Journal of English Language Teaching and Applied Linguistics
ISSN: 2707-756X
DOI: 10.32996/jeltal
Journal Homepage: www.al-kindipublisher.com/index.php/jeltal

JELTAL
AL-KINDI CENTER FOR RESEARCH AND DEVELOPMENT

| RESEARCH ARTICLE

Lexical Complexity of IELTS Academic Writing Task 2 Model Answers at Band Score 6

Luu Quy Khuong[1] ✉ and Luu Ngoc Bao Thi[2]
[1]Assoc. Prof. Dr., Faculty of Foreign Language Teacher Education, The University of Danang-University of Foreign Language Studies, Vietnam
[2]Faculty of Foreign Language Teacher Education, The University of Danang-University of Foreign Language Studies, Vietnam
Corresponding Author: Luu Quy Khuong, **E-mail**: lqkhuong@ufl.udn.vn

| ABSTRACT
This study examined the lexical complexity of IELTS Academic Writing Task 2 model answers rated at Band 6 from IELTS preparation books, aiming to provide practical insights for educators and learners of English as a second language (L2). Lexical complexity was analyzed across three dimensions: lexical sophistication, lexical diversity, and lexical density. These were assessed using VocabProfilers and the Tool for the Automatic Analysis of Lexical Diversity (TAALES). Results showed that 95%-98% of the words in Band 6 model answers fell within the 3,000-4,000 most frequent words on the BNC/COCA-25k word list. In terms of lexical diversity, content word repetition typically began after approximately 99 words, and the MTLD value was around 71. Regarding lexical density, Band 6 responses had an average density of 0.467, suggesting a tendency toward simpler sentence structures and more general vocabulary. The paper concluded with pedagogical implications for English language teaching and learning, particularly in developing writing skills satisfying the requirements of IELTS Academic Writing Task 2.

| KEYWORDS
Lexical complexity; IELTS Academic writing task 2; lexical sophistication; lexical diversity; lexical density.

| ARTICLE INFORMATION
ACCEPTED: 09 April 2025 **PUBLISHED:** 24 May 2025 **DOI:** 10.32996/jeltal.2025.7.2.13

1. Introduction

As a result of globalization, the educational landscape is witnessing an international shift, with a growing number of students now seeking to pursue higher education abroad. Various test formats are available, and one of the well-known and researched measures is the International English Language Testing System (IELTS) (Mueller, 2015). In fact, IELTS has been considered "the world's most popular English language proficiency test for higher education and global migration" (British Council, 2019, para. 10, retrieved January 15, 2025). While significant efforts have been made to help students achieve their desired IELTS scores, little attention has been paid to the lexical complexity of model answers and its implications for teaching and learning in the IELTS writing sub-test, particularly at Band 6 which denotes a "competent user" with sufficient ability for basic communication in the target language which is English. Therefore, this study aims to examine the lexical complexity of IELTS Writing Tasks model answers from IELTS preparation books on the three aspects: lexical sophistication, lexical density and lexical diversity. By doing so, it seeks to help educators and students gain a deeper understanding of these materials, enabling them to maximize their effectiveness in improving students' writing skills. To achieve the stated aims, this research tried to answer the following questions:

1. What is the lexical sophistication of IELTS Academic Writing Task 2 model answers at Band score 6?
2. What is the lexical density of IELTS Academic Writing Task 2 model answers at Band score 6?
3. What is the lexical diversity of IELTS Academic Writing Task 2 model answers at Band score 6?

2. Theoretical Background

2.1. IELTS

The history of IELTS dates back to 1980 with the launch of the English Language Testing Service as a result of a collaboration between the British Council and the University of Cambridge Local Examinations Syndicate (now Cambridge Assessment English) (Davies, 2008). There are two versions of the test: IELTS Academic (intended for university admissions, student visas, and demonstrating English proficiency to professional organizations), and IELTS General Training (used for employment applications in English-speaking companies or organizations). Students can take the test either on paper or computer at an official test center, with online options available in some locations. In both versions, the test assesses students' four skills: listening, reading, writing and speaking (British Council, n.d.-a, retrieved February 16, 2025). Additionally, students now can retake one skill on computer in selected test centers, in selected countries (British Council, n.d.-b, retrieved February 16, 2025). Scores are based on a band scale ranging from 1 to 9, with increments of half a band.

2.1. IELTS Academic Writing Test

IELTS Academic Writing Test assesses students' writing skills. The four writing marking criteria include: Task Achievement, Cohesion and Coherence, Lexical Resource, Grammar Range and Accuracy, with Task 2 contributing twice as much as Task 1 to the overall writing score. In Task 1, candidates are expected to describe some visual information (a graph, table, chart or diagram) in at least 150 words while Task 2 requires candidates to discuss a point of view, argument or problem in at least 250 words. The total time allocation for IELTS Writing Test is 60 minutes, and students are advised to spend 20 minutes on Task 1 and 40 minutes on Task 2 (British Council, n.d.-c, retrieved February 16, 2025).

2.2. Lexical Complexity

Lexical complexity is a multidimensional phenomenon that consists of three constituents: *lexical diversity*, *lexical density*, and *lexical sophistication* (Lyashevskaya et al., 2021; Johnson, 2017). The breakdown of the three constituents are as below:

a. Lexical Sophistication

Lexical sophistication refers to "the learners' use of sophisticated and advanced words" (Kim et al., 2018, p. 121) and is often used to assess vocabulary knowledge (Jarvis, 2013). As Jarvis (2013) noted, lexical sophistication can be measured in various ways, with corpus-based word frequency being one of the most common approaches. Word frequency measures how often a word appears in general usage, as determined by a representative corpus, such as the Corpus of Contemporary American English (COCA; Davies, 2010) or the British National Corpus (BNC; British National Corpus Consortium, 2007). Nation (2012) integrated word frequency data from the British National Corpus (BNC) and the Corpus of Contemporary American English (COCA) to create a unified BNC/COCA 25,000-word list, representing the most frequent word families in English. This list has been widely used in lexical analysis research (e.g., Phung & Ha, 2022; Ha et al., 2022), and the present study also adopts it as the basis for examining the use of high-frequency, mid-frequency, and low-frequency vocabulary in model answers at Band score 6.

b. Lexical Diversity

Lexical diversity refers to vocabulary variety (Monteiro et al., 2023). Traditionally, it is commonly measured by dividing the number of unique words (types) by the total word count (the total token count) (McCarthy & Jarvis, 2010). For example, consider the sentence: "I like milk and milk." There are 5 tokens in it: "I", "like", "milk", "and", "milk". Nevertheless, there are 4 only types (4 unique words): "I", "like", "milk", "and". As such, "type" is counted only once, whereas "token" includes all occurrences of words in the text, repetition included. Type-token ratio (TTR) is based on the assumption that a higher TTR indicates greater lexical variety, while a lower TTR suggests more repetition. However, TTR is influenced by text length, as "no text of more than a handful of words can be meaningful without some kind of repetition of tokens" (McCarthy & Jarvis, 2010, p. 382). To address this limitation, McCarthy and Jarvis (2010) introduced the Measure of Textual Lexical Diversity (MTLD), a computational measure that tracks the average number of tokens it takes to reach a given TTR value (typically 0.72). This approach mitigates the bias against longer texts, providing a more stable and reliable measure of lexical diversity (McCarthy & Jarvis, 2010; Kyle et al., 2021).

c. Lexical Density

Lexical density measures the number of content words in a text, with the belief that unlike functional words, content words carry information in a text; therefore, texts with a higher proportion of content words are considered to be denser and to package more information (Johansson, 2009). It is used to measure the lexical richness from the perspective of information-carrying capacity. As such, lexical density is investigated by the ratio of the number of content words to the sum of content words and function words (Ure, 1971).

3. Literature Review

A substantial body of research has explored text complexity in writing to draw pedagogical implications for English language teaching. Among the varied perspectives on how complexity constructs influence L2 writing performance, several studies have

highlighted the positive role of lexical (e.g., Bulté & Housen, 2014; Qian, 2023) and syntactic (e.g., Lu, 2011; Mazgutova & Kormos, 2015) complexity. Recently, for instance, Casal and Lee (2019) found a positive correlation between high-scoring essays by first-year students L2 writings and both lexical and syntactic complexity. Their findings indicated that higher-rated essays exhibited a greater variety of complex nominal structures and significantly higher frequencies of three specific types: attributive adjectives as premodifiers, prepositional phrases as postmodifiers, and participial clauses as modifiers. Similarly, Barrot and Agdeppa (2021) identified a significant relationship between L2 proficiency and both production unit length and phrasal sophistication.

Numerous studies have explored text complexity to support IELTS preparation. In speaking, Christoffersen (2017) found that syntactic complexity and speed fluency, rather than lexical diversity, correlated with native speaker ratings. Additionally, grammatical accuracy showed an inverse relationship with these ratings. In reading, Nguyen and Le (2024) examined the text complexity of IELTS Academic Reading tests compared to IELTS reading practice tests. While both were lexically similar, the latter differed in the use of subordination and idea repetition at the discourse level. Writing has garnered significant research attention. Previous studies have investigated the effects of sociocultural theory-informed instruction (Allami et al., 2025), the influence of linguistic complexity in writing topics on candidates' discourse representation and perception (Zare et al., 2021), and the predictive validity of overall proficiency and writing sub-test scores for graduate school GPA.

It can be seen that while many efforts have been put on investigating text complexity in EFL students' writing, the lexical complexity of model answers for IELTS Writing Test at Band score 6 from preparation books is hardly mentioned, while it can assist students in achieving the desired result and improving their ability. For these reasons, the study is conducted with an aim to enrich the existing findings on lexical complexity and contribute to the teaching and learning English of IELTS test takers in particular, and English learners in general.

4. Methodology

4.1. Research Design

This study employed a corpus-based methodology to examine and compare the linguistic complexity of IELTS Academic Writing Task 2 model answers at Band score 6. A mixed-methods design was used to address the research questions comprehensively. The quantitative analysis focused on nine lexical complexity indices, while the qualitative analysis revisited specific text examples to provide context for the quantitative results.

4.2. Corpus Establishment

This study focuses on model answers at Band score 6 from IELTS preparation books. A purposive sampling approach was employed, with only those responses explicitly identified as Band score 6 being included. These texts were either clearly labeled with the target Band score or accompanied by detailed evaluative comments indicating their level. To ensure accuracy and consistency in band classification, an experienced IELTS teacher reviewed and verified all selected samples. To ensure representativeness, 50 samples were selected.

The corpus of model answers at band scores 6 to 7 was synthesized from IELTS preparation book as follows: *IELTS Cambridge 13* (Cambridge University Press, 2018); *IELTS Cambridge 15* (Cambridge University Press, 2020); *IELTS Cambridge 16* (Cambridge University Press, 2021); *IELTS Cambridge 17* (Cambridge University Press, 2022); *IELTS Cambridge 19* (Cambridge University Press, 2024); *Barron's Writing for the IELTS* (Lougheed, 2022); *Exam Essential Practice Tests: IELTS 2* (Marshall Cavendish Education, 2011); *IELTS Test Builder* (Jakeman & McDowell, 2011); *IELTS Preparation and Practice: Reading and Writing - Academic Module* (Sahanaya et al., 2005); *A Book for IELTS* (McCarter, 2002a); *Academic Writing Practice For IELTS* (McCarter, 2002b); *Complete IELTS Band 5-6.5* (Brook-Hart & Jakeman, 2012); *Makkar IELTS Academic Essays* (Kiranpreet, 2022); *Improve Your IELTS Writing Skills* (Hopkins & Cullen, 2007); *New Insights into IELTS* (Jakeman & McDowell, 2008); *IELTS Advantage* (Brown & Richards, 2011)

4.3. Data Analysis Tools

To analyze lexical complexity, VocabProfiler was first used to assess lexical sophistication. Second, the Tool for the Automatic Analysis of Lexical Diversity (TAALED), developed by Kyle et al. (2021), was employed to measure lexical density and diversity. Finally, to synthesize and further analyze the results on lexical and syntactic complexity, the data were uploaded into the Statistical Package for the Social Sciences (SPSS) version 26.0.

4.4. Data Analysis Procedure

First, a corpus of model answers at Band score 6 was compiled from IELTS preparation books and validated by an IELTS teacher. This was the primary dataset. Next, lexical complexity was investigated using automated tools: VocabProfiler for lexical sophistication, and TAALED for lexical density and diversity. The indices of the automated tools that were used in this study were

described in *Table 1*. Finally, qualitative analyses were conducted to provide interpretive insights into how specific linguistic features manifested in the texts and contributed to writing quality.

Table 1: Lexical complexity indices

Dimension	Index	Description
Lexical sophistication	Word frequency (BNC/COCA-25k word list)	Mean frequency score based on the BNC/COCA-25k word list
Lexical diversity	MTLD (all words)	Mean number of words needed to maintain TTR ≥ 0.72, calculated on all words
	MTLD (content words)	Mean number of words needed to maintain TTR ≥ 0.72, calculated on content words
Lexical density	Lexical density tokens	Proportion of content words to total words

To summarize the indices used in VocabProfiler and TAALED, the two automated tools, to investigate the lexical complexity of model answers, first, word frequency was used to identify the lexical sophistication. BNC/COCA-25k word list, a word list that incorporates the top 25,000 most frequent words was used to determine whether the words investigated were of low, mid or high frequency. The lower the word frequency is, the more advanced it is. Second, on lexical diversity, MTLD, (i.e., Measure of Measure of Textual Lexical Diversity) was used, based on the assumption that the more words it takes for MTLD value to remain above 0.72, the more varied the word choice is as the essays show low repetition rate. MTLD was assessed based on all words, and based on content words only. Third, proportion of content words to total words was used to determine lexical density as content words are believed to be information-carrying words.

5. Findings and Discussion

5.1. Lexical Sophistication

Table 2 presents the lexical sophistication and profile of IELTS Academic Writing Task 2 model responses at Band score 6. It details the word counts and their distribution across various frequency levels based on the BNC/COCA-25k word list. Each "K" represents a 1,000-word frequency band, with K-01 referring to the most frequent 1,000 words. Words classified as K-off fell outside the top 25,000 word families included in the BNC/COCA-25k list. These could be proper nouns, foreign words, very low frequency words or misspellings.

Table 2: Lexical Sophistication of model answers at Band score 6

BNC/COCA word list	Token	Percentage
K-01	12,898	83.693
K-02	1,505	10,150
K-03	619	4.182
K-04	121	0.817
K-05	75	0.507
K-06	37	0.250
K-07	21	0.142
K-08	14	0.095
K-09	11	0.074
K-10	2	0.014
K-11	0	0
K-12	8	0.054
K-13	2	0.014
K-14	0	0
K-15	2	0.014
K-16	0	0
K-17	0	0
K-18	0	0
K-19	1	0.007
K-20	0	0
K-21	2	0.014
K-OFF	108	0.730

Overall, around 85% of the words originated from the first 1,000 most frequent word families. A further 10% (to reach 95% of the text coverage), it would require another 1,000 words (at K-03 level), another 2 % (to reach 98% of the text coverage) would require another 1,000 words (at K-04 level). In short, 95%-98% of the text coverage was derived from the first 3,000-4,000 most frequent words based on BNC/COCA-25k word list. A noticeable drop in usage was observed from K-05 onwards (mid-frequency words), with very few words appearing in the K-10 to K-21 frequency bands (low-frequency words). The minimal lexical presence beyond the K-05 frequency band suggests that the majority of model essays at Band score 6 did not rely on rare or technical terms.

5.2. Lexical Diversity

Table 3 presents the lexical diversity of model answers at Band score 6. Lexical diversity refers to the range of vocabulary used in a text, indicating how often words are repeated and how varied the word choices are. The MTLD values based on all words, including both content and function words, provided a general picture of vocabulary repetition. For Band 6 responses, repetition

occurred approximately every 71 words, indicating a relatively low level of lexical diversity. However, since function words are frequent and limited in variety, they can skew the results. To better assess lexical richness, focusing on content words such as nouns, verbs, adjectives, and adverbs offers a more accurate measure of meaningful vocabulary use. When analyzing only content words, repetition in Band 6 responses began after about 99 words, highlighting a greater degree of lexical variety compared to the overall MTLD score.

Table 3 : Lexical diversity of model answers at Band score 6

Index	Value	SD
MTLD of all words	70.686	18.186
MTLD of content words	99.317	50.994

5.3. Lexical Density

Table 4 presents the lexical density of model answers at Band scores 6. Lexical density refers to the proportion of content words (nouns, verbs, adjectives, and adverbs) relative to the total number of words in a text. Overall, it can be seen that the average lexical density for IELTS Academic Writing Task 2 model answers at Band score 6 was 0.467. The result suggests that approximately 46.7% of the words used were content words, and model answers at Band score 6 appeared to use a moderate level of descriptive and informational vocabulary. The relatively lower density also implies that Band score 6 essays may rely more on simpler sentence structures and more general vocabulary, which can limit the depth and precision of expression.

Table 4: Lexical density of model answers at Band score 6

Index	Value	SD
Total words	14788	39.886
Total content words	6906	21.287
Lexical density	0.467	0.040

6. Conclusion and Implications

6.1. Conclusion

This study explores the lexical complexity of IELTS Academic Writing Task 2 model responses at Band scores 6, focusing on three key dimensions: lexical sophistication, lexical diversity, and lexical density. For lexical sophistication, the analysis showed that 95%-98% of the words in model answers at Band score 6 fell within the first 3,000-4,000 most frequent words on the BNC/COCA-25k word list. Regarding lexical diversity, it was seen that content word repetition typically began after about 99 words, but when function words were included, this threshold dropped to roughly 71 words. Concerning lexical density, Band 6 model responses exhibited an average lexical density of 0.467, indicating a tendency to use simpler sentence constructions and more general vocabulary, which might reduce the overall precision and complexity of the writing.

6.2. Implications

By identifying the linguistic characteristics that contribute to higher band scores, IELTS teachers and material developers can better target instruction and help students develop the skills necessary to achieve their desired writing outcomes. It is recommended that IELTS preparation materials and classroom instruction prioritize exposure to the most frequent 3,000-4,000 words from the BNC/COCA-25k word list. Additionally, teachers should expose students to a wide range of texts to broaden their lexical knowledge, which in turn supports more effective paraphrasing and clearer expression of ideas.

The study's findings on the lexical complexity of IELTS Academic Writing Task 2 model answers can guide curriculum designers in selecting suitable input texts and creating writing tasks that promote the development of specific language skills. In the broader context of language learning and teaching, these insights are applicable across a range of subject areas, including language-focused courses such as *Integrated Language B1-C1*, pedagogy-based courses like *Teaching Pedagogy* and *Assessment in English Language Education*, as well as practical courses such as *Using Materials in Instruction* and technology-oriented subjects like *Technology in English Language Teaching*.

7. Limitations and Suggestions for Future Research

It should be pointed out that due to time constraints and availability in IELTS preparation books, the current study investigates 50 essays at Band score 6. A broader corpus size could offer a broader picture, and future research could incorporate more model answers at different Band scores for a thorough analysis of IELTS Academic writing task 2. Furthermore, although the essays were primarily collected from IELTS preparation books, some model answers were cross-checked manually in accordance with the detailed comments provided alongside them. This step was taken to ensure consistency with the assessment criteria, though slight variations in interpretation may exist due to the subjective nature of human assessment.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare no conflict of interest.

ORCID iD: 0000-0001-8565-8378 (Luu Quy Khuong), 0009-0001-1033-6355 (Luu Ngoc Bao Thi)

Publisher's Note: All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers.

References

[1] Allami, H., Najari, B., & Tajeddin, Z. (2025). The impact of sociocultural theory-informed instruction on learners' IELTS writing: task response, grammar, vocabulary, coherence and cohesion. *Asian-Pacific Journal of Second and Foreign Language Education*, *10*(1), 7–15. https://doi.org/10.1186/s40862-024-00310-z

[2] Barrot, J. S., & Agdeppa, J. Y. (2021). Complexity, accuracy, and fluency as indices of college-level L2 writers' proficiency. *Assessing Writing, 47*, Article 100510. https://doi.org/10.1016/j.asw.2020.100510

[3] British Council. (2019). IELTS grows to 3.5 million a year. Retrieved January 15, 2025, from https://takeielts.britishcouncil.org/about/press/ielts-grows-three-half-million-year#:~:text=IELTS%20is%20the%20International%20English,taken%20in%20the%20last%20year

[4] British Council. (n.d.-a). *What is IELTS?* https://takeielts.britishcouncil.org/take-ielts/what-ielts

[5] British Council. (n.d.-b). *IELTS One Skill Retake*. https://ielts.org/take-a-test/booking-your-test/one-skill-retake

[6] British Council. (n.d.-c). *IELTS Academic format: Writing*. Retrieved February 16, 2025, from https://ielts.org/take-a-test/test-types/ielts-academic-test/ielts-academic-format-writing

[7] Brook-Hart, G., & Jakeman, V. (2012). *Complete IELTS Bands 5–6.5*. Cambridge University Press.

[8] Brown, R., & Richards, L. (2011). *IELTS Advantage: Writing skills*. Delta Publishing.

[9] Bulté B., Housen A. (2014). Conceptualizing and measuring short-term changes in L2 writing complexity. *Journal of Second Language Writing*, 26, 42–65.

[10] Cambridge University Press. (2018). *IELTS Cambridge 13*.

[11] Cambridge University Press. (2020). *IELTS Cambridge 15*.

[12] Cambridge University Press. (2021). *IELTS Cambridge 16*.

[13] Cambridge University Press. (2022). *IELTS Cambridge 17*.

[14] Cambridge University Press. (2024). *IELTS Cambridge 19*.

[15] Casal, J. E., & Lee, J. J. (2019). Syntactic complexity and writing quality in assessed first-year L2 writing. *Journal of Second Language Writing*, *44*, 51–62. https://doi.org/10.1016/j.jslw.2019.03.005

[16] Christoffersen, K. O. (2017). Comparing native speaker ratings and quantitative measures of oral proficiency in ielts interviews. *ELIA*, *17*(17), 233–250. https://doi.org/10.12795/elia.2017.i17.10

[17] Davies, A. (2008). Assessing academic English: Testing English proficiency 1950–1989 – the IELTS solution. Cambridge University Press.

[18] Jakeman, V., & McDowell, C. (2008). *New insights into IELTS*. Cambridge University Press.

[19] Jakeman, V., & McDowell, C. (2011). *IELTS Test Builder*. Macmillan Education.

[20] Jarvis, S. (2013). Capturing the Diversity in Lexical Diversity. *Language Learning*, *63*(s1), 87–106. https://doi.org/10.1111/j.1467-9922.2012.00739.x

[21] Johansson, V. (2009). Lexical diversity and lexical density in speech and writing: A developmental perspective. Lund Working Papers in Linguistics, 53, 61-79.

[22] Ha, H. T., Le, H. T., Phung, D. H., & Nguyen, S. D. (2022). Is "general" easier than "academic"? A corpus-based investigation into the two modules of IELTS reading test. *SN Social Sciences, 2*, Article 159. https://doi.org/10.1007/s43545-022-00461-1

[23] Hopkins, D., & Cullen, P. (2007). *Improve your IELTS writing skills*. Macmillan Education.

[24] Kiranpreet, K. (2022). *Makkar IELTS academic essays*. Makkar Publishing.

[25] Kyle, K., Crossley, S. A., & Jarvis, S. (2021). Assessing the Validity of Lexical Diversity Indices Using Direct Judgements. *Language Assessment Quarterly*, *18*(2), 154–170. https://doi.org/10.1080/15434303.2020.1844205

[26] Lougheed, L. (2022). *Barron's writing for the IELTS* (5th ed.). Barron's Educational Series.

[27] 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. https://doi.org/10.5054/tq.2011.240859

[28] Lyashevskaya, O., Panteleeva, I., & Vinogradova, O. (2021). Automated assessment of learner text complexity. *Assessing Writing*, *49*, 100529-. https://doi.org/10.1016/j.asw.2021.100529

[29] Marshall Cavendish Education. (2011). *Exam essentials practice tests: IELTS 2*. Marshall Cavendish Education.

[30] Mazgutova, D., & Kormos, J. (2015). Syntactic and lexical development in an intensive English for Academic Purposes programme. *Journal of Second Language Writing*, *29*(Sep), 3–15. https://doi.org/10.1016/j.jslw.2015.06.004

[31] McCarter, S. (2002a). *Academic writing practice for IELTS*. Intellect Books.

[32] McCarter, S. (2002b). *A book for IELTS*. Intellect Books.
[33] McCarthy, P. M., & Jarvis, S. (2010). MTLD, vocd-D, and HD-D: A validation study of sophisticated approaches to lexical diversity assessment. *Behavior Research Methods*, *42*(2), 381–392. https://doi.org/10.3758/BRM.42.2.381
[34] Monteiro, K., Crossley, S., Botarleanu, R.-M., & Dascălu, M. (2023). L2 and L1 semantic context indices as automated measures of lexical sophistication. *Language Testing*, *40*(3), 576–606. https://doi.org/10.1177/02655322221147924
[35] Mueller, A. (2015). The differences in error rate and type between IELTS writing bands and their impact on academic workload. *Higher Education Research and Development*, *34*(6), 1207–1219. https://doi.org/10.1080/07294360.2015.1024627
[36] Nguyen, H. T. M., & Le, N. V. A. (2024). Text Complexity of Cambridge-delivered IELTS Academic Reading Tests: Comparability with IELTS Academic Reading Practice Tests from Other Publishers. *TESL-EJ (Berkeley, Calif.), 28*(2), 1-. https://doi.org/10.55593/ej.28110a4
[37] Phung, D. H., & Ha, H. T. (2022). Vocabulary Demands of the IELTS Listening Test: An In-Depth Analysis. *SAGE Open*, *12*(1). https://doi.org/10.1177/21582440221079934
[38] Qian, L. (2023). Use of lexical features in high-stakes tests: Evidence from the perspectives of complexity, accuracy and fluency. *Assessing Writing*, *57*, 100758-. https://doi.org/10.1016/j.asw.2023.100758
[39] Sahanaya, R., & Rogers, B., et al. (2005). *IELTS preparation and practice: Reading and writing – Academic module*. Oxford University Press.
[40] Ure, J. (1971). Lexical density and register differentiation. In G.E. Perren, & J .M. Trim (Eds.),Applications of Linguistics (pp. 443-452). London: Cambridge University Press.
[41] Zare, M., Bagheri, M. S., Sadighi, F., & Rassaei, E. (2021). An investigation of the linguistic complexity of IELTS writing topics based on the levels of discourse representation and the degree of meaning coding. *Cogent Education, 8*(1), Article 1868235. https://doi.org/10.1080/2331186X.2020.1868235