The rhetorical density of authorial emotiveness and voice passiveness in abstract compositions

Hairul Azhar Mohamad[1+]
Zahariah Pilus[2]
Rasyiqah Batrisya Md Zolkapli[3]
Muhammad Luthfi Mohaini[4]
Nadiah Hanim Abdul Wahab[5]
Pavithran Ravinthra Nath[6]

[1,4,5,6]Akademi Pengajian Bahasa, UiTM, Shah Alam, Malaysia.
[1]Email: hairazhar@uitm.edu.my
[4]Email: luthfimohaini@uitm.edu.my
[5]Email: nadiah7961@uitm.edu.my
[6]Email: pavithran@uitm.edu.my
[2]Department of English Language and Linguistics, IIUM, Selangor, Malaysia.
[2]Email: zahariahp@iium.edu.my
[3]Akademi Pengajian Bahasa, UiTM, Dengkil, Malaysia.
[3]Email: rasyiqah@uitm.edu.my

(+ Corresponding author)

ABSTRACT

The study sought to examine authorial emotiveness and passive tone of academic writing in academic research abstracts (RAs) to appeal to the Aristotelian pathos. Based on the integrated framework of Contrastive Rhetoric and Domain of Emotional Tone, this study investigated the overall demonstration of emotional appeal through quantitative content analysis of two rhetorical items - emotive phrases and passive voice in subtly 'colouring' the academic tone of research abstracts. Four hundred eighty (480) research abstracts (RAs) of the international non-native English writers (INE) and Malaysian non-native English writers (MNNE) were sampled from 88 national and international indexed journals. Two quantitative analysis tools were used to auto-generate the frequency percentages, which were then analysed with SPSS. It was found that MNNE RAs showed a significantly denser level of overall emotional appeal than INE RAs. The authorial tones of emotiveness and passiveness were also distinctly heavier in academic MNNE RAs than INE RAs. These were concluded as the marked rhetorical features of non-native English writers, deflecting them from the ones used by native English writers. In terms of research implication, the common trend of these features was not to be misconstrued by MNNE writers as the main rhetorical appeal of research composition.

Contribution/ Originality: This paper contributes to the existing literature by showing the rhetoric of academic writing for common academic research writers from the perspective of contrastive rhetoric as well as many rhetorical features that can be used to construct academic research compositions to appeal to the emotions of the writers and readers.

1. INTRODUCTION

1.1. Background of Study

Academic research writers demonstrate a subtly different level of rhetoric in their academic research writing compared to the common types of academic writing at the tertiary level of education. Therefore, it is noteworthy to

discuss the rhetoric of academic writing for common academic research writers from the perspective of contrastive rhetoric. In addition, many rhetorical features can be used to construct academic research compositions that appeal to the emotions of the writers and readers. Thus, the discussion of these two concepts is shown as part of stating the research problem with the research questions to be addressed in this research.

1.2. The Rhetoric of Academic Writing in Research Composition

Academic writing is distinguished from creative discourse for various reasons as it is written with different styles, context, and audience to appeal to their audience. According to Rafikova (2022) academic writing has specific features, focus, and style exhibited at different levels in various forms, such as the different levels of its formality, complexity, and explicitness. The specific features are also demonstrated in the academic choice of words, referred to as the rhetoric of academic writing to appeal to the academic audience. In addition, the publication competition in producing academically appealing research compositions causes non-native English writers, especially English as a second language (ESL) writers, to apply various rhetorical elements perceived by them to be academically engaging to native English writers. ESL writers refer to non-native English writers whom their English compositions were heavily influenced by native English due to their education system and country's history of colonisation by native English colonialists. The example countries are Malaysia, Brunei, India, and Singapore. As shown in various studies of contrastive rhetoric by Mohamad (2022) and Rafikova (2022), the heavy influences of English as a native language were reflected in their compositions of academic writings such as research essays, write-ups, articles, reviews, and books in which their rhetorical features were distinct from the rhetorical features in common academic writing.

Contrastive rhetoric is a branch of applied linguistics used to examine the rhetorical features in various academic or non-academic types of discourse. Connor (1996) applied contrastive rhetoric in studying the rhetoric of academic writing based on their theoretical framework, known as Modern Theory of Contrastive Rhetoric in identifying similar and different recurring features shown by two different groups such as native English and non-native English writers. More rhetorically appealing academic texts were determined by greater usage of specific rhetorical devices used for different rhetorical purposes. Combined with the perspective of the near-nativeness of English rhetoric in academic research compositions, any studies with significant differences in the selected rhetorical features between two groups can be used to suggest the lack of near-nativeness of their English rhetoric, whereas the minor differences may suggest otherwise (Mohamad, 2022; Mohamad, Pilus, Mohaini, Md Zolkapli, & Abdul Wahab, 2022; Vinkers, Tijdink, & Otte, 2015). By integrating the psycholinguistic framework of Pennebaker, Boyd, Jordan, and Blackburn (2015) Linguistic Inquiry and Word Count (LIWC) with the Aristotelian rhetorical appeal to *Logos* (which is an appeal to the logical domain) Aristotle and Kennedy (1991); Mohamad et al. (2022) examined the similarities and differences of the rhetorical features used in academic research abstracts written by native and non-native English writers. English native writers frequently used more rhetorical features of fact and figures composed at the lexical level and lengthy complex sentences composed at the sentential level than non-native English writers.

The above conclusion is substantiated by Rafikova (2022) that academic writing should be composed of facts and figures to show logical precision in supporting the author's argumentation. If writers are unable to use them properly, it makes their writing less appealing to the logical minds of the readers. Similar to the level of formality used in academic writing, it is the tool of rhetoric to demonstrate logical appeal. In their correlational study, Mohamad (2022) found a significant correlation between high levels of formality and high levels of logical appeal in research composition. Baleghizadeh and Asadi (2022) also studied the demonstration of formality in the research articles from Iranian and international journals. They discovered that non-native English writers from the Iranian University applied a higher level of formality in their academic articles than native English writers. Based on the above discussion, academic writing contains rhetorical tools to appeal to academic readers.

1.3. Authorial Emotiveness and Passiveness of Academic Language

Academic written discourse, as opposed to creative discourse, is well-known for its monotony, indirectness, and lack of emotiveness in the tone and language. However, it was also expected to apply simple and straightforward language to be scientifically appealing in communicating the content (Rafikova, 2022; Wen & Lei, 2022). According to Pagliawan (2017) as cited in Khaghaninejad, Azarian, and Javanmardi (2022), academic writing requires all types of formal discourse not to be influenced by the prevailing use of emotive language. The use of emotive language in academic writing did not seem to be a significant cause for concern since many academic research writers would continue writing their research in an emotionless and indirect style of composition.

Nonetheless, descriptive adjectives can be rhetorically used by academic research authors to evoke the emotional appeal of academic writing. Also known as evocative adjectives, Mohamad (2022) discovered a strong correlation of this rhetorical tool with the appeal of emotional tone in the academic research composition. In a readability-based study on the use of adjectives and adverbs conducted by Wen and Lei (2022) in scientific articles, it was discovered that the trend of using emotion-related adjectives had shown an increasing trend in the scientific articles sampled from 123 scientific journals for 50 years from 1969 to 2019. The research specifically applied the word 'cluttered' to describe the common use of emotive adjectives in writing these scientific articles. However, the non-emotive (or neutral) adjectives did not show significant changes over the same period. Thus, the same pattern may also be demonstrated by Malaysian ESL writers since there was a significant presence of the emotive lexico-phrasal items to express the tone of their emotional appeal in academic research composition (Mohamad, 2022).

In addition to the authorial emotiveness in the lexico-phrasal linguistic feature, the passiveness of their authorial voice in composing academic research was another academic concern to be examined in the rhetoric of academic research writing. According to Inzunza (2020), the passive application of authorial voice in writing academic articles could cause ambiguity in the delivery of information due to the centrality of information on the actions, instead of the writers. To a certain extent, it could be misperceived as the tone of pompousness due to the rhetorical focus on the completion of researchers' actions, thus defying the objectivity of academic writing. In a study on voice passiveness in academic articles for a span of 20 years done by Khaghaninejad et al. (2022), they concluded that there was a declining trend in the use of passive voice used by native English writers in a hard science over soft science in scientific articles to show the authorial tone of impersonality and objectivity, and reduce the ambiguity of their message.

Nonetheless, the trend of using passive sentences in composing sentence-level research ideas was still commonly shown by many academic writers. As examined by Mohamad (2022), there was a significant relationship between emotional appeal and the use of passiveness in academic research composition. The same pattern was also reflected in a study by Amnuai, Kotuta, and Duangprasertchai (2020) who examined the frequencies of passive sentences in the composition of research abstracts sampled from the journals of applied linguistics. Passive sentences were commonly used in the method and result sections of the research abstracts. Based on these studies, it could be suggested that the trend is still prevalent, and the debate about the use of active versus passive voice in various disciplines will be a continuous subject of concern from time to time.

Thus, it is implied that the authorial tones of emotiveness and passiveness had a special place in the rhetoric of academic research writing until to date. However, most of the above studies excluded the focus on the differences in the rhetorical use of emotional appeal through these two rhetorical items. It remained unknown if such a tendency was also prevalent in indexed journals.

1.4. Objective and Research Questions

This study sought to examine the rhetorical features in academic research writing associated with the emotional tone of language in applied linguistics. The following research questions were developed in the present

research by exploring whether the international native English and Malaysian non-native English writers showed differences of these rhetorical features in composing their research abstract sampled from indexed journals:

i. Do international native English (INE) and Malaysian non-native English (MNNE) writers differ significantly in their demonstration of emotional appeal in composing their research abstracts from indexed journals?

ii. Do international native English (INE) and Malaysian non-native English (MNNE) writers differ significantly in their   lexico-phrasal items of emotive phrases in composing their research abstracts from indexed journals?

    a) Do these groups of writers differ in their subtypes of emotive phrases presented in the form of descriptive adjectives, positive, and negative words?

iii. Do international native English (INE) and non-native English (MNNE) writers differ significantly in their rhetorical items of passive voice in composing their research abstracts from indexed journals?

2. LITERATURE REVIEW

2.1. Past Studies

According to Aristotle and Kennedy (1991), a persuasive academic discourse can be constructed based on three elements of rhetoric. Meanwhile, according to Myllylä (2019) and Mohamad (2022), these elements are reflected in the context of academic writing, as shown in Figure 1. The first element is the mode of persuasion, referring to *Logos*, *Ethos*, and *Pathos*. In the present study, the focus was placed on *Pathos* as the emotional mode of persuasion. The choice of words in language use or *topoi* is the second element to be discussed in this study. The third element is the arrangement of text which refers to the overall writing style, which was excluded for examination as it was not the focus of the present research.

Based on Figure 1, the two elements were explored in terms of the emotional mode of persuasion – that was, the appeal to *Pathos*, and the language use (*topoi*), which referred to the selected rhetorical features associated with appeal to emotions manifested at the lexico-phrasal, and sentential levels of composition in an academic text.
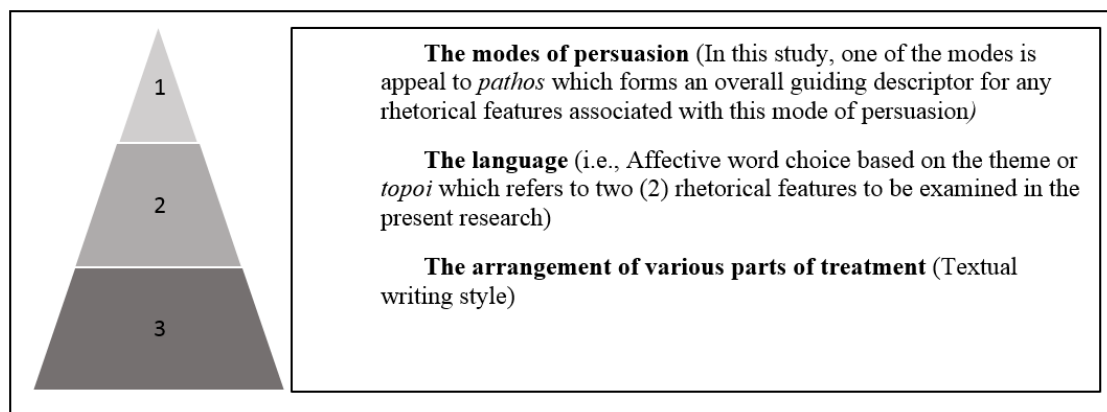

The modes of persuasion (In this study, one of the modes is appeal to *pathos* which forms an overall guiding descriptor for any rhetorical features associated with this mode of persuasion)

The language (i.e., Affective word choice based on the theme or *topoi* which refers to two (2) rhetorical features to be examined in the present research)

The arrangement of various parts of treatment (Textual writing style)

Figure 1. Three (3) Aristotelian elements of rhetoric.
Source: Aristotle and Kennedy (1991).

Aristotle and Kennedy (1991) clarified that rhetorical appeal to *pathos* (emotions) could be demonstrated using emotion-related rhetorical features. In the case of creative writing, it is common to see the use of anecdotes, metaphors, figures of speech, or idiomatic expressions to make it more emotionally appealing. As for academic writing, applying the rhetorical effect of emotional appeal could be effectively shown through choice of writing styles to evoke the writers' psychological emotions. This could be attained by presenting the written discourse with descriptive choice of words, emotionally loaded words, relatable examples, and elaborate case studies in an indirect and narrative, but academic tone of writing (Mohamad, 2022). Pennebaker et al. (2015) suggested based on the

proposed LIWC model of psycholinguistic domains, that a writer's emotion could be measured through the presentation of lexico-phrasal items associated with the writer's sentiment, and their negative and positive mental process. It was known as the affective process, which was placed under the domain of emotional tone of language (terminologically referred to as tone) in their LIWC framework. Mohamad (2022) validated in their study that the emotional tone domain identified in the LIWC framework was a distinctly useful measure for the *Pathos* – Aristotelian emotional mode of persuasion.

The intermediation of language could be used to measure the manifestation of people's emotions (Foolen, 1997), as cited in Foolen (1997). Borchert (2018) substantiated the argument by asserting that word choice and syntactic structure in composing a written discourse were rhetorically used to demonstrate the writer's various sentiment levels. While academic research writing was expected to be objective, it could be rhetorically appealing with the use of emphatic and emotive types of words and phrases (Mohamad, 2022; Pennebaker et al., 2015), elaborative adjectives and adverbs (Wen & Lei, 2022), and indirect sentences in the form of passive voice (Inzunza, 2020; Mohamad, 2022). Thus, the following discussion elaborates on the functional elements of two rhetorical features – the choice of emotive words and passive sentences in composing academic writing.

According to Myllylä (2019) and Mohamad (2022), the use of emotive phrases and passive sentences was employed to evoke emotional appeal in readers' perceptions. Mohamad (2022) maintained that sentiment-evoking words would reflect the Aristotelian appeal to *Pathos* by measuring emotion-related words and phrases. The function of descriptive adjectives was evocative in nature. Evocative adjectives were commonly used in front of words for people, places, animals, or things, such as '*gunshot* wounds', '*traumatic* injuries', and '*active* cells' (Jitpranee, 2017). As shown in the frequency analysis studies of scientific articles by Álvarez (2015) and Jitpranee (2017), native English writers' twenty-five scientific articles were studied based on Khamying (2007) conceptual model of 11 functions of adjectives in English, as cited in Jitpranee (2017). It was found that more than 12 per cent of the text was constructed in adjective words from the total number of 14 343 words in all articles under examination. From the percentage, 66 per cent constituted the evocative adjectives, making them the most frequent function compared to other functions of adjectives (quantitative, numeral, interrogative, demonstrative, distributive etc.).

Furthermore, the use of a variety of positive words over negative words would easily appeal to the readers' emotions which was also suggested by Myllylä (2019) based on the Pollyanna Theory. Based on the same theory, Kloumann, Danforth, Harris, Bliss, and Dodds (2012); Lench and Bench (2012); Pérez-García and Sánchez (2020), and Cao, Lei, and Wen (2021) argued that priming their argument with positive over negative words in their reading texts would be able to appeal to people's emotions. Cao et al. (2021) further elaborated that researchers' work written in positive and negative choices of words would enhance the persuasiveness of their writing. Based on their study of more than 2.2 million native English and non-native English research articles including the research abstract sections published between 1997 and 2019, it was discovered that there was substantially an incremental trend in the use of positive words compared to the negative ones for a span of 22 years. The same pattern of use was shown by Vinkers et al. (2015) who studied the usage of positive and negative words in scientific research abstracts from the medical field published in PubMed from 1974 until 2014. These research abstracts showed a significant increase in using both positive and negative choice of words. Thus, it was suggested from these studies that the increasing trend of persuasiveness in writing academic research was demonstrated by numerous writers through the increasing use of positive words as well as negative words to emotionally appeal to their academic research readers. However, the study by Cao et al. (2021) did not explore the differences in the usage patterns between the native and non-native groups of English writers because it was already explored by Vinkers et al. (2015) who discovered significant differences in the employment of positive and negative words by native and non-native English writers in composing their research abstracts. Apart from the greater use of positive words over negative ones, non-native English writers showed richer usage of positive words than native English writers. The study discovered the same patterns of usage in the published textbooks within the same period. However, marked

differences were not shown in the use of neutral words. Based on the near-native rhetoric postulated by Mohamad et al. (2022), the lack of differences in these rhetorical features suggested the non-native English writers' near-native English levels of rhetoric in academic research composition.

Apart from the various types of emotive words in evocative adjectives and positive and negative words, another rhetorical feature to be examined for the Aristotelian rhetorical appeal to emotions was the employment of passive voice. According to Myllylä (2019), the passive voice would reflect the appeal to *pathos*, which was the opposite of the active voice used to demonstrate the appeals to the Aristotelian *ethos* of the writers. Psychological passivity was another concept studied by some researchers to indicate the emotional effects of passivity on people's minds (Fuyuno, 2013; Myllylä, 2019; Simon, 2020). Termed psychological passives for the attachment of passive phrases with emotional connotations, Fuyuno (2013) examined the concept in written texts with 4 million words taken from a sub-corpus of the British National Corpus (BNC). Common combinations were also found in these psychological passives in phrases and sentences such as 'be' + 'concerned about', ''found out', 'interested in', 'convinced about' and 'surprised at'. The same construct was examined by Engdahl and Laanemets (2015) but it was termed prepositional passives in written text corpora of Norwegian, Swedish, and Danish languages. The prepositional passives in periphrastic form (phrasal verbs in passive form) were exhibited in all three languages, such as 'be + thrown out', 'be + put up', and 'be + looked after'. It could be concluded from Fuyuno (2013) and Engdahl and Laanemets (2015) that the concept of the rhetorical passivity of voice involves the animate entities who were psychologically affected by the action of the doer expressed in the participial sentences.

Furthermore, other studies have indicated the use of similar passive sentences in academic research compositions. For example, in a study of 40 research abstracts taken from master theses, Khelifi and Bouri (2018) confirmed that voice passivity was most frequently constructed in composing the methodological section of the research abstracts, followed by the sections on research purpose and results. They also found that the word combinations to make sentences such as 'were found' and 'were explored' were more commonly demonstrated in the results section of research abstracts than other sections of the research abstracts. This finding was concurred by Amnuai et al. (2020) who examined the frequencies of passive sentences in the method and result sections of 30 research abstracts on applied linguistics sampled from six indexed journals. Passive sentences were, thus, concluded to be frequently rich in composing the method and result sections of the research abstracts.

As discussed earlier, one of the rhetorical features for appeal to *ethos* was commonly demonstrated with the use of active voice (Myllylä, 2019). On the other hand, the rhetorical feature for appeal to *pathos* was typically shown with the use of passive voice sentences. Hussain, Ali, Kasim, and Jalaluddin (2020) showed the commonality of voice passiveness in report writing which was also applied in the composition of abstract writing. According to these researchers, the tendency to convey an unfavourable piece of information was rhetorically effective with passive sentences by removing the faulty information of doers so that the focus would be placed on the action. This pattern was supported by Myllylä (2019) and Simon (2020) who examined the regular use of this rhetorical feature in scientific articles involving the faulty doers of the actions in a sentence. Attention could be diverted to the results of the actions by removing the doers from the unprecedented context (Hussain et al., 2020) in which the function would be rhetorically effective in imparting problematic pieces of information associated with the research in the form of pervasive claims, unexpected outcomes, or inconclusive data. However, the frequent use of this rhetorical trick was possible to endanger the credibility of academic research if it was used inappropriately for such purposes. Thus, it would be highly recommended that research writers did not abuse it with such a rhetorical approach. Based on these studies and the argumentation given for and against the use of passive voice sentences, it was concluded that passive voice sentence is a rhetorical feature to make academic writing more appealing compared to the active voice (Amnuai et al., 2020; Connor, 1996; Ferris, 1994; Fuyuno, 2013; Hyland, 2004; Kaplan et al., 1994; Khelifi & Bouri, 2018) in that this rhetorical feature ought to be used accordingly and ethically.

3. METHODOLOGY

3.1. Research Design

By adopting content analysis as the research design, this study was conducted with quantitative approach to identify the frequencies of rhetorical features associated with emotional appeal shown by the research abstract writers at the lexico-phrasal and sentential levels. The researcher constructed a theory-driven selection table of rhetorical features composed at the lexico-phrasal and sentential levels of texts with a rhetorical appeal to *pathos* as the rhetorical aim. The requirements for the selection of the rhetorical features are presented in the following researcher's table of theory-driven selection of rhetorical items, as shown in Table 1.

Table 1. Theory-driven table of selecting rhetorical features based on three integrated conceptual models adapted from Mohamad (2022) for academic research text composition.

Aristotelian elements of rhetoric			Functions of *pathos* and related rhetorical items (RI)
Aristotelian characteristics of rhetorical discourse (Aristotle & Kennedy, 1991)			MODE of persuasion: Appeal to pathos (Emotional appeal)
			Descriptors
			Descriptiveness and emotiveness of the choice of words language, negative and positive tone of language, indirectness of message delivery with passivity of the tone of voice
			Effect of the appeal
			Evokes emotional reactions
			Emotional tone (Tone) from LIWC2015 psycholinguistic domain (Pennebaker et al., 2015)
			Two selected rhetorical items (RIs)
Topoi (Choice of words/ Language)	Levels of composition (Bulté & Housen, 2018)	Lexico-phrasal level	Lexico-phrasal rhetorical item (RI): Emotive phrases Descriptive adjectives (E.g., useful, efficient, effective, important, lacking, scarce, under-researched, limited), Positive nouns (E.g., achievement, significance, success), Negative nouns (E.g., problems, challenges, lack, constraint)
		Sentential level	Sentential rhetorical item (RI): Passive voice (E.g., It was found…, the implications are highlighted…, the method has been applied in different settings…)

As shown above, Table 1 was constructed based on the integration of three conceptual models related to the topic of rhetoric and academic composition. The first conceptual model was derived from Aristotle and Kennedy (1991) on the characteristics of rhetoric in discourse, including the mode of persuasion (i.e., *pathos*) and the *topoi* or the language used based on the theme of discourse. This was chosen as the main theoretical model to plot the other two conceptual models, which were drawn from Pennebaker et al. (2015) on the Language Inquiry of Word Count (LIWC) overall summary variables for lexical words associated with psycholinguistic domains, and Bulté and Housen (2018) on the textual levels of academic research compositions. One of the overall summary variables is related to lexical words for the psycholinguistic domain of Emotional Tone to be plotted with the Aristotelian appeal to *pathos* (emotions) as the main mode of persuasion to evoke the emotional reactions of the audience (Mohamad, 2022; Pennebaker et al., 2015). Thus, this fulfilled the first characteristic of Aristotelian rhetoric. The second conceptual model was taken from Bulté and Housen (2018) on the compositional levels of academic texts, which include the lexico-phrasal and sentential levels of compositions. This model can be plotted with the second characteristic of Aristotelian rhetoric, which is the language used in the choice of words according to the relevant academic theme of the text.

Two rhetorical items were selected based on this theory-driven researcher's table in selecting rhetorical features for an academic text. The first rhetorical item is Emotive Phrases (EPs), plotted in line with the lexico-phrasal level of academic composition. EPs are presented in the form of descriptive adjectives, as well as negative and positive words. It fulfils the descriptors of the mode of persuasion for its descriptiveness and emotiveness in the choice of words and the negative and positive tone of language use. The second rhetorical item plotted in line with the sentential level of academic text composition is the passive voice which demonstrates the indirect form of delivering ideas or messages in the passive tone of language. As substantiated by Mohamad (2022), their study showed the multiple regression relationships of emotive phrases and passive voice with the LIWC2015 overall summary variable for Emotional Tone in the writing of academic research compositions.

3.2. Sampling

To analyse the use of these two rhetorical items in composing academic research text, 480 research abstracts were sampled from 88 indexed journals from both International native English and Malaysian non-native English writers. The samples were chosen based on the criterion method of sampling, in which five criteria were determined prior to the data collection.

These include 1) the length of the research abstracts within the 150-to-250-word limit, 2) the 6-year span of indexed journal publication from 2013 until 2018 (80 research abstracts proportionately sampled for each year), 3) two groups of research abstracts (RAs) written by International native English and Malaysian non-native English writers (30 research abstracts per year and per group with a total of 240 native English research abstracts and non-native English research abstracts), 4) topics of research related to English Studies and Linguistics, and finally 5) the difference of the collected total number of words from the expected total number of words within a minimum of 10 per cent. According to Li and Xu (2020) the criterion method of sampling was the frequent method adopted for their contrastive research analysis involving native and non-native English research articles from the field of social science journals. The total number of words for all 480 RAs according to the two groups of writers are as follows.

Table 2. Expected number of words against observed number of words for 480 research abstracts.

No.	Types of RAs	Expected total number of words
1.	240 International native English (INE) RAs	48, 000 words
2.	240 Malaysian non-native English (MNNE) RAs	48, 000 words
No.	Types of RAs	Observed total number of words
1.	240 International native English (INE) RAs	44, 612 words
2.	240 Malaysian non-native English (MNNE) RAs	48, 826 words

As can be seen in Table 2, 48, 000 words were expected for 240 International native English (INE) RAs and 240 Malaysian non-native English (MNNE) RAs, respectively. After calculating all the words collected for 480 RAs, it was found that INE RAs contained 44, 612 words, whereas MNNE RAs had 48, 826 words. Both groups did not exceed a 10 per cent difference from the expected total words, with 7.0 per cent for INE RAs and less than 1.0 per cent differences for MNNE RAs. Therefore, apart from fulfilling all the four criteria mentioned earlier, the samples fulfilled the fifth requirement as determined in the criterion method of sampling.

3.3. Instrumentation for Data Collection and Analysis

Two instruments for data collection and data analysis were used in this research. The first instrument was the LIWC2015 software application. It is a quantitative software for content analysis developed by Pennebaker et al. (2015) based on their theoretical framework of the LIWC2015 psycholinguistic model. The second instrument for data collection and analysis was the Readability Online application (Readable, 2021) developed by a web-based organisation for the content analysis of the readability level of any written text.

Figure 2. Landing page of the free version of LIWC2015 software application.

Figure 2 illustrates the visual main page for the free version of the LIWC2015 website. Any public users can go to their website and then simply copy and paste the text of their interest in the box provided at the bottom of the page. Then, they can click analyse to automatically generate the textual analysis report of their texts. The free version will produce a basic-level analysis report, containing information on the overall percentages of three psycholinguistic domains, including the percentage scores for the analytical, clout, and emotional tone domains. According to Pennebaker et al. (2015), these are known as the summary variables, which are calculated based on the psycholinguistic features of the lexico-phrasal items used in millions of words in their database. The interest of the present study was in the percentage scores for the emotional tone domain. For the paid version, more sub-features are provided, which can provide analysis reports for various types of lexical and rhetorical items such as the use of various parts of speech, the use of lexical items related to social, cognitive, and affective processes, as well as the sentence-level analysis report of the tenses and many other features. The interest of the present research was in the percentage report for the analysis of emotive words operationally defined by descriptive adjectives, positive and negative phrases. The reliability and validity of the software applications have been repeatedly established over various types of texts which include professional, scientific, creative, narrative, and other types of discourse, as also included in their analysis reports. In a study done by Mohamad (2022) the validity and reliability of the software application in terms of the overall summary and individual percentages were tested with a compilation of research abstracts in which it was found that the application could be used for the academic research type of text. There was also a significant relationship between the research samples and the LIWC2015 database of scientific texts.

Therefore, 480 research abstracts sampled from both groups of international native English and Malaysian non-native English publication journals were saved in word file format individually and labelled according to their native and non-native types of English. The collected data were then imported into the LIWC2015 paid version software application for data analysis to auto generate the data in terms of the overall percentages scores for the

overall summary of items, various features, and sub-features. The percentage scores for the overall domain of emotional tone and the emotive words chosen earlier were exported into the SPSS for statistical analysis. Independent sample t-tests were used to compare the percentages of these rhetorical features between International native English and Malaysian non-native English groups of research abstracts.

The second instrument is the Readable.com online application which can be accessed online via the organisation's website. Figure 3 shows the illustration of the main page of the analysis tool accessible by the public users with limited features in the analysis reports.
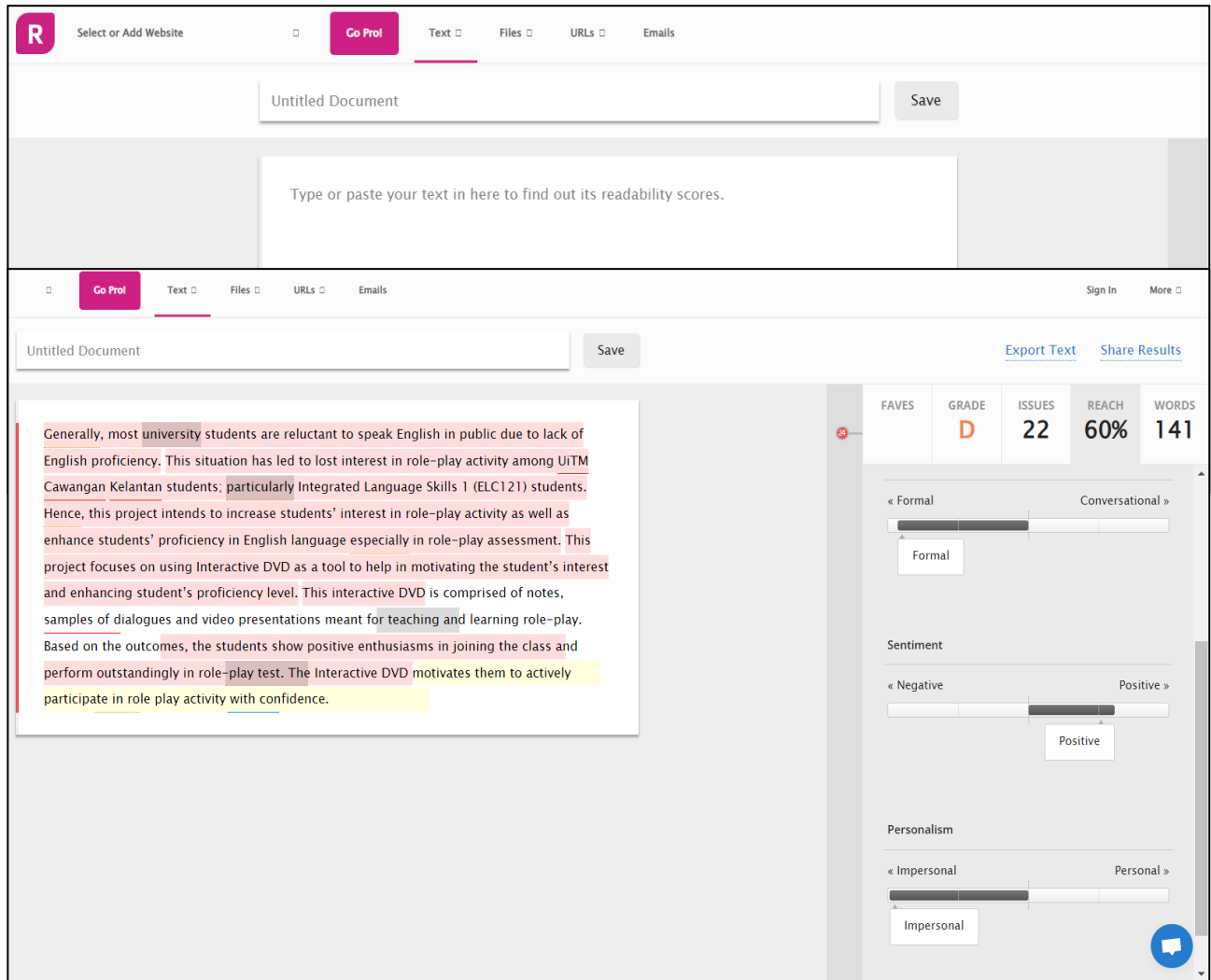

Figure 3. Visual interface of the landing page of readable.com online analysis tool.

As shown in Figure 3, the landing page of the analysis tool is also provided online for free for public users to try. This online analysis tool can give auto-generated basic-level analysis reports for texts in terms of the legibility, familiarity, difficulty, and complexity levels, as well as the sentiment levels of a text (Readable, 2021). As for the paid version, it can auto generate the percentage reports for other lexical, sentential, and rhetorical features such as the use of passive and active voice, the levels of formality, personalism, and sentiment, the length of sentences and many more. The interest of the present research was in the percentage scores for the passive voice constructed at the sentence level.

For the use of this instrument in the data analysis stage, the same 480 sample research abstracts collected earlier and saved individually in the word text files were imported into this online application. The analysis reports in the form of percentages for all features given for the paid versions were autogenerated by this analysis tool. The

70

researcher of this study then selected the relevant reports to be further examined, which were the percentage scores of the passive voice for all RAs and then imported them into the SPSS for statistical analysis. Like the analysis method and types of statistical tests applied for the overall domain of emotional tone and emotive phrases, independent sample t-tests were used to compare the percentages of these rhetorical features between International native English and Malaysian non-native English groups of research abstracts.

4. FINDINGS

The section is dedicated to presenting the finding reports for the three research questions formulated in the earlier section. After analysing all 480 research abstracts from both International native and Malaysia native English groups of writers, the results of the independent sample t-tests were shown in terms of the overall percentages for the LIWC2015 emotional tone domain used to measure the appeal to *pathos*, the percentages for the emotive phrases at the lexico-phrasal level, and the percentages for the use of active voice at the sentential level of academic research composition.

4.1. Pathos as Rhetorical Appeal in Research Abstracts

As operationally defined earlier, *Pathos* as an emotional mode of persuasion was measured in terms of the overall percentage of the LIWC2015 Domain of Emotional Tone. In addition, comparative analyses were done on both groups of research abstracts – International native English (INE) and Malaysia non-native English (MNNE) RAs, as shown in the independent sample t-test results below.

Table 3. Appeal to Aristotelian *pathos* in INE and MNNE research abstracts.

Appeal to pathos	Groups of RAs	M	SD	t	Df	p	Cohen's d
The LIWC 2015 emotional tone	INE RAs	46.46	23.74	2.57	478	0.010	0.241
	MNNE RAs	52.45	25.75				

Note: Df stands for degree of freedom.

Table 3 shows the independent sample t-test results obtained for the appeal to *pathos* as measured by the percentage scores for the LIWC2015 Emotional Tone Domain between INE and MNNE groups of research abstracts. It was discovered that INE group of RAs showed a lower level of appeal to *pathos* ($M = 46.46$, $SD = 23.74$) than the MNNE group of RAs ($M = 52.45$, $SD = 25.75$) with $t(478) = 2.57$, $p = 0.01$. In addition, the effect size fell within the small range (Cohen's $d = 0.241$). It was thus concluded that the demonstration of emotional appeal was significantly heavier in the composition of Malaysian non-native English research abstracts compared to their INE RAs. In addition to the above analysis, it is important to note that two rhetorical items were selected to reflect further the appeal to *pathos* at the lexico-phrasal and sentential levels, which were emotive phrases and passive voice, respectively. Thus, the following analysis shows the presentation of the independent sample t-test results for the frequency of emotive phrases, followed by the presentation of the independent sample t-test results for the frequencies of passive voice as an elaborate rhetorical appeal tool in academic research abstracts.

4.2. The Frequent Presence of Emotive Phrases in Research Abstracts

Table 4 shows the frequency of emotive phrases in 480 research abstracts from both INE and MNNE groups in percentage scores. Comparative analysis was also conducted to see the differences between both groups.

Table 4. Frequencies of emotive phrases as appeal to Aristotelian *pathos* in INE and MNNE research abstracts.

Lexico-phrasal rhetorical item	Groups of RAs	M	SD	T	Df	P	Cohen's d
Emotive phrases	INE RAs	7.56	3.18	1.99	478	0.047	0.182
	MNNE RAs	6.98	3.25				

Note: Df stands for degree of freedom.

As shown in Table 4, emotive phrases were used as rhetorical items to elaborate the domain of emotional appeal to Aristotelian *pathos*. It was found that the INE group of RAs ($M = 7.56$, $SD = 3.18$) contained a significantly higher level of appeal than the MNNE group of RAs ($M = 6.98$, $SD = 3.25$) in terms of their use of emotive phrases, $t(478) = 1.99$, $p < 0.05$. However, further analysis revealed that the result fell within an insignificant range of effect size (Cohen's $d = 0.182$), far below the minimum range required in terms of the level of significant effect. To a certain rhetorical degree, INE RAs were thus concluded to demonstrate a heavier and richer usage of emotive phrases than the MNNE RAs in trying to reflect their emotional appeal in academic research composition despite the lack of corroboration with the overall appeal to *pathos*. Nonetheless, the finding was limited by the inconsequential effect of the use of this rhetorical item.

The rhetorical item of emotive phrases was represented by three sub-types of rhetorical items, which are descriptive adjectives, positive words, and negative words. Thus, further comparative analyses were conducted on these three sub-items to determine their differences in composing research abstracts.

Table 5. Frequencies of descriptive adjectives, positive words, and negative words for their emotive appeal in INE and MNNE research abstracts.

Subtypes of emotive phrases	Groups of RAs	M	SD	T	Df	P	Cohen's d
Descriptive adjectives	INE RAs	4.61	2.12	4.38	478	0.000	0.397
	MNNE RAs	3.84	1.76				
Positive words	INE RAs	1.79	1.37	2.26	478	0.024	0.208
	MNNE RAs	2.10	1.60				
Negative words	INE RAs	0.65	0.80	0.53	478	0.595	0.051
	MNNE RAs	0.60	1.11				

Note: Df stands for degree of freedom.

As shown in Table 5, descriptive adjectives, positive, and negative words were used as rhetorical items to elaborate further the rhetorical use of emotive phrases. It was found that the INE group of RAs ($M = 4.61$, $SD = 2.12$) contained a significantly higher level of appeal than the MNNE group of RAs ($M = 3.84$, $SD = 1.76$)) in terms of their use of descriptive adjectives, $t(478) = 4.38$, $p < 0.001$. In addition, further analysis revealed that the result fell within a small range of effect size (Cohen's $d = 0.1297$). In line with the overall heavier usage of emotive phrases in the preceding analysis in INE RAs than the MNNE RAs, the INE RAs were similarly concluded to contain a heavier use of descriptive adjectives than the MNNE counterpart of RAs.

However, it was discovered that INE RAs ($M = 1.79$, $SD = 1.37$) demonstrated significantly lower positive words than the MNNE RAs ($M = 2.10$, $SD = 1.60$), $t(478) = 2.26$, $p = .024$. The results also fell within the small range of effect size (Cohen's $d = 0.208$). Therefore, MNNE RAs were concluded to demonstrate a heavier usage of positive words to appeal to the emotional domain than the INE RAs. Finally, it was revealed that both INE ($M = 0.65$, $SD = 0.80$) and MNNE ($M = 0.60$, $SD = 1.11$) groups of research abstracts did not show significant differences in their presence of negative words, $t(478) = 0.53$, $p = .595$. As for the effect size, the use of this sub-item fell below the required small range required for the effect size ($d = .051$), which substantiated their lack of significant difference. Based on the earlier interpretation of contrastive analysis on the nearly similar level of rhetorical features between the two groups, their non-significant differences would suggest the MNNE RA writers' near-native level of English in terms of their rhetorical use of negative words, thus contributing to their near-native English rhetoric of research abstract composition in this categorical feature.

4.3. The Frequent Presence of Passive Voice in Research Abstracts

Another rhetorical item with an appeal to *pathos* was the use of passive voice in composing research abstracts. Table 6 shows the frequency of passive voice in 480 research abstracts from INE and MNNE groups in percentage scores. Comparative analysis was also conducted to examine the differences between both groups.

Table 6. Frequencies of passive voice as appeal to Aristotelian *pathos* in INE and MNNE research abstracts.

Sentential rhetorical item	Groups of RAs	M	SD	T	Df	P	Cohen's *d*
Passive voice	INE RAs	26.09	22.08	5.03	478	0.000	0.459
	MNNE RAs	36.40	22.80				

Note: Df stands for degree of freedom.

As shown in Table 6, passive voice was used as the rhetorical item to elaborate the details on the emotional appeal of Aristotelian *pathos*. It was found that the INE group of RAs ($M = 26.09$, $SD = 22.08$) exhibited a significantly lower level of appeal than the MNNE group of RAs ($M = 36.40$, $SD = 22.80$) in terms of their use of passive voice, $t(478) = 5.03$, $p < 0.001$. In addition, further analysis revealed that the difference fell within a borderline middle range of effect size (Cohen's $d = 0.459$). This finding suggested that MNNE RAs would demonstrate a heavier rhetorical appeal to *pathos* than INE RAs by demonstrating a denser use of passive voice in composing their research abstracts.

5. DISCUSSION AND CONCLUSION

5.1. Representation of Pathos as Rhetorical Appeal for Academic Research Composition

In this study, the rhetoric of academic research writing was examined from the perspective of Aristotelian based on two characteristics of Aristotelian rhetoric (Aristotle & Kennedy, 1991). This would include the emotional appeal as the mode of persuasion to evoke the audience's emotional reaction in discourse and the choice of words based on *topoi* of academic writing at the various levels of compositions. The first characteristic was measured with the LIWC domain of Emotional Tone by Pennebaker et al. (2015). Meanwhile, the second characteristic was examined by focusing on two rhetorical items, which were the emotiveness of language demonstrated at the lexico-phrasal level and the passiveness of the tone of voice demonstrated at the sentential level.

It was found that emotional appeal as the mode of persuasion in the composition of academic research discourse was commonly used by native and non-native English writers as their rhetorical means to appeal to academic readers. However, further analysis revealed that writers of Malaysian non-native English academic research abstracts would demonstrate significant differences in using more emotional appeal than writers of the International native English research abstracts. In line with the descriptors of the appeal to *pathos* as postulated by Aristotle and Kennedy (1991), this finding generally suggested that the non-native English writers from Malaysian group would project their authorial voice with heavier emotional tone in their academic writing composition than their non-native English counterparts. This finding was also supported by Zhu (2013) in their study of academic written discourse in which the appeal to *pathos*, also known as 'qing' in Chinese, was a significantly greater mode of persuasion used by Chinese academic writers in academic writing.

5.2. Emotive and Passive Tone of Voice in Academic Research Composition

As discussed earlier, the manifestation of emotional appeal to *pathos* was further elaborated based on the use of various rhetorical items for academic research writing. This study examined two items: lexico-phrasal emotive phrases and sentential level passive voice. According to Borchert (2018), the choice of words could be used as a rhetorical method to express a writer's ideas. This was substantiated by Pennebaker et al. (2015) who argued for the use of descriptive adjectives and emotive choice of words to produce the evocative tone of writing and content expression. It was found in the present study that the rhetorical item of emotive phrases was more heavily used by academic research abstracts from the international native English writers than the Malaysian non-native English writers. However, the finding did not reflect the analysed overall emotional appeal which was supported by the inconsequential effect size shown by the international native English writers in using the emotive phrases as it fell below the required effect size, thus necessitating further evaluation of the research based on the subtypes of this rhetorical item.

The first subtype of this rhetorical item related to the emotiveness in the choice of words was the descriptive adjectives. It was discovered that descriptive adjectives rhetorically used to evoke the emotional appeal to *pathos* were reflected in both international native research abstracts and the Malaysian non-native research abstracts. Álvarez (2015) and Jitpranee (2017) underscored the rhetorical importance of evocativeness in the adjectives used in the composition of scientific text or research articles. The purpose was to provide more informative and impactful findings about the constructs under examination. Further analysis of the present study revealed that international native English research writers would demonstrate a heavier evocative element through their denser use of descriptive adjectives to express their points than the Malaysian non-native English writers. These findings would help suggest the importance of this rhetorical feature to other non-native English writers for them to use it in their academic research composition.

In terms of positive words as another subtype of emotive phrases, it showed the opposite finding in which the non-native compositions showed significant differences by exhibiting denser authorial tone in their choice of positive words than the native English. Meanwhile, both groups did not show any differences in their use of negative words, which accounted for less than one per cent of the total words of all research abstracts, thus indicating the markedness of their lack of usage of this rhetorical feature in academic research compositions. These finding was supported by Vinkers et al. (2015) who concluded from their studies that non-native English writers demonstrated the heavier use of positive words over negative words than native English writers from the United States, United Kingdom, New Zealand, and Australia in composing their research abstracts published in the PubMed over a span of 40 years from 1974 until 2014. Similar conclusions were also shown by Pérez-García and Sánchez (2020) and Cao et al. (2021) from their studies on the manipulation of positive adjectives as the most frequent means of emotional persuasion in ESL written texts. From the findings of the present and previous studies, it was concluded that the writers' dense use of positive words as a form of persuasive authorial voice could project a heavy emotive tone of expression, despite the continuous contention of its use. However, careful consideration would need to be exercised by academic research writers in their application of positive words in trying to make their composition emotionally appealing, as cautioned by Inouye and Mills (2021) in their studies of predatory publication in science and medical journals. They discovered that the affective tone of expression in scientific discourse was reflected through the excessive application of metaphorical and figurative language for the purpose of amplification, fakery, and exploitation in their implicit attempt to strengthen their rhetorical argument.

It is also noteworthy to address the lack of differences in the use of negative words and phrases between native and non-native English groups of research abstracts as persuasive means to appeal to the research readers. As discussed in the earlier section of the research, the lack of differences in the use of academic research rhetorical features would suggest the near-native English level of academic rhetoric. This argument was substantiated by Vinkers et al. (2015); Mohamad (2022) and Mohamad et al. (2022) based on their studies of academic research abstract compositions. The lack of significant differences in the use of negative words and phrases between native and non-native English research abstracts would demonstrate the near native English rhetoric of Malaysian non-native English writers in composing their research abstracts to emotionally appeal to the readers. Thus, this rhetorical item of negative words would not be a cause of academic concern by the Malaysian non-native English writers.

The emotional appeal in the form of a passive tone of voice was also examined in terms of the use of this rhetorical item in research abstract compositions. Passivity in the tone of voice was associated with the psychological aspects of the writers and readers (Fuyuno, 2013; Myllylä, 2019; Simon, 2020). It was discovered in the present study that international native English research abstract writers would demonstrate scarcer use of passive voice than Malaysian non-native English writers. Their lighter demonstration of passive voice used by native English writers was supported by Khaghaninejad et al. (2022) who discovered the decline of this rhetorical feature in scientific and academic texts from the Corpus of Contemporary American English COCA for a span of 20

years from 1990 until 2019. However, they would underline the significance of this feature as one of the rhetorical instruments to manifest the research objectivity in academic research texts. Based on the analysis of the present and previous studies, it was concluded that considerable use of passive voice as a rhetorical means to evoke an emotional appeal in the minds of the research readers in non-native English academic composition would warrant further research investigation in terms of the rationale behind it. Nonetheless, this rhetorical feature could objectively be used without any writing attempt to cover any defective information about the research methods, findings, or claims.

5.3. Implications and Suggestions for Future Research

In conclusion, the present study demonstrated important discoveries about the significant expression and the academic caution of emotiveness and passiveness to be used in academic research composition, as well as the rhetorical similarities and differences of authorial emotiveness as well as voice passiveness between native and non-native English writers. This finding has essentially built upon the existing knowledge of academic rhetoric initiated by Connor (1996) based on her modern theory of contrastive rhetoric. Future research could be explored by investigating the rationale behind the prevalent use of this feature by non-native English writers and exploring if there were any contextual reasons for the heavier overall, lexical, phrasal and sentential degrees of density than the native English writers.

REFERENCES

Álvarez, S. Z. (2015). *A study on the distribution of the adjective in English scientific texts from the eighteenth and nineteenth centuries.* Doctoral Dissertation, University of Coruña, Spain.

Amnuai, W., Kotuta, P., & Duangprasertchai, M. (2020). Textual and linguistic characteristics of research article abstracts. *LLT Journal: A Journal on Language and Language Teaching, 23*(1), 168-181. https://doi.org/10.24071/llt.v23i1.2407

Aristotle, & Kennedy, G. A. (1991). *Aristotle on rhetoric: A theory of civic discourse.* New York: Oxford University Press.

Baleghizadeh, S., & Asadi, F. (2022). A comparative study of text formality of applied linguistics articles written in English by Iranian and native speaking researchers. *Journal of Language Horizons, 6*(3), 7-25. https://dx.doi.org/10.22051/lghor.2021.30138.1472

Borchert, J. J. (2018). *Technical and professional writing [Open Educational Resources - English 2].* Retrieved from https://digitalcommons.pittstate.edu/oer-english/2

Bulté, B., & Housen, A. (2018). Syntactic complexity in L2 writing: Individual pathways and emerging group trends. *International Journal of Applied Linguistics, 28*(1), 147–164. https://doi.org/10.1111/ijal.12196

Cao, X., Lei, L., & Wen, J. (2021). Promoting science with linguistic devices: A large-scale study of positive and negative words in academic writing. *Learned Publishing, 34*(2), 82-88. https://doi.org/10.1002/leap.1322

Connor, U. (1996). *Contrastive rhetoric: Cross-cultural aspects of second-language writing.* Cambridge, United Kingdom: Cambridge University Press.

Engdahl, E., & Laanemets, A. (2015). Prepositional passives in Danish, Norwegian and Swedish: A corpus study. *Nordic Journal of Linguistics, 38*(3), 285-337. https://doi.org/10.1017/s0332586515000232

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. https://doi.org/10.2307/3587446

Foolen, A. (1997). The expressive function of language: towards a cognitive semantic approach. In: S. Niemeier & R. Dirven (Eds.), The language of emotions. In (pp. 15–31). Amsterdam: Benjamins.

Fuyuno, M. (2013). The usage of psychological passives in spoken and written English: A corpus-based analysis and implications for English language teaching. *Procedia-Social and Behavioural Sciences, 95,* 184-194. https://doi.org/10.1016/j.sbspro.2013.10.638

Hussain, S. S., Ali, A. M., Kasim, Z. M., & Jalaluddin, I. (2020). A review on the rhetorical structure and linguistic features of corporate annual reports. *International Journal of Academic Research in Business and Social Sciences, 10*(9), 236-256. https://doi.org/10.6007/ijarbss/v10-i9/7591

Hyland, K. (2004). *Genre and second language writing.* Ann Arbor: University of Michigan Press.

Inouye, K., & Mills, D. (2021). Fear of the academic fake? Journal editorials and the amplification of the'predatory publishing'discourse. *Learned Publishing, 34*(3), 396-406. https://doi.org/10.1002/leap.1377

Inzunza, E. R. (2020). Reconsidering the use of the passive voice in scientific writing. *The American Biology Teacher, 82*(8), 563-565. https://doi.org/10.1525/abt.2020.82.8.563

Jitpranee, J. (2017). A study of adjective types and functions in popular science articles. *International Journal of Linguistics, 9*(2), 57-69. https://doi.org/10.5296/ijl.v9i2.10811

Kaplan, R. B., Cantor, S., Hagstrom, C., Kamhi-Stein, L. D., Shiotani, Y., & Zimmerman, C. B. (1994). On abstract writing. *Text-Interdisciplinary Journal for the Study of Discourse, 14*(3), 401-426.

Khaghaninejad, M. S., Azarian, M., & Javanmardi, F. (2022). A corpus-based cross-disciplinary analysis of objectivity manifestations in academic texts. *Journal of Applied Linguistics and Applied Literature: Dynamics and Advances, 10*(1), 119-140. https://doi.org/10.22049/JALDA.2022.27325.1333

Khamying, S. (2007). *Advanced English grammar for high learners.* Bangkok: V.J. Printing.

Khelifi, N., & Bouri, H. (2018). *Analysing tense and rhetorical structures in master thesis' abstracts; a corpus-based study.* Master Dissertation, Larbi Ben M'hidi University-Oum El Bouaghi.

Kloumann, I. M., Danforth, C. M., Harris, K. D., Bliss, C. A., & Dodds, P. S. (2012). Positivity of the English language. *PloS One, 7*(1), e29484. https://doi.org/10.1371/journal.pone.0029484

Lench, H. C., & Bench, S. W. (2012). Automatic optimism: Why people assume their futures will be bright. *Social and Personality Psychology Compass, 6*(4), 347-360. https://doi.org/10.1111/j.1751-9004.2012.00430.x

Li, Z., & Xu, J. (2020). Reflexive metadiscourse in Chinese and English sociology research article introductions and discussions. *Journal of Pragmatics, 159,* 47-59. https://doi.org/10.1016/j.pragma.2020.02.003

Mohamad, H. A. (2022). Analysis of rhetorical appeals to Logos, Ethos and Pathos in ENL and ESL research abstracts. *Malaysian Journal of Social Sciences and Humanities, 7*(3), e001314-e001314. https://doi.org/10.47405/mjssh.v7i3.1314

Mohamad, H. A., Pilus, Z., Mohaini, M. L., Md Zolkapli, R. B., & Abdul Wahab, N. A. (2022). Rhetorical strategies for appeal to logos in research abstracts: An analysis of rhetoric. *Muallim Journal of Social Sciences and Humanities, 6*(13), 1-15. https://doi.org/10.33306/mjssh/200

Myllylä, K. (2019). *Ethos, pathos and Logos; a comparative study of the rhetorical strategies found in CEO letters in English annual reports of finnish companies after desirable and undesirable financial years.* Master Thesis. University of Turku, Finland.

Pagliawan, D. L. (2017). Feature style for academic and scholarly writing. *Academic Journal of Interdisciplinary Studies, 6*(2), 35-35. https://doi.org/10.1515/ajis-2017-0004

Pennebaker, J. W., Boyd, R. L., Jordan, K., & Blackburn, K. (2015). *The development and psychometric properties of LIWC2015.* Austin, TX: University of Texas at Austin.

Pérez-García, E., & Sánchez, M. J. (2020). Emotions as a linguistic category: Perception and expression of emotions by Spanish EFL students. *Language, Culture and Curriculum, 33*(3), 274-289. https://doi.org/10.1080/07908318.2019.1630422

Rafikova, F. (2022). The academic writing challenges of undergraduate students. *Eurasian Journal of Humanities and Social Sciences, 9,* 62-64. https://doi.org/10.5430/ijhe.v3n1p12

Readable. (2021). *What is readability?* Retrieved from https://readable.com/readability/

Simon, N. (2020). Investigating ethos and pathos in scientific truth claims in public discourse. *Media and Communication, 8*(1), 129-140. https://doi.org/10.17645/mac.v8i1.2444

Vinkers, C. H., Tijdink, J. K., & Otte, W. M. (2015). Use of positive and negative words in scientific PubMed abstracts between 1974 and 2014: Retrospective analysis. *British Medical Journal, 351*, h6467. https://doi.org/10.1136/bmj.h6467

Wen, J., & Lei, L. (2022). Adjectives and adverbs in life sciences across 50 years: Implications for emotions and readability in academic texts. *Scientometrics, 127*(8), 4731-4749. https://doi.org/10.1007/s11192-022-04453-z

Zhu, Y. (2013). A cross-cultural analysis of English and Chinese business faxes: A genre perspective. *Ibérica, 26*(26), 35-54.