l'hypothèse selon laquelle il existe un lien entre la richesse lexicale et les notes données par les enseignants d'EFL à l'Université Mohamed Seddik Ben Yahia aux essais des majors anglais. Néanmoins, ces résultats ont contribué à notre compréhension du rôle de la richesse lexicale dans l'évaluation des essais des étudiants et ont des répercussions sur les pratiques des enseignants d'EFL, ainsi que des recommandations pour des recherches futures.

Mots clés : richesse lexicale, évaluation holistique, diversité lexicale, densité lexicale et sophistication lexicale.

ملخص

يعد الرصيد المعجمي أحد العناصر التي يعتمد عليها الأساتذة لتقييم كفاءة الطلبة في الكتابة. وقد أظهرت عدة دراسات أن الثراء اللغوي الذي يشمل كل من التنوع والكثافة المعجمية و اللغة رفيعة المستوى له تأثير على نوعية مقالات الطلاب. وكان الهدف من هذه الدراسة هو دراسة العلاقة بين الثراء اللغوي والتقييم الكلي لأساتذة التعليم العالي لمقالات طلبة اللغة الإنكليزية. وتُستكشف الدراسة الحالية هذه العلاقة من كلا المنظورين النظري والتطبيقي على حد سواء. لتحقيق هذا الهدف تم إجراء اختبار ارتباط لقياس شدة واتجاه علاقة الثراء اللغوي لخمس عشرة مقالة أنجزها طلبة السنة الثالثة في جامعة محمد الصديق بن يحيى مع التقييم العام لذلك الاختبار من طرف أربعة أساتذة. وبالإضافة إلى ذلك، قُدم استبيان إلى ثلاثة عشر أستاذ من نفس الجامعة من أجل جمع تصوراتهم بشأن أهمية الغنى اللغوي في ممارساتهم التقييمية.

ويكشف التحليل الشامل للنتائج عن وجود علاقة ذات دلالة احصائية معجم راقى و تقييم الأساتذة لمقالات الطلبة، لكن النتائج الخاصة بالتنوع المعجمي و بالكثافة المعجمية أدلت تناقض ملاحظ بين الجوانب النظرية و التطبيقية للدراسة. ساهمت هذه النتائج على توضيح دور الثراء المعجمي في تقييمات الاساتذة لمقالات الطلبة و كذلك ساهمت هذه الأخيرة في عدة استعمالات بيداغوجية لفائدة أساتذة قسم اللغة الانجليزية . اما بالنسبة للبحوث القادمة، فيوصى من خلال هذه الدراسة باستكشاف السبب وراء تناقض النتائج و كذا استكشاف استراتيجيات فعالة لتطوير التنوع المعجمي و الكثافة المعجمية للطلبة.

الكلمات المفتاحية: الغنى المعجمي، التقييم الكلي، التقييم، التنوع المعجمي، الكثافة المعجمية، اللغة رفيعة المستوى.