RELATIONSHIP BETWEEN LEXICAL DIVERSITY AND PROFICIENCY IN ESSAY WRITING AMONG IELTS TEST TAKERS IN PAKISTAN

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ABSTRACT

Lexical diversity is defined as the range and variety of vocabulary deployed in a text by either a speaker or a writer (McCarthy & Jarvis, 2007). According to Ryoo (2018), the method of measurement is counting the number of different words in a text including both content words and function words. In this study, the researcher employed a quantitative research design to investigate and analyze the association between lexical diversity and proficiency in writing argumentative essays of IELTS test takers in the Pakistan context. However, in a bigger part, the researcher used the Lexical Complexity Analyser (LCA) conceived by Lu (2012) for lexical diversity analysis based on different lexical complexity measures of the linguistic feature. For this study, 104 argumentative essays were taken from Pakistani students. The results of the statistical analysis in the current study show that most of the sub-variables of lexical variation exert a weak influence on writing proficiency. The analysis of the data showed a high positive link between a varieties of characteristics that fall under the area of lexical variation, including the number of distinct words (NDW), corrected type-token ratio (CTTR), and root type-token ratio (RTTR).

Keywords: Lexical diversity, vocabulary, IELTS, Lexical complexity analyzer, Pakistan

INTRODUCTION

Writing is an important skill for learners across various fields and educational levels. It plays a crucial role in their cognitive, academic, and professional development. According to Vygotsky (1978), writing increases the cognitive abilities of the learners such as critical thinking, problem-solving, and creativity. A learner could develop a deeper understanding of the subject matter through the process of organizing thoughts and ideas into written form. This process helps them refine their analytical skills and improve their ability to effectively express their complex ideas. Flower and Hayes (1981) explained that writing is a basic mode of communication. Advanced writing skills enable learners to convey their ideas, feelings, and information to a wider audience. Effective written communication is essential in academic settings, workplace environments, and everyday life.

Graham et al. (2001) said in their study that writing is central to academic success. It is the foremost medium through which learners are assessed and evaluated in their studies. Strong writing skills are crucial for academic achievement, including producing research papers, essays, and reports. Sawyer (2012) proved that writing allows learners to explore and express their creativity. It offers a platform for people to showcase their unique perspectives, stories, and artistic endeavours. According to Pinker (2014) in professional settings, effective writing skills are highly valued. Strong writing abilities enable learners to create persuasive proposals, reports, and other business-related documents, leading to career advancement opportunities. Pennebaker (1997) stated that writing can serve as a tool for self-reflection and personal growth. It allows learners to articulate their thoughts,

emotions, and experiences, leading to greater self-awareness and introspection. The act of writing helps reinforce learning and memory retention. When learners write about what they have learned, they are more likely to remember and understand the material deeply (Kiewra, 1985).

In this study, the researcher is investigating the correlation between lexical diversity and writing proficiency among IELTS test takers in Pakistan. Standard IELTS band descriptor rubrics are used for scoring the IELTS essays. Proficiency in writing indicates an individual's ability to attain professional development within their academic field. Writing is an important component of language structure and is often introduced after other skills are covered. The difficulty of writing is further increased for English learners who view it as a foreign language. Multiple factors can influence writing proficiency, especially concerning lexical complexity. Those factors are named below; Vocabulary Knowledge, Language Exposure and Input, Writing Practice and Feedback, Task Complexity, Language Proficiency Level, Genre and Discourse Conventions, and Cultural and Sociolinguistic Factors.

Nation (2001) stated that learners with a wide range of vocabulary can use different varieties of words and expressions, and score more sophisticated and nuanced writing. A strong and diverse vocabulary is important for lexical complexity in writing. A person's exposure to the language can significantly impact their writing proficiency. Learners who have wide and quality exposure to written texts and authentic language input are more likely to develop advanced lexical skills. Learners who continuously practice writing and receive regular feedback from teachers or peers, improve their lexical complexity on a larger scale. Constructive feedback helps them identify areas for improvement and refine their use of vocabulary. Complex writing tasks can influence lexical usage. More complexity in writing tasks may require learners to show higher lexical proficiency to convey their ideas effectively (Robinson, 2001).

Bachman (1990) concluded that Learners' overall language proficiency level can impact their lexical complexity in writing. Higher language proficiency is generally associated with more sophisticated and varied lexical choices. Specific lexical choices are required for different genres and discourse conventions in writing. Understanding these conventions is essential for appropriate and effective lexical usage. Kramsch, C. (1998) in their Language and Culture model, stated that cultural and sociolinguistic factors can influence lexical complexity and appropriate word usage in writing, especially in specific contexts or communities.

Lexical complexity can be defined in two broad theoretical components: systemic complexity, which is the breadth of vocabulary, which means how many words a person knows, and structural complexity, which is the depth of vocabulary, how robust a person's vocabulary is (Bulté & Housen, 2012; Skehan, 2003). Different measurements have been used to study these theoretical sub-constructs. However, most research on the complexity of language relies on three basic measuring techniques: assessing lexical variance, assessing lexical density, and assessing lexical sophistication (Read, 2000). This particular study aimed to examine the effect of lexical variation on writing proficiency. Lexical variation measures the number of distinctive terms a writer uses in their vocabulary) providing information on the system's overall complexity (Laufer & Nation, 1995).

The Lexical Complexity Analyser (LCA), an online tool developed by Professor Xiaofei Lu of Pennsylvania State University, allows language instructors and researchers to evaluate the difficulty of written English language samples. The provided texts must be lemmatized and given part-of-speech (POS) labels for this software to function. Researchers can assess a single text in a single mode for particular lexical complexity measures. Up to 200 files can be analyzed in batch mode at once to determine the lexical difficulty of written English samples. The output will be a CSV file, which can then be loaded into statistical software or spreadsheets for additional analysis.

Written achievement refers to the presentation of ideas in a second or foreign language with precision and accuracy. Writing is a significant aspect of interacting with others. In teaching English, writing is an important skill taught to learners from the start of their language-learning journey. According to Graham, Gillespie, and McKeown (2013), writing serves the dual purpose of learning and expressing thoughts and opinions for various reasons. The teaching and learning of writing in schools focuses on the content, with teachers and students discussing

specific topics and incorporating the points discussed into the students' writing. Novice and advanced learners use different types of vocabulary in their writing. Writing is crucial in creating and training intellectuals as it conveys thoughts, expectations, desires, and plans that require knowledge.

Several corpus-based research was undertaken in the past to determine the linguistic characteristics that distinguish different levels of ability in second language (L2) writing. These studies, including those by (Wolfe-Quintero et al. 1998; Ferris 1994; Frase et al. 1999; Grant & Ginther 2000; Jarvis et al. 2003; Lu 2011; Ortega 2003) used a variety of metrics to assess the writing ability of L2 authors. Becker (2010) examined lexical, clause-level, and grammatical characteristics in essays written by 43 L2 writers at three different skill levels, and his findings corroborated those of Grant and Ginther's (2000) study. Her investigation showed that as proficiency levels rose, several language traits grew more common.

The main goal of this study is to examine the correlation between lexical diversity and writing proficiency in Task 2 writing performance among Pakistani IELTS test takers. Data is taken from different student essays taken during the IELTS test. 104 argumentative essays from IELTS test takers in Pakistan make up the bulk of the study's data. The researcher will use Pearson's test and a sample t-test to analyze the data and determine whether there is a connection between lexical complexity and writing ability.

LITERATURE REVIEW
Theoretical background

Before the 1970s, writing instruction was mainly focused on correcting errors and improving writing mechanics, mainly for English and humanities genres. But since then, writing has become a means of expressing thoughts and mental activity. In the 1980s, writing researchers started developing theoretical frameworks for writing. Early writing research focused on studying writing skills and abilities instead of viewing writing as a tool for knowledge creation and personal growth. However, later research shifted to examining writing in its various situational contexts, beyond just schools. Initially, writing research was based on cognitive processes without considering the influence of society and culture. However, later studies recognized that writing is deeply rooted in social contexts and influenced by communities of practice. Thus, writing research has become more comprehensive, taking into account the entire situation, not just the writer and the text.

The four stages of the development of writing frameworks are the work by Hayes and Flowers on text production, Bereiter and Scardamalias on writing proficiency, Levelts on speech, and Hayes and Kellogg on the connection between working memory and text writing (Alamargot & Chanquoy, 2001). Raimes (1991) made the argument that writing theories and practices can be divided into four categories based on the author, the reader, the content, and the form. The grammatical and rhetorical traditions of the text are referred to as the element of form (Raimes, pp. 238–239). Instead of understanding writing as a relationship between the reader, writer, and content, writing training during the 1960s and 1970s was centred on a form-oriented approach, emphasizing the formal characteristics of writing.

The thoughts, experiences, feelings, and compositional methods of the writer are among the factors (Raimes, 1991, pp. 238–239). The 1970s saw a preference for writing research that was writer-focused, encouraging authors to read, discuss, and analyze texts as well as to produce and revise ideas through writing (Raimes, p. 241). Researchers like Hayes and Flower (1980) adopted this writer-focused viewpoint when they discussed the writing process. The work's topic matter is also mentioned about the element of content (Raimes, 1991). A fresh process approach with a stronger emphasis on the substance than the writing style or the author has emerged (Raimes, 1991). This method emphasized that language courses help other subject areas rather than being valuable on their own (Raimes, 1991).

The expectations of the academic audience are referred to as the final reader aspect (Raimes, 1991). The reader and the content are overemphasized in the reader-centric approach, whereas the author and their expertise are completely ignored. This imbalanced approach can lead to a lack of balance between the different elements of writing (Raimes, 1991). To maintain a balance, authors should understand their audience and their expectations; as well as control their text production to ensure only relevant

information is transmitted (Alamargot & Chanquoy, 2001). Writing should be seen as a fluid, interdependent, and interactive process between the elements of writer, reader, content, and form, rather than as separate entities to be emphasized or reduced (Raimes, 1991, p. 246). The interdependence of these elements means that writers and readers are not mutually exclusive, and form is the result of their interaction with the content and subject.

Argumentative Writing

Argumentation develops when opposing viewpoints are anticipated among individuals regarding a genuine or fictitious subject (Eemeren et al., 2014). The verbal debate between individuals during a speech act is likely to occur because certain persons inherit some self-interested tendencies. In Western thinking, there is a long history of the systemic study of argumentation writing, its goals, and the discursive tactics that are employed to argue. The theoretical or metalinguistic notions that we employ today to explain argumentation have their roots in antiquity (Eemeren et al., 2014).

The earliest documented meta-representational system to outline the fundamentals of ethical argumentation appeared in the fifth century BC. In this situation, the development of textual meta-representational guidelines emphasizing reasonable argumentation led to sapient awareness of the applicability, validity, and evidence-based support for arguments (Olson, 2016). People were able to communicate their thinking by recording, examining, and evaluating it through writing as an object of reflection.

Argumentative essays, a type of writing that takes a stance on an issue, can be challenging for students, including those taking IELTS. One main issue is organizing arguments within the limited word count. The purpose of this essay is to examine past research on argumentative essays written by IELTS test-takers and determine their main aims. By reviewing various articles, we will explore the correlation between lexical complexity and proficiency in writing in IELTS writing. The articles review linguistic components such as lexical complexity, task completion, syntactic complexity, cohesion and coherence, and accuracy. The focus will be on how lexical complexity affects writing proficiency and

what features to consider when measuring lexical complexity in IELTS scripts.

The primary topic that has increased attention in students' argumentative writing is their preparation for the contemporary workplace (Ferretti & Paz, 2011). Blue-collar employment is reducing, and it depends more and more on modern technology and the development of specialist reading and writing abilities (Biancrosa & Snow, 2006; Graham & Perin, 2007). As a result, when reading and writing, students are increasingly expected to create demonstrative assertions employing disciplinary techniques and evaluative standards (Ferretti & Paz, 2011). The emphasis on argumentative writing across a range of areas in the Common Core State Standards is consistent with these expectations.

Writing in an argumentative manner demands a variety of cognitive and linguistic abilities, making it challenging to convey (Nippold & Ward-Lonergan, 2010). According to Hillocks (2011), critical thinking's ethical foundation in argumentation consists of several essential components. These involve developing an argument to support a claim, assembling evidence from many sources to support the assertion logically, and strengthening this link using warrants. This ethical foundation also calls for substantiating these warrants with additional proof. Students must master all of these abilities to demonstrate their ability to read and write persuasively.

Previous studies show that students still struggle occasionally when writing argumentative essays. According to Kakande and Kaur (2014) argumentative essay is one of the complex writing patterns. According to their research findings, pupils sometimes had trouble organizing their thoughts and making connections with other arguments. Additionally, they did less to support their arguments with proof, which made their essay poorly ordered. Inadequate knowledge of grammar, linguistics, and the format of an argumentative essay are among the additional problems that students face.

In a separate study, the organization and structure of ideas are the biggest challenges for Japanese students when writing an argumentative essay. The students also identify additional difficulties, such as employing academic tone, language, and punctuation, writing subject sentences and counterclaims, and creating topic sentences. In

conclusion, the students' most frequent difficulties involved providing research, examples, and evidence to back up the writer's assertion in the essay.

According to current ideas on argumentative writing, a set of propositions must be presented to achieve the communicative goals of individuals participating in discourse (Eemeren, 2018), taking into account that discourse is by nature social and conversational (Ferretti & Fan, 2016). Theoretical considerations underlie differences of opinion regarding the subject matter of research on argumentative writing, the techniques used to evaluate written arguments, and the potential educational techniques for improving written argumentation. To help place the contributions inside this special issue, we provide some context on these issues in the following sections.

Proposed factors affecting ESL writing

According to Berk and Ünal (2017), Writing involves employing particular symbols in line with predetermined rules to describe emotions, ideas, wishes, and events. According to Sever (2004), writing is a way to express one's feelings, thoughts, objectives, and experiences through written words. Writing helps with the development of many talents because it is strongly tied to mental functions. Students' viewpoints are widened, their knowledge is organized, their language skills are improved, their knowledge base is expanded, and their mental vocabulary is developed through writing. Additionally, writing down one's thoughts makes it easier to review them.

Writing is a difficult chore for those who are learning a foreign language, especially in higher education, where this ability is crucial for raising academic achievement. University students need to have a solid command of English writing to perform better and achieve academic success. Additionally, as most students only write during exams, this might make writing difficult and stressful (Shang, 2013). Students' anxiety over writing may grow as a result of the connection between tests and writing.

Writing Anxiety

For many language learners, anxiety is a significant barrier to learning a second language (Luo, 2018). Although its consequences can vary from person to person, this anxiety has a major negative impact on a language learner's performance in the target language, particularly when studying English. The path of learning a foreign language is heavily influenced by emotional and psychological elements. For many ESL students, writing in a second language can be challenging since it requires a combination of emotional and cognitive processes (Cheng, 2002; Lee, 2005).

Researchers have been examining the effects of anxiety on learning a second or foreign language since the 1970s (Liu, 2006) in part because students frequently worry about their writing abilities for effective communication. According to research by Horwitz et al. (1991) learning a foreign language is associated with a particular type of anxiety. According to Horwitz et al (p. 127) anxiety is a complex interaction of self-perceptions, sensations, and behaviours related to the classroom language learning experience.

Additionally, they asserted that anxiousness is commonly brought on by language classes. Numerous studies have shown that during the learning process, students who use abilities like speaking and writing frequently experience high levels of anxiety (Hilleson, 1996; Jun Zhang, 2001). Numerous studies have looked into the topic of anxiety related to writing, which is a vital ability. Cheng et al. (1999) explained that second language writing anxiety is a particular kind of anxiety that is specific to linguistic abilities.

Due to its distinctive inherent nature, writing anxiety has been the subject of numerous research (Cheng, 2002; Erkan & Saban, 2011; Atay & Kurt, 2006). Foreign language writing anxiety, according to Hassan (2001) involves avoiding writing and its assessment. On the other hand, L2 writing anxiety is a characteristic of anxiety that is rather persistent and associated with L2 writing, which involves a variety of dysfunctional thoughts, heightened physiological arousal, and maladaptive behaviours (Cheng, 2004b). Because it can impair learners' writing skills, writing anxiety in second languages has received more attention in studies (Pajares, F. & Johnson, 1994; Smith, 1984).

Writing anxiety is a common problem for ESL students, and it can have a severe effect on their writing abilities. Since writing is frequently seen as the hardest ability for ESL students to learn, it's critical to manage anxiety to encourage them to

write. According to Rahim et al. (2016), anxiety can improve writing skills in students with low proficiency. Studies by Scovel (1978) and Hassan (2001) demonstrate a favourable relationship between students' level of writing anxiety and their ability to write in English as a Second Language. Additionally, results from standardized writing examinations regularly show that worried students tend to earn poorer scores (Shang, 2013), and their written work frequently receives below-average ratings.

These results confirm Horwitz et al. (1986) contention that anxiety over receiving a poor grade, test anxiety, and communication anxiety all of which are sources of anxiety in foreign languages may hurt ESL/EFL writing performance. Additionally, if written assignments carry a significant weight in the overall grade for the course, students' level of writing anxiety tends to increase (Schmidt, 2004). Writing anxiety among ESL students can lead to negative effects on their writing performance. When asked to write, these students may experience heightened levels of anxiety, which can be reflected in their written work, behaviours, and attitudes. Additionally, writing anxiety can result in difficulties with generating ideas, producing concise and clear sentences, and using proper grammar and mechanics (Reeves, 1997; Shang, 2013). As a result, ESL writing anxiety can impede the development of ESL students' writing skills.

Using native language in the classroom

There has been discussion over the usage of the first language (L1) in L2 classrooms. One group favours the L2 exclusively (Cook, 2001; Howatt, 1984), while the other encourages the use of the L1 for a variety of reasons, including easing memory restrictions (Harbord, 1992), lowering emotional barriers (Meyer, 2008), enhancing communication (Pennington, 1995), managing tasks (Swain & Lapkin, 2001), and advancing social equality (Adendorff, 1996; Auerbach, 1993). In India, the practice of using L1 to acquire L2 (English) has a long history (Sastri, 1970; Tickoo, 2003).

Up until the advent of Jim Cummins' concept known as "Common Underlying Proficiency" (CUP) in 1986, the idea that the L1 can serve as a supportive framework for the L2 lacked a theoretical foundation. Reading, inferential reasoning, and summarizing skills are among the advanced cognitive abilities known as CUP that are essential for academic success. According to Cummins, these abilities can be acquired in one language and then transferred to another. They can therefore be used to transition from a stronger to a lesser language.

Since they believe that utilizing the native language may impede the acquisition of the second language and result in the improper transfer of vocabulary and structures, ESL teachers have highlighted the necessity of English-based thinking and writing for ESL writers (Friedlander, 1990). However, a substantial body of research has shown that native language tactics and skills regardless of whether they are proficient or not transfer to the second language. As an illustration, Mohan and Lo (1985) cited a study by Das that showed pupils who lacked first-language methods exhibited a similar writing pattern in their second language.

They contend that this restriction is a natural feature of learners, meaning that youngsters could not have the requisite abilities to shift to a second language unless they have learned proficient writing abilities in their mother tongue. Edelsky (1982) offered data in support of the claim that writing abilities can be transmitted across two languages. Her research demonstrates how writers can improve their overall writing competency by using their first language skills and knowledge when writing in their second.

Jones and Tetroe (1987) carried out a comparable analysis of the writing process of ESL writers in both their primary and secondary languages in a different study. They found that ESL writers transfer both their proficient and less proficient writing skills from their first language to their second language, which is consistent with Edelsky's (1982) findings. Additionally, they noted that because poorer writers are unable to employ these tactics in their original language, they are unable to do so in their second language. Contrarily, writing in a second language cannot use tactics that were not learned in the first language. Silva (1986), on the other hand, asserted that people have successful writing techniques that they can adapt to writing conditions in their second language. High-level objectives and methods for problem-solving were present in both their native and second-language writing processes.

There are many benefits to using the first language (L1) to support L2 writing, which has been

thoroughly studied. One of these advantages is the improvement of L2 writing abilities through the use of L1 academic and writing capabilities. Despite evidence supporting the Cumminsian transfer hypothesis that L1 writing proficiency can potentially be a substantial predictor of success in L2 writing, L2 proficiency is frequently acknowledged as the main element influencing the acquisition of L2 academic skills. Studies by Woodall (2002) and Lanauze and Snow (1989), among others, are significant in this regard. Similar findings were made by Friedlander (1990), who found that adult students' L2 writing quality improved when L1 was used to design ESL writing. Mukhopadhyay (2015) further explored Cummins' theory and discovered that L1 was a key element in raising ESL writers' abilities.

Self-Efficacy in ESL Writing

Self-efficacy is an important aspect of language learning. According to Bandura's social cognition theory, a person's level of involvement and success with a given task is substantially influenced by their belief in their ability to do that work (Klassen, 2002). Self-efficacy theory states that people who lack confidence in their talents often avoid tasks that call for those abilities, whereas people who believe in their abilities are more likely to take on challenges head-on. When self-efficacy is low, people frequently act ineffectively, even when they are aware of what has to be done (Bandura, 1986, p. 425). Regarding writing-related self-efficacy beliefs, Pajares (2003) asserted that pupils who believe in their writing prowess are less anxious when completing writing assignments. These motivating ideas encourage increased writing zeal, perseverance, and improved resilience when facing difficulties.

Self-efficacy has received a lot of attention from researchers over the past 20 years as a key predictor of student learning and motivation (Zimmerman, 2000). One of these researchers, Bandura (1997) claimed that academic self-beliefs have a significant impact on academic achievement. As a result, students who are confident in their writing abilities are more likely to enhance them (McCarthy et al., 1985).

According to Qashoa (2014) improving self-confidence among ESL students in general and writing lessons in particular can help them feel less anxious when speaking English. Additionally, research has demonstrated that writing anxiety has a smaller effect on writing performance than writing self-efficacy (Pajares, 2003; Pajares & Johnson, 1998). According to research (Martinez et al., 2011), raising students' writing self-efficacy can lower their anxiety about writing and improve their writing performance. Latif (2015) discovered in a recent study that there is a visible correlation between ESL writing anxiety, poor writing abilities, and poor language self-efficacy. However, Wu et al. (2013) study failed to discover a connection between people's self-efficacy views and their proficiency in ESL.

Lexical Variation

Lexical variation, which measures the variety of unique terms a writer uses in their vocabulary (Laufer & Nation, 1995) provides information about the complexity of a certain language system. The correlation between lexical variation and competence has generally been found to be positive, both in spoken and written language, despite ongoing discussions about how to exactly define it (Jarvis, 2002; Yu, 2010). McCarthy and Jarvis emphasized the urgent need to investigate lexical diversity in a 2007 study that compared 13 different lexical diversity indicators. They did, however, observe that the development of a fully reliable and valid measure of lexical diversity has remained challenging despite its frequent examination.

Due to variations in text length, lexical variation assessment presents intrinsic problems. The type-token ratio (TTR) is the most well-known statistic, but many other metrics have been suggested and tried as well. 'D' is one measurement that is widely employed (Malvern et al., 2004). In texts produced by both adults and children, L2 speakers and native speakers, and in academic and non-academic settings, "D" has proven its capacity to capture developmental patterns in lexical variance across a variety of contexts and language types (Durán et al., 2004). 'D' has reportedly outperformed several other measures of lexical diversity, despite concerns regarding its application to texts of different lengths (McCarthy & Jarvis, 2007).

The way second language (L2) writers use lexical characters is important for people who study how to teach language and those who teach it. Knowing how

complex someone's vocabulary is can help us understand how good they are at the language, and it affects the tests they take and the things they learn in class. When we see how people's lexicon changes as they get better, it helps us see what makes each level different. This means that if we understand the differences between lexicons used by people at different levels, we can make better choices about how to teach vocabulary to help students improve.

Measuring Lexical Variation

Lexical variation describes the variety of a learner's vocabulary in their language use. According to Klee (1992) and Miller (1991), counting the number of unique words (NDW) in a language sample is a common method of measuring lexical variety. However, standardization is necessary to compare samples of different lengths because NDW depends on sample length. According to one typical technique (Thordardottir & Ellis Weismer, 2001), all samples are truncated to the length of the shortest one. Malvern et al. looked for alternative standardizing methods in 2004.

In all approaches, the sample is subdivided into equal-sized random subsamples, and the expected value is calculated by averaging NDW over these subsamples. One method entails randomly choosing a predefined number of words from each subsample from the sample. In the second, every subsample begins at random and is made up of a pre-set amount of words that are consecutive from the sample. They presented evidence that differing standardization approaches could affect the final results when comparing NDW across various samples and urged against truncation due to data loss.

In both first-language (L1) and second-language (L2) acquisition research, the popular Type-token ratio (TTR), which computes the ratio of word types (T) to all words (N) in a text is used (Templin, 1957). However, due to the ratio's propensity to decline with larger sample sizes, critics have focused on the ratio's sensitivity to sample size (Arnaud, 1992; Hess et al., 1986; Richards, 1987). The Mean Segmental TTR (MSTTR) technique seeks to solve this issue (Johnson, 1944). MSTTR entails computing the average TTR over all segments after segmenting the sample into subsequent ones of a predetermined length. While Malvern et al. (2004) stated that MSTTR partially overcomes the sample size issue, it

nevertheless has significant limitations. For instance, not all samples neatly separate into segments of the same size, which can sometimes result in data loss. Uber Index (Dugast, 1979), Root TTR (Guiraud, 1960), Bilogarithmic TTR (Herdan, 1964), and Corrected TTR (Carroll, 1964) are more TTR transformations. Vermeer (2000) used spontaneous speech data from L1 and L2 learners of Dutch to evaluate TTR and these four adjustments. He discovered that these metrics' validity and reliability in his data were weak and recommended that lexical sophistication measures be looked into instead. However, Daller et al. (2003) investigated TTR and RTTR as well as the LFP notion put out by Laufer and Nation (1995) as measures of lexical diversity in college-level Turkish-German bilinguals' spontaneous oral productions. Their research revealed a significant correlation between participant language competency and advanced lexical item-based lexical variance.

In contrast to TTR and its core transformations, the D measure, developed by Malvern et al. (2004) and McKee et al. (2000) is a reliable predictor of lexical diversity, independent of sample size. The ideal curve that closely resembles the sample's TTR curve when plotted against tokens (N) can be found to calculate a language sample's lexical variation; the value of this best-fit curve is represented by the parameter D.

Through a variety of domain text analyses, Malvern et al. (2004) showed that D has a methodological edge over other lexical variation measures. Using MELAB data, Yu (2010) showed strong, positive connections between the D measure and the level of test-takers performance on the speaking and writing tasks as well as their general competence. When analyzing written narratives in English as a second language about the relationship between the D measure and holistic assessments, Jarvis (2002) produced contradictory results. Despite being consistently significant, the connection between the D measure and holistic scores was lowest among the groups with the highest D averages.

Researchers have used TTR and its associated transformations, such as lexical word variation, to measure vocabulary variation, particularly within particular word categories. Its connection to language competence has been the subject of numerous studies. While holistic judgments of ESL

compositions were found to significantly correlate with intermediate and advanced learners' scores Engber (1995) found no such association for advanced learners.

The ratio of verb types to the total number of verbs in a text developed by Harley and King (1989) revealed significant disparities between L2 and native French authors in timed writing assignments. Similarly, Chaudron and Parker's (1990) squared variation of this measure or Carroll's (1964) CTTR modification was suggested by Wolfe-Quintero et al. (1998) as a means of reducing the impact of sample size.

McClure (1991) looked at five ratios, each with a different numerator: verb kinds, noun types, adjective types, adverb types, and modifier types. The unifying denominator throughout all of these ratios was lexical terms. She compared bilingual Spanish-English learners in fourth and ninth grades with English-only learners. According to McClure's research, the adjective, noun, adverb, and modifier variation measures all showed significant differences. The measure of verb variety, however, did not show any differences.

The discussion that came before it highlights the existence of various conceptualizations of lexical variety. Although some assessments have more severe detractors than others, academics have not agreed on a single, best measure. Results often show a mix of outcomes for many of the indicators examined across numerous research. The variety in research strategies and measure definitions makes it difficult to compare outcomes.

METHODOLOGY
Sample

For the aim of this study, 104 argumentative essays were taken from Pakistani students. The total data for this study was comprised of a total of 104 argumentative essays from the IELTS test takers in Pakistan. Those students were taking the IELTS test to pursue a study visa or a scholarship, especially in English-speaking countries across the globe. The participants ranged in age from 25 to 35 years old. The participants who have taken the IELTS exam are generally Urdu speakers. English was considered as a Second Language for all of the participants.

Procedure

The total data for this study was comprised of a total of 104 argumentative essays from the IELTS test takers in Pakistan. Initially, the data was in PDF form and was then converted into a text (txt) file format to make it machine-readable. The following steps were included in this process. Part-of-speech (POS) tagging was first performed on a cleaned text file using the Stanford tagger. Each token in the linguistic sample is given a part-of-speech category during the tagging process, such as an adjective or an adverb. The POS-tagged sample was then put through lemmatization using the AntConc program. However, the researcher primarily employed a Lexical Complexity Analyser (LCA) for analyzing lexical complexity. This tool was created by Lu (2012) and is based on various lexical complexity measurements of linguistic characteristics.

The Lexical Complexity Analyser was created to automate the analysis of lexical complexity in English language samples using 25 different measures related to lexical density, sophistication, and variety, as suggested in research on both first and second language acquisition. Using a clean English text as input, the L2 lexical complexity analyzer (Lu, 2012) produces a numeric number for each of the 25 lexical complexity indices. Pearson's product-moment test was used for statistical analysis to address the study's questions. Several lexical variation indices were measured in this study using an automated lexical complexity analyzer created by Lu. In Lu's (2012) publication on the Lexical Complexity Analyser, a detailed description of each indicator can be found.

Web-based LCA: Single Mode

Using specific lexical complexity measurements, the single mode permits the analysis of a single text or comparison of two texts. The system has 25 indices, and you can choose to view some or all of them graphically. By inserting another text, it also enables the comparison of the lexical complexity between two texts.

Web-based LCA: Batch Mode

You can use the batch mode to analyze the lexical complexity of up to 200 files of written English samples. The result will be a CSV file, which can then be loaded into statistical tools or spreadsheets

for extra analysis. In 2012, Professor Xiaofei Lu investigated the quality of writing in second languages using 25 measures. The following is a summary of these actions.

4. ANALYSIS

To analyze the link between writing ability and lexical variation in response to Q1, the researcher employed Pearson's test. A multiple linear regression analysis was used in Task 2 to examine the relationship between writing proficiency and lexical competency. This study distinguishes itself from the previous studies because it investigated the impact of all 19 sub-indices of lexical variation on writing proficiency. Through Pearson's product analysis, it becomes evident that each category exerts a certain amount of influence on writing proficiency. They affect writing proficiency differently.

Table 4.1

Relationship between Lexical Variation features and Writing Band score

Lexical Variation's feature	Writing band score
NDWZ-50	.256**
NDWER	. 435**
NDW-ES50	. 423**
MSTTR-50	. 420**
Log-TTR	.263**
UBER	.412**
VV1	. 195*
SVV1	.531**
CVV1	.547**
LV	.262**
VV2	.230*
NV	.273**
AdjV	.345**
ModV	.284**

The results of the statistical analysis in the current study show that most of the sub-variables of lexical variation exert a weak influence on writing proficiency.

Table 4.2

Relationship between Lexical Variation features and Writing Band score

Lexical Variation's feature	Writing band score
NDW	.612**
CTTR	.600**
RTTR	.600**

The study indicated that the Number of Different Terms (NDW) had a substantial positive correlation with the writing band score during the examination of the Lexical Variation category, indicating that a wider diversity of terms in writing is linked to writing competency.

Table 4.3

Relationship between Lexical Variation features and Writing Band score

Lexical Variation's feature	Writing band score
ADVV	.069
TTR	.051

The result of Pearson's product-moment correlation (Table 4.3) revealed no significant difference between adverb variation (ADVV) and band scores in IELTS Writing Task 2 (r=.069).

5. DISCUSSION

According to McCarthy and Jarvis (2007) lexical variety, also known as lexical diversity, relates to the breadth and depth of effective word use in a text. The type-token ratio, which compares the total number of unique words (type) to the total number of words (token) in a text is a typical technique for determining this (McCarthy & Jarvis, 2007). Lexical Variation is one of the main types of lexical complexity and is used as an important marker of writing proficiency.

According to research on L2 writing, lexical diversity and writing ability are positively correlated, and essays with higher human rating scores have more lexical diversity (Crossley et al., 2014; Engber, 1995; Yu, 2010). For instance, in Engber's 1995 study, which examined how varied the language was in writing samples with and without errors (using

type-token ratio), they found a surprisingly strong correlation between language variation in the error-filled samples (r =.45) and in the error-free ones (r =.57) and the overall writing score. Similarly, Crossley and colleagues (2014) found a strong link between lexical variety and the total score for language proficiency (r =.70) in their research of university-level students between the ages of 18 and 27.

Lexical variation comprises four primary measures: NDW (Number of Different Words), TTR (Type-Token Ratio), Verb Diversity, and Lexical Diversity. These four measures are used in Lexical Complexity Analyser to assess Lexical Variation. Furthermore, these measures are further subdivided into 19 subcategories.

The results of the statistical analysis in the current study show that most of the sub-variables of lexical variation exert a weak influence on writing proficiency. According to Pearson's product-moment correlation results (r=.256**), the number of different words in the first 50 words (NDWZ-50) and band scores in IELTS writing task 2 are weakly correlated. The results in Table 4.1 reveal a weak relationship between the Bi-logarithmic Type-Token Ratio (log-TTR) and band scores in IELTS writing task 2 (r=.263**). When the Bi-logarithmic Type-Token Ratio (log-TTR) increases or decreases, it has little effect on proficiency in writing. The value of VV1 (r = 0.195*) indicates lower verb diversity used in the text. The score of lexical word variation (r = 0.262**|) also shows a weak association between (LV) and band scores in IELTS writing task 2. The verb variation-2 value is approximately r = 0.230* according to Pearson's product-moment correlation. The VV2 value indicates a weak association between (VV2) and band scores in IELTS writing task 2.

The Noun Variation (NV), as determined through Pearson's product-moment correlation, shows a value of approximately r = 0.273**. This value reveals a weak but direct proportional relationship between NV and band scores in IELTS writing task 2. Similarly, the value for Adjective Variation is r = 0.345**, revealing a weak but direct proportional relationship between AdjV and band scores in IELTS writing task 2. The study's result for ModV, measured through Pearson's product-moment correlation, is approximately r = 0.284**. This signifies a weak but direct proportional relationship between ModV and band scores in IELTS writing task 2.

The analysis section in Table 4.2 indicated that the Number of Different Terms (NDW) had a substantial positive correlation with the writing band score during the examination of the Lexical Variation category, indicating that a wider diversity of terms in writing is linked to writing competency. Similarly, the writing band score was positively correlated with the corrected type-token ratio (CTTR) and the root type-token ratio (RTTR). This positive correlation implied that writing proficiency was positively influenced by a more comprehensive and varied vocabulary.

The result of Pearson's product-moment correlation (Table 3.2) revealed no significant difference between adverb variation (ADVV) and band scores in IELTS Writing Task 2 (r=.069). Consequently, adverb variation (ADVV) and band scores in IELTS Writing Task 2 show no relationship. The result of Pearson's product-moment correlation (Table 4.2) found no difference between the Type-token ratio (TTR) and band scores in IELTS Writing Task 2 (r=.051).

CONCLUSION

In this study, Pakistani IELTS test takers' writing proficiency in task 2 was compared to their lexical variation. A total of 19 lexical variation indices have been used in this study. Based on the results of the current study, this research can act as the starting point for more investigation in the area. Future researchers can investigate additional linguistic features, contextual factors, and writing strategies that influence the proficiency of IELTS test takers in Pakistan. By taking insights from the current study, future researchers can also investigate how other lexical complexity varies across different genres and writing contexts.

7. LIMITATIONS AND FUTURE RESEARCH DIRECTION

This study examined the relationship between lexical variation and writing ability among IELTS test-takers for writing assignment 2. In this work, 104 argumentative essays were analyzed using a quantitative methodology. The analysis of the data showed a strong relationship between writing proficiency and several lexical variation factors. This

study has some limitations. The data were collected from a limited number of participants, particularly from 2 cities in Pakistan, So, this limits the generalizability of the results. The results of this study have produced certain instructional ramifications that are particularly pertinent to the field of academic writing and English second language acquisition (SLA). The findings of this study highlight the value of vocabulary instruction in the teaching of English. According to the study, teachers should emphasize increasing their students' vocabulary diversity, particularly in terms of verbs, as this can have a favourable effect on their writing ability.

REFERENCES

Adendorff, R. (1996). The functions of code-switching among high school teachers and students in KwaZulu and implications for teacher education. In Voices from the Language Classroom: Qualitative Research in Second Language Education (pp. 388–406).

Ai, Haiyang & Lu, Xiaofei (2010). A web-based system for automatic measurement of lexical complexity. Paper presented at the 27th Annual Symposium of the Computer-Assisted Language Consortium (CALICO-10). Amherst, MA. June 8-12.

Alamargot, D., &Chanquoy, L. (2001).Through the models of writing. Dordrecht-Boston-London: Kluwer Academic Publishers.

Atay, D., & Kurt, G. (2006). Prospective teachers and L2 writing anxiety. Asian EFL Journal, 8(4), 100–118.

Auerbach, E. R. (1993). Reexamining English Only in the ESL Classroom. TESOL Quarterly, 27(1), 9.

Bandura, A. (1986). The explanatory and predictive scope of self-efficacy theory. Journal of Social and Clinical Psychology, 4(3), 359–373.

Biancarosa, G., & Snow, C. (2006). Reading next: A vision for action and research in middle and high school literacy: A report to the Carnegie Corporation of New York (2nd ed.). Washington, DC: Alliance for Excellent Education.

Bulté, B., & Rosen, A. (2012) Defining and Operationalizing L2 Complexity. http://dx.doi.org/10.1075/lllt.32.02bul

Cheng, Y. (2002). Factors Associated with Foreign Language Writing Anxiety. Foreign language annals 35(5). https://doi.org/10.1111/j.1944-9720.2002.tb01903.x

Cook, V. (2001). Using the First Language in the Classroom. Canadian Modern Language Review, 57(3), 402–423.

Daller, H., et al. (2003). Lexical Richness in the Spontaneous Speech of Bilinguals, Applied Linguistics, Volume 24, Issue 2, June 2003, Pages 197–222, https://doi.org/10.1093/applin/24.2.197

Durán, P., et al., (2004). Developmental Trends in Lexical Diversity. Applied Linguistics 25(2)

Edelsky, C. (1982). Writing in a Bilingual Program: The Relation of L1 and L2 Texts. TESOL Quarterly, 16(2), 211.

Engber, C. A. (1995). The relationship of lexical proficiency to the quality of ESL compositions. Journal of Second Language Writing, 4, 139–155.

Erkan, Y., & Saban, A. (2011). Writing performance relative to writing apprehension, self-efficacy in writing, and attitudes towards writing: A correlational study in Turkish tertiary-level EFL. The Asian EFL Journal Quarterly, 13(1), 163–191.

Ferretti, R. P., & De La Paz, S. (2011). On the comprehension and production of written texts: Instructional activities that support content-area literacy. In R. O'Connor & P. Vadasy (Eds.), Handbook of reading interventions (pp. 326–355). New York: Guilford Press.

Ferretti, R. P., & Fan, Y. (2016). Argumentative writing. In C. A. MacArthur, S. Graham, & J. Fitzgerald (Eds.), Handbook of writing research (2nd ed., pp. 301–315). New York: Guilford Press.

Ferretti, R. P., & Graham, S. (2019). Argumentative writing: Theory, assessment, and instruction. Reading and Writing: An Interdisciplinary Journal, 32(6), 1345–1357. https://doi.org/10.1007/s11145-019-09950-x

Ferris, D. R. (1994). Lexical and syntactic features of ESL writing by students at different levels of L2 proficiency. TESOL Quarterly, 28(2), 414-420.

Frase, L. T., et al. (1999). Computer analysis of the TOEFL test of written English. Princeton, NJ: Educational Testing Service.

Friedlander, A. (1990). Composing in English: Effects of a first language on writing in English as a second language. In Second language writing: Research insights for the Classroom (pp. 109–125). New York: Cambridge University Press.

Graham, S., & Perin, D. (2007). Writing next: Effective strategies to improve the writing of adolescents in middle and high schools. A report to Carnegie Corporation of New York. Washington, DC: Alliance for Excellent Education.

Graham, S., Gillespie, A., & McKeown, D. (2013). Writing: Importance, development, and instruction. Reading and Writing, 26(1), 1-15. https://doi.org/10.1007/s11145-012-9395-2

Graham, S., Harris, K. R., & Larsen, L. (2001). Prevention and intervention of writing difficulties for students with learning disabilities. Learning Disabilities Research & Practice, 16(2), 74–84. https://doi.org/10.1111/0938-8982.00009

Grant, L., & Ginther, A. (2000). Using computer-tagged linguistic features to describe L2 writing differences. Journal of Second Language Writing, 9(2), 123-145.

Harbord, J. (1992). The use of the mother tongue in the classroom. ELT Journal, 46(4), 350–355.

Hassan, B. (2001). The Relationship of Writing Apprehension and Self-Esteem to the Writing Quality and Quantity of EFL University Students. Mansoura Faculty of Education Journal, 39, 1–36.

Hayes, J. (1996). A new framework for understanding cognition and affecting writing. In M. Levy & S. Ransdell (Eds.), the science of writing: Theories, methods, individual differences, and applications (pp. 1–27). Mahwah, NJ: Erlbaum.

Hayes, J. R., & Flower, L. S. (1986). Writing research and the writer. American Psychologist, 41, 1106–1113

Horwitz, E. K., & Young, D. J. (Eds.). (1991). Language anxiety: From theory and research to classroom implications. Englewood Cliffs, NJ: Prentice-Hall.

Howatt, A. R. P. (1984). A History of English Language Teaching. London: Oxford University Press.

Jarvis, S. (2013). Capturing the diversity in lexical diversity. Language Learning, 63, 87–106.

Jarvis, S., Grant, L., Bikowski, D., & Ferris, D. (2003). Exploring multiple profiles of highly rated learner compositions. Journal of Second Language Writing, 12(4), 377-403.

Jones, S., & Tetroe, J. (1987). I was composing in a second language. In Writing in Real Time: Modelling Production Processes (pp. 34–57). New York: Longman.

Jun Zhang, L. (2001). Awareness in Reading: EFL Students" Metacognitive Knowledge of Reading Strategies in an Acquisition-poor Environment. Language Awareness, 10(4), 268–288.

Kakandee, M., & Kaur, S. (2014). Teaching Strategies Used by Thai EFL Lecturers to Teach Argumentative Writing.

Kiewra, K. A. (1985). Investigating note taking and review: A depth of processing alternative. Educational Psychologist, 20(1), 23–32. https://doi.org/10.1207/s15326985ep2001_4

Klassen, R. (2002). Writing in early adolescence: A review of the role of self-efficacy beliefs. Educational Psychology Review, 14(2), 173–203.

Krashen, S. (1989). We acquire vocabulary and spelling by reading: Additional evidence for the input hypothesis. Modern Language Journal, 73(4), 440–464. https://doi.org/10.2307/326879

Lanauze, M., & Snow, C. (1989). The relation between first-and second-language writing skills: Evidence from Puerto Rican elementary school children in bilingual programs. Linguistics and Education, 1(4), 323–339.

Latif, M. A. (2015). Sources of L2 writing apprehension: a study of Egyptian university students. Journal of Research in Reading, 38(2), 194–212.

Laufer, N., & Nation, P. (1995). Vocabulary size and use: Lexical richness in L2 written production. Applied Linguistics, 16, 307–322.

Lee, S. (2005). Facilitating and Inhibiting Factors in English as a Foreign Language Writing Performance: A model of testing with structural equation modelling. Language Learning, 55(2), 335–374.

Liu, M. (2006). Anxiety in Chinese EFL Students at Different Proficiency Levels System, 34, 301-316. https://doi.org/10.1016/j.system.2006.04.004

Lu, Xiaofei (2012). The Relationship of Lexical Richness to the Quality of ESL Learners' Oral Narratives. The Modern Language Journal, 96(2), 190-208.

Lu, X. (2011). A corpus-based evaluation of syntactic complexity measures as indices of college-level ESL writers' language development. TESOL Quarterly, 45(1), 36-62.

Luo, H. (2018). Predictors of Foreign Language Anxiety: A Study of College-Level L2 Learners of Chinese. Chinese Journal of Applied Linguistics, 41(1), 3–24.

Malvern, D., et al., (2004). Lexical diversity and language development: Quantification and assessment. http://dx.doi.org/10.1057/9780230511804

Martinez, C. T., Kock, N., & Cass, J. (2011). Pain and Pleasure in Short Essay Writing: Factors Predicting University Students'' Writing Anxiety and Writing Self-Efficacy. Journal of Adolescent & Adult Literacy, 54(5), 351–360.

McCarthy, P. M., & Jarvis, S. (2007). Void: A theoretical and empirical evaluation. Language Testing, 24, 459–488.

McCarthy, P., Meier, S., & Rinderer, R. (1985). Self-efficacy and writing: A different view of self-evaluation. College Composition and Communication.

Meyer, H. (2008). the pedagogical implications of L1 use in the L2 classroom. Maebashi Kyoai Gakuen College Ronsyu, 8, 147–160.

Mohan, B. A., & Lo, W. A.-Y. (1985). Academic Writing and Chinese Students: Transfer and Developmental Factors. TESOL Quarterly, 19(3), 515.

Mukhopadhyay, L. (2015). USING L1 KNOWLEDGE TO ENHANCE L2 WRITING PERFORMANCE. The EFL Journal, 6(1), 13–28.

Nation, P. (2001). Learning Vocabulary in Another Language. Cambridge: Cambridge University Press. http://dx.doi.org/10.1017/CBO9781139524759

Nippold, M., A., & Ward-Lonergan, J., M. (2010). Argumentative writing in pre-adolescents: The role of verbal reasoning. Child Language Teaching and Therapy. DOI: 10.1177/0265659009349979.

Ortega, L. (2003). Syntactic complexity measures and their relationship to L2 proficiency: A research synthesis of college-level L2 writing. Applied linguistics, 24(4), 492-518.

Pajares, F. (2003). Self-efficacy beliefs, motivation, and achievement in writing: a literature review. Reading & Writing Quarterly, 19(2), 139–158.

Pajares, F., & Johnson, M. (1994). Confidence and competence in writing: The role of self-efficacy, outcome expectancy, and apprehension. Research in the Teaching of English, 28(3), 313–331.

Pennebaker, J. W. (1997). Writing about emotional experiences as a therapeutic process. Psychological Science, 8(3), 162–166. https://doi.org/10.1111/j.1467-9280.1997.tb00403.x

Pennington, M. C. (1995). Pattern and Variation in Use of Two Languages in the Hong Kong Secondary English Class. RELC Journal, 26(2), 80–105.

Qashoa, S. H. H. (2014). English Writing Anxiety: Alleviating Strategies. Procedia - Social and Behavioural Sciences, 136, 59–65.

Rahim, S. A., Jaganathan, P., Sepora, T., & Mahadi, T. (2016). An Investigation on the Effects of Writing Anxiety on Readiness of Writing

among Low Proficiency Undergraduates. International Journal of Language Education and Applied Linguistics, 05, 11–20.

Raimes, A. (1991). Instructional balance: From theories to practices in the teaching of writing. In J. E. Alatis (Ed.), Georgetown University round table on languages and linguistics 1991: Linguistics and language pedagogy: The state of the art (pp. 238-249). Washington, DC: Georgetown University Press.

Reeves, L. (1997). Minimizing writing apprehension in the learner-centered classroom. The English Journal, 86(6), 38–45.

Robinson, P. (2001). Task complexity, task difficulty, and task production: exploring interactions in a componential framework. Applied Linguistics, Volume 22, Issue 1, March 2001, Pages 27–57, https://doi.org/10.1093/applin/22.1.27

Ryoo, Y. S. (2018). Comparing lexical diversity and lexical sophistication in Korean EFL writing: Topic and text length. Multimedia-Assisted Language Learning, 21(3), 63-87.

Sastri, K. (1970). A comprehensive history of India. Orient Longamns.

Sawyer, R. K. (2012). Explaining creativity: The science of human innovation (2nd Ed.). Oxford University Press.

Schmidt, L. (2004). Psychometric evaluation of the writing-to-learn attitude survey. Journal of Nursing Education, 43(10), 458–465.

Scovel, T. (1978). The effect of affect on foreign language learning: A review of the anxiety research. Language Learning, 28(1), 129–142.

Shang, H. (2013). Factors Associated With English As a Foreign Language University Students Writing Anxiety. International Journal of English Language Teaching, 1(1), 1–12

Skhan, P. (2003). Focus on Form, Tasks, and Technology. Computer Assisted Language Learning, 16(5), 391–411. https://doi.org/10.1076/call.16.5.391.29489

Smith, M. (1984). Reducing Writing Apprehension. Illinois: ERIC Clearinghouse on Reading and Communication Skills.

Swain, M., & Lapkin, S. (2001). Focus on form through collaborative dialogue: Exploring task effects. In Researching Pedagogic Tasks (pp. 99–118). London: Routledge.

Thordardottir, E. & Ellis Weismer, S. (2001). High-frequency verbs and verb diversity in the spontaneous speech of school-age children with specific language impairment. International Journal of Language & Communication Disorders, 36, 221-244

Tickoo, M. (2003). Teaching and Learning English: A Sourcebook for Teachers and Teacher-trainers. New Delhi: Orient Longman.

Unal, Z. 2017. "Comparison of Student Performance, Student Perception, and Teacher Satisfaction with Traditional versus Flipped Classroom Models." International Journal of Instruction, 10 (4): 145-164. Doi: 10.12973/iji.2017.1049a

Van Eemeren, F. H., Garssen, B., Krabbe, E. C. W., Henkemans, A. F. S., Verheij, B., & Wagemans, J. H. M. (2014). Handbook of argumentation theory. Heidelberg: Springer.

Van Eemeren, F. H. (2018). Argumentation theory: A pragma-dialectical perspective. Cham, Switzerland: Springer.

Wolfe-Quintero, K., Inagaki, S., & Kim, H. Y. (1998). Second language development in writing: Measures of fluency, accuracy, & complexity (No. 17). Honolulu, HI: University of Hawaii PressWoodall, B. (2002). Language-switching: Using the first language while writing in a second language. Journal of Second Language Writing, 11(1), 7–28.

Wu, X., Lowyck, J., Sercu, L., & Elen, J. (2013). Task complexity, student perceptions of vocabulary learning in EFL, and task performance. British Journal of Educational, 83(1), 160–181.

Yu, G. (2010). Lexical diversity in writing and speaking task performances. Applied Linguistics, 31(2), 236–259.

Zimmerman, B. J. (2000). Self-Efficacy: An Essential Motive to Learn. Contemporary Educational Psychology, 25(1), 82–9.