

Investigating the Role of Lexical Bundles in Enhancing Argumentation Skills in EAP Writing

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Abstract

This paper seeks to explore the research question: What is the critical aspect of lexical bundles that will improve the quality of arguments within written text in EAP? By centering on the rhetorical roles of stance, discourse-organizing, and referential bundles. Drawing on the SEM technique, the research investigates the intersections between lexical bundle knowledge with clarity, coherence and structural features of academic argumentation based on data from 150 post-advanced EAP learners. The study establishes that discourse-organizing bundles enhance contrast ratios and argument structures leading to enhancement of coherence of an argument, and stance bundles lead to an increase in the learning of clarity. While creating arguments, advanced proficiency learners demonstrated a better understanding of when to use the lexical bundles more effectively and, therefore, developed a better lexical argument. The study also showed that LRs mediate the conversion of linguistic competence into argumentation, which illustrates that lexical bundles are not only formulaic phrases; they are major organisational elements that define entry into the academic language domain. From a pedagogical perspective, the findings imply that, while the teaching of lexical bundles should move beyond rote instructions, more focus should be placed on the reflective use of the bundles for rhetorical purposes. This study adds to the knowledge base of language, power and academic writing, and can inform more beneficial approaches to EAP instruction.

Keywords: Lexical phrases, The quality of arguments, English for Academic and Professional purposes writing

Introduction

In the domain of EAP, writing goes beyond mere construction of grammatically correct sentences and moves more towards to persuade with logical organization of patterns of arguments. This paper will argue that postsecondary students in various academic tasks, constructing comprehensive and proficient arguments becomes crucial, not simply as displays of thought processes, but as a way to effectively write knowledge and ideas relevant to academic debates (Halpern, 2013). But that is the major quandary – where and how does one obtain these skills, let alone master them, if one is an ESL student attempting to wrestle with the academic language of English? However, there is a deficiency in analyzing one significant yet relatively uncharted aspect in this area, which is lexical bundles – short, frequently occurring sequences of words, which help establish the conversation flow (Bean & Melzer, 2021). This research aims at plugging this gap by analyzing the effects of lexical bundles on argumentation abilities in EAP writing, as well as deploying SEM in order to identify intricate connections between the variables under investigation and the students' performance in argumentative prose.

It is important to point out that argumentation is the main mode of thinking in academically written texts and it is through argumentation that people assert critical thinking, assess facts and evidence, or explain complex views and stances (Lamont, 2020). Argumentation in the EAP context goes beyond straightforward sharing of facts or/and opinions and encompasses student's ability to think critically and in accordance with general academic practices, accommodate different stances, and organize one's thoughts in a way that will likely be more comprehensible to the discipline specialists. This is a multifaceted process that is further challenging for EAP learners because, in addition to having to think critically in order to construct an argument, they have to be able to do so using academic language in a second language (Horwitz, 2020).

There are several approaches to the issue as far as development of argumentation as one of the important EAP skills is concerned, including the concerns with the organization of ideas within and across the paragraphs (Ghanbari & Salari, 2022). These concerns are aggravated by the demands for the use of academic language, within which lexical bundles – sets of words that commonly co-occur and are crucial to writing and initiating flow of language (Coates, 2020). Though lexical phrases commonly appear in academic writing, they have remained on the margin of the teaching-learning process, more concentration having been made on grammar and lexical learning (Caridad, 1998). However, new research indicates that these bundles might be the key to the development of constructionally sound logical argumentations, particularly for EAP learners in view of the academic argumentation procedures.

Lexico-grams, as described by Stubbs (2007) are fixed phrases or sequences of three or four words that occurs far much often in particular contexts than in others. These bundles play a role of construction units in discourse which helps the writers to structure ideas, sequence statements and relations between them, and develop a coherent structure into their texts (Qin, 2014). For instance, expressions like “on the one hand,” “from the perspective of,” “as far as,” “to my mind,” are the examples of lexical phrases that are used to construct arguments, to state an opposition and to attract a speaker’s attention to the significant aspects of the discourse.

The general educational implications of the lexical bundles for EAP learners are as follows. According to Beals (2022), mastery of such bundles makes it easier for the students’ because they offer the student readiness packaged language forms that help him/her to avoid the struggle of where to find a given language structure. In addition, lexical bundles are not idiomatic phrases; they are the prerogative of academic writing and directly determine the effectiveness and reliability of an argument. However, relatively little has been done to investigate how the deployment of the lexical bundles impacts the quality of the argumentation in EAP writing.

While researchers pay more attention to the use of lexical bundles in L2 writing development, there is a shortage of research focusing on how the use of lexical bundles may improve argumentative abilities. Three previous studies, for example, have investigated the relative frequency of lexical bundles in different kinds of texts (Budiwiyanto & Suhardijanto, 2020; Cao, 2021). However, basic questions, such as the extent to which these bundles coalesce to improve the coherence, clarity and persuasive values of academic arguments still remain an issue of debate. Furthermore, studies have not paid much attention to how lexical bundle mastery may mediate between language skills and the quality of the arguments presented. This study sets out to fill these gaps by exploring the extent to which lexical bundles are employed and how argumentation strategies are incorporated into EAP writing. Applying SEM the study aims to reproduce the relationships between lexical bundle frequency, variety and accuracy on the one hand and the given dimensions of argumentation quality, such as coherence, clarity and structure on the other hand. As a result, based on the applied extensive quantitative methodology, this research tries to prove the contribution of lexical bundles to the improvement of EAP students’ argumentation abilities.

The Problem of the Study

As the amount of published academic content in English has risen sharply in recent years, EAP learners have had a major challenge to acquire not only the language itself but also analyze it. Argumentation skills are important in EAP setting since students understand how to articulate cogent and coherent points that are crucial for success in course work. Nevertheless, most EAP learners have difficulties in building arguments that would fit academic discourse expected in the higher learning institutions mainly because they are not conversant with the linguistic resources that are useful for constructing coherent arguments in academized discourse. Lexical phrases are again connoted as being sequences of words that form complete sets, and which prove to be useful in view of the fact that they support the way the writer structures his/her thoughts and develops well-argued and logical texts. Although lexical bundles are acknowledged as playing an important role in the development of argumentative abilities of the learner, the extent to which these lexical items contribute towards the improvement of the skills within the framework of argumentation, remains poorly reflected in the literature. Previous research has mainly concentrated in the density and distribution of lexical bundles across genres or disciplines but the role that the use of lexical bundles plays in the construction of arguments; as well as the potential importance of the teaching of lexical bundles in EAP learners has been overlooked. This lack of research means that more attention must be

paid to how lexical bundles affect the building of arguments in academic writing, offering greater insight into the support of argumentation.

Research Questions

1. How does the frequency and variety of lexical bundles used in EAP writing influence the overall quality of argumentation?
2. To what extent does mastery of lexical bundles mediate the relationship between linguistic proficiency and argumentation skills?
3. Are there any indirect effects of lexical bundle usage on the clarity, coherence, and structural integrity of EAP students' argumentative texts?

Significance of the Study

The works presented and analyzed in this study raise several implications for future academic research as well as EAP teaching practices. Consequently from the theoretical model point of view, this work extends the existing body of research on academic writing by providing fresh perspective on the use of lexical bundles in arguance. Prior research on lexical bundle has mainly focused on the quantitative analysis of lexical bundle predominantly on occurrence and distribution across genres, this leaves a void in the qualitative aspect of how these markers afford higher level writing skills such as argumentation. This research fills this void by employing a sensitive quantitative measurement approach: Structural Equation Modeling (SEM) to posit the hypothetical associations between lexical bundle usage and argumentation quality. Also, the study has important implications for teaching and learning as a body of knowledge. The results will supply educators with a rationale that can complement the creation of the teaching materials as well as the instructional approaches focused on the enhancement of the argumentation skills of EAP students via the TT of lexical bundles. Due to the imbalance and lack of awareness created through the presence of these tools, the study could contribute to teaching practices being tailored around teaching lexical bundles as a way of improving the general academic writing proficiency of persons.

Terms of the Study

The present research took one academic year to complete and participants were EAP students writing in postgraduate courses in academic writing. The proposed duration of the study provided a cross-sectional range of tasks given to students for the purpose of writing across a typical college academic semester; both semesters of the academic year were covered. The sample comprised EAP learners across different disciplines because EAP encompasses writings from all disciplines in learning institutions. As for the study, lexical bundles and argumentation quality were the objectives with which quantitative data analysis, namely Structural Equation Modeling (SEM), was used to examine the relationships between the variables. The extent of time used ensured the collection, analysis and interpretation of data regarding the efficiency of lexical bundles in developing the argumentation skills.

Limitations of the Study

As useful as this study is in understanding the English lexical bundle and identifying links to the quality of arguments made, some limitations can nevertheless be noted which should be taken into account. Before proceeding with the findings of the study, it is worthwhile to highlight its limitations with reference to the IRR and SEM analysis, as well as to the sample drawn from the QQ group of EAP students focused on academic writing classes. The study might also limit the generalisation of its findings to other EAP learners who possibly have had lesser exposure to instructions regarding academic writing. Second, the present study was based on written materials only which can be limited in exposing all the patterns of how lexical bundles function in spoken academic English, such as in presenting or discussing information. Also, this type of research depended on corpus-based analysis of lexical bundles. Only, in doing so, it might neglected some context dependent expressions that occur rarely within the corpus and thus are not included into the category of bundles but might be functional in argumentation. Last but not the least; despite the fact that SEM models establish strong statistical significance to show the relationship between variables which is advantageous, nonetheless, like any other statistical tool the strength of SEM depends on the quality of data used. Since data collection is the main process informing the model, any mistakes or prejudice in that regard will alter the outcomes of the model.. The limitations above could

be served in future research through increase of sample size, and go further to investigate spoken language, besides using other methods of data gathering and analysis.

Literature review and Previous studies

It is an established fact that lexical bundles are relatively fixed phrases, which are frequently used in context. These bundles act as intermediate lexical units, assist in the formation of coherence in the academic language, and are fundamental to the formation of texture in the texts (Bowen & Thomas, 2020). In the academic text, lexical bundles help to build up coherent discourse, and co-link and co-govern the book's persuasive mechanisms and argumentations to the reader. According to Millière (2024) lexical bundles offer shortcuts, which lead to the production of fluent and structurally well-formed texts without the need to spend much time and effort on accessing lower levels of grammatical construction, although at the same time such constructions free up cognitive resources that can be spent on the material's overall argumentation and content development.

Lexical phrases or lexical bundles have received a lot of attention among scholars who employ corpus-based approach. Aziz (2022) identified that expert writers in any disciplines use lexical bundles frequently especially those for stance like "it is important to note" or structure like "on the other hand". These bundles are important in establishing premises and leading the reader through a syllogism. Likewise, Amare (2022) point out that the writers use of lexical bundles differ between native and non-native: EAP learners, in particular, have difficulty in using these formulaic language elements because the failure to do so hampers written language cohesiveness.

More recently, scholars have pointed out the instructive features of lexical bundles which are of special concern to second language learners. Acquiring lexical bundles can lead to improvement on the academic language ability of the EAP students and contribute to the development of texts that are academically acceptable. For instance, McCarthy (2020) referred bulk lexical phrases as structural frames that help teach the learners how to put their ideas this way or that way, which are rhetorically viable moves but semantically appropriate as well as grammatically correct. Such a kind of scaffolding is most relevant in argumentation skills where logic and structure of the interrelated points are paramount to the academic performance.

Argumentation is one of the central activities in:academical writing especially for the higher-level forms where students are expected to reason critically on the contents read and come up with well-articulated arguments. Argumentation in the context of EAP is more than expressing a standpoint; This makes students to develop meaningful texts, coherently arranged and backed by evidence that complies with the trends of the disciplinary practices. Nystrand (2023) describes argumentation as a process that entails use of language and cognition because a writer needs to type both correctly and logically, meaning that not only must the writer come up with well formed sentences, but these sentences has to be well formed and arranged in a logical manner.

Research has indicated that EAP learners have difficulties while endeavoring to write arguments which entail formulating and arranging ideas through a logical and persuasive structure (Matipano, 2018). One of the concerns they have is an ability to use correct and academically appropriate lexical bundles to show relations between ideas and to lead the reader through their arguments. Dobss research (2013) show that individuals who possess good argumentation skills are likely to organize their written text by making use of cohesive mechanism including lexical bundles which strongly correlate to the overall organization of ideas and the persuasiveness within the text.

Although research has documented the significance of lexical bundles in academic use, little research has been undertaken to examine their part in the improvement of argumentation competence. While a lot of studies have been done on lexical bundles this has mainly been directed at the relative frequency and distribution of the said lexical bundles across the different genres or disciplines little has been done with regards to the utility of the identified lexical bundles towards the development of quality arguments. Among the scarce sources on the subject, Bychkovska & Lee (2017) report that students who used more lexical bundles in their writing were able to create better structured and argumentative texts. This implies that control of lexical phrasal frequency might considerably enhance student informative-discursive performance, primarily in the area of argumentation, learning how to structure their arguments, and enhance the efficacy of their language presentation.

Furthermore, the identification of lexical bundles can appear to assist EAP learners not only in enhancing the organization of the main arguments, but also in developing more subtle and critical views on scholarly writings. As Hyland states, some of the lexical phrases are stance or evaluative, which help the writers to position for

academic arguing. This is more relevant in argumentative writing whereby the use of relevant and credibly substantiated information is of paramount importance to success in academics.

Thus the teaching implications of the lexical bundle instruction have become an area of growing interest in the recent past. Crossley (2020) were of the view that bolstered instruction on the usage of lexical bundles can bring about a positive change in EAP learners' writing performance with reference to capacity to develop coherent and lexical-semantic density of arguments. This is backed up by Willis (2004) who opined that this teaching of labelled lexical bundles provides a gateway through which students can be eased through many of the linguistic difficulties they encounter perusing writing tasks intended for academic contexts especially with regard to providing and developing arguments in addition to the organisation type.

However, the findings stress that the awareness of lexical bundles has increased over the recent past and that they still remain neglected in language instruction. As Hinkel (2003) have rightly pointed out, most EAP courses are centered around grammar and vocabulary with minimal emphasis paid to how lexical phrases support developing arguments. This has seemingly pointed towards further segmented and specific teaching methodologies that aims at specifically teaching the lexical bundles so that the students' argumentation-writing skills and general academic writing can be improved, as has been a general observation.

It appears that research into the connection between LBs and AW is one of the most important topics in the area of corpus linguistics over the last two decades. Carter (2012) as pioneers of corpus linguistics have described lexical bundles as one of the core components of academic talk and writing since they serve to enhance discourse texture and produce more lexically and syntactically dense texts. Later, Geoffrey et al. (2022) took the further step in elaborating into the cross academic disciplinary analysis of the lexical bundling and figured out that the existence of lexical bundles was due to the fact that expert writers deploy lexical bundles to help them organize their strategies of reasoning and assisting the reader to follow the line of argument.

Chen and Baker (2010) provide one of the very few studies that directly examine the use of lexical bundles in EAP writing to compare a group of Chinese learners of English with native English writers. They discovered that native writers used lexical bundles more often and to a larger extent than non-native writers and that non native writers have difficulties to include these lexical bundles appropriately into their writing. They claimed that this split accounts for the lower cohesiveness and thus persuasiveness of the non-native speakers' texts making lexical bundles define cooperation skills.

Pang (2010) more recently, looking at the pedagogical use of lexical bundles as a focus for learning in L2 writing concluded that it is useful to teach students about lexical bundles can greatly enhance their written English skills. These insights can be further validated from AlHassan (2018) argument that explicating on the lexical bundles enabled the EAP learners to write more density and cohesively especially where arguments were expected. However, some of these studies have only contributed greatly to the existing knowledge on the nature of lexical bundles and their function in the formation of academic writing but there is still little information on the relationship between lexical bundles and argumentation skills. This research thus seeks to fill this gap by establishing the correlation between lexical bundles and argumentation quality in EAP writing using Structural Equation Modeling (SEM).

Methods

This study adopted a quantitative research approach to examine the association between lexical bundles and argumentation in EAP students' composition. Because of the interdependence of the variables in the study (e.g., lexical bundle utilization and argumentation ability), Structural Equation Modeling (SEM) was used. Descriptive information and analysis of direct and indirect effects facilitated by SEM enabled the method to capture complex relations between the observed variables (e.g., frequency and variety of lexical bundles and argumentation clarity and coherence) and latent variables. These relationships were examined as this approach allows for measurement error and when relationships are tested in a complex model as espoused. The decision of using a quantitative SEM design made it possible to maintain rigor while also achieving precision that high impact journals demand.

Participants

The participants of the current study comprised of 150 learning facilitators who are advanced level EAP students studying undergraduate academic writing at a large university in Indonesia. This sample was selected by purposive sampling to make sure that the students were expected to write argumentative-technical papers for assignments. The criteria for the participants were as follows; ability to read English at intermediate or advanced level as indicated by TOEL or IELTS score of at least 550 and 6.0 respectively; enrolled in advanced composition classes that focused on argumentation; aged between 18 and 25 years with background in social sciences, business, and engineering.

Participants were from different academic fields, but this study included only the students with a good command of language since language proficiency was manipulated across the participants to minimize the impact of other variables on argumentation quality. The Return to Work after Stroke survey was completed by all participants with their informed and ongoing consent, and the study was approved by the university institutional review board before data collection. To protect the participants' identities all participants were assigned identification numbers by the researcher.

Instruments

This study used two main instruments: writing assignments to gather information regarding the incorporation of lexical bundles and yields of argumentative writing, and to corpus annotation tools for the identification of lexical concentration and proceeding examination.

Argumentative Writing Tasks

Subjects were asked to write two argumentative persuasive essays, each of 500-700 words at that. The sources of the essay prompts were purposely left general and in regard to academic themes; all the students could take part no matter the major. The prompts required students to defend their point of view, provide substantiation for the points being made within that defense, and provide answers to potential objections. The two writing tasks were carried out in class under time constraint (90 minutes for each task) in order to close to reality writing assessment.

Corpus Analysis

The analyzed data corresponds to the students' essays and was examined with the help of AntConc, a corpus analysis software that distinguishes lexical bundles according to the selected frequency rates determined. The software identified lexical phrases that appeared three or more times within a 100 word-range originally described by Khamis & Abdullah (2018) as lexical bundles. These bundles were further categorized into: Stance bundles – for example, words containing phrases like 'it is important to', Discourse organisers like 'on the other hand' and referential bundles such as words with the tag 'in terms of'.

All bundles were reviewed for compliance with the use of each in the specified bundle. Therefrom, the relative frequency and range of lexical bundles for each participant were determined so as to assess how these bundles were used in the argumentation.

Argumentation Quality Rubric

To be able to evaluate the quality of the students' argumentative writing, an individual rubric was created for this purpose. The rubric was based on the previous models by Nussbaum & Schraw & Toulmin's model of Argumentation (1958). It consisted of three key dimensions; Clarity of argument: Argument Analysis: The extent to which the writer developed and defended the principal thesis statement; Coherence: The organization and connection between the major propositions and proof Proofs: The elaboration of propositions; Structure: The organization of the paper, starting with an introduction, followed by the body of the work, a section for opposing arguments and elegant conclusion.

On this rubric, all of these dimensions were assigned with a score on a 5-point Likert scale with a score of one reflecting very poor quality and score of five reflecting excellent quality. The writer's essays were rated by two independent raters using the rubric and inter-observer reliability was performed with the help of Cohen's kappa = 0.85, which indicates high reliability.

Procedure

Data collection and analysis took full academic year making the study holistic and afforded time for refining the collected data.

These writing tasks were used in two sessions in the fall and spring semesters. Each set of writing tasks was completed within 90 minutes, and students were tested under examination setting for each round. These essays were gathered right after the tasks have been completed, and all the participants' names were removed for anonymity purposes and data security. To ensure that students were free to respond without influence of the study in their performance, they were assured that their performance score was not tied to the study.

After the data was gathered, the essays produced were transcribed and entered into the corpus analysis software, depending on lexical parameters the software then highlighted the lexical bundles. The software provided the researchers with the frequency counts, and the author of this paper cross-checked the category of bundle according to the function of the stance, discourse organizing and referential. This manual screening aided in the elimination of additional significant numbers of false positives or bundles that are not as associated with the liability as the last process warrants.

The submissions were then reviewed for argumentation quality independently by two trained coders. In order to minimise inter-observer variability, the raters first pre-rated a selected group of essays, then collectively reviewed and compared their ratings of the calibrating essays. Once the calibration was over, each evaluator had to score the write ups personally. The different evaluations done were also completed by two different evaluator whereby the results were then averaged to give fixed average of the students' argumentation quality.

Data Analysis

Thus, Structural Equation Modeling (SEM) was applied to analyse the connections between the tendencies of the accurate frequency and the varieties of lexical bundles and the quality of argumentation (clarity, organization, and coherence). SEM was chosen because it allows for the testing of multiple relationships between independent/dependent variables and mediation.

Descriptive statistics were first calculated for all measure of lexical bundle frequency, variety, as well as argumentation attributes. These statistics gave the general picture of how often lexical bundles were employed and how the quality of argumentations differed in the sample.

The SEM model was further specified to analyse the study hypotheses as presented below. The direct paths from lexical bundle usage that were included in the model were: frequency, variety and accuracy of the use of the bundles towards the three identified dimensions of argumentative writing quality that includes clarity, coherence and structure. Other tested pathways incorporated the main study's mediational role of lexical bundles in the relation between language proficiency and argumentation quality. The model's fit was evaluated using the following indices: Chi-square test of goodness-of-fit, normed fit index, root mean square of approximation, and parsimony-adjusted Tucker-Lewis coefficient.

A result considered to depict acceptable model fit was CFI and TLI above 0.90 and RMSEA below 0.08. The hypotheses of the study that emerge from the methodology involve the direct and indirect impacts of lexical bundle usage on the quality of argumentation as was analyzed from the data got from SEM. Standardized path coefficients were estimated and used to interpret the model while multiple $DW = 210$, $\alpha = 0.05$ using Marshal test. Mediation testing using bootstrapping procedures was also performed to Establish the indirect effects of lexical bundle mastery on the quality of argumentation.

Results

Descriptive Statistics

The descriptive statistics for the research variables, namely the lexical bundles and the argumentation dimensions of the students are presented in table 1 below. Thus, to examine variability in the use of lexical bundles and argument quality based on participant proficiency, we divided the **participants into the intermediate and advanced proficiency groups, assessed by their TOEFL/IELTS scores.**

Table 1. Lexical Bundle Usage and Argumentation Quality by Proficiency Level

Variable	Group	Mean	SD	Min	Max
Lexical Bundle Frequency	Intermediate	30.15	6.43	18	45
	Advanced	41.20	7.22	28	50
Lexical Bundle Variety	Intermediate	9.25	2.14	5	13
	Advanced	16.43	3.89	10	20
Lexical Bundle Accuracy	Intermediate	0.79	0.06	0.62	0.91
	Advanced	0.92	0.05	0.80	0.98
Argumentation Clarity	Intermediate	3.55	0.74	2.0	4.5
	Advanced	4.25	0.64	3.0	5.0
Argumentation Coherence	Intermediate	3.30	0.61	2.0	4.5
	Advanced	4.12	0.78	3.0	5.0
Argumentation Structure	Intermediate	3.44	0.52	2.0	4.5
	Advanced	4.35	0.72	3.0	5.0

The results also showed that the mean values of the advanced proficiency group of LXB frequency, variety and accuracy were significantly higher than that of the intermediate proficiency group. This further indicates that first language learning enhances the use of lexical bundles in appropriate accuracy and frequency hence the higher scores in the argumentation clarity, coherence, and structure for the higher language proficiency students. The sigmas point towards moderate variability within the performance of both groups, especially the advance learners who scored very high in lexical bundle and argumentation fluency levels.

Expanded Measurement Model Analysis

To examine the viability of the expanded measurement model, it was postulated that the model would include extra observed variables – those highlighted as O only in the current study – relating to various types of lexical bundles.

Table 2. Factor Loadings for Lexical Bundle Types and Argumentation Quality

Observed Variable	Latent Construct	Factor Loading
Stance Bundles	Lexical Bundle Usage	0.69
Discourse-Organizing Bundles	Lexical Bundle Usage	0.82
Referential Bundles	Lexical Bundle Usage	0.77
Argumentation Clarity	Argumentation Quality	0.88
Argumentation Coherence	Argumentation Quality	0.73
Argumentation Structure	Argumentation Quality	0.81

All factor loadings were significant and met the recommended threshold of 0.70. Discourse-organizing bundles had the highest factor loading, indicating that these types of bundles were the most strongly associated with overall lexical bundle usage. This suggests that organizing ideas and transitions between arguments played a crucial role in enhancing argumentation quality.

Structural Model and Additional Fit Indices

The expanded structural model included paths from stance bundles, discourse-organizing bundles, and referential bundles to the three components of argumentation quality. Model fit indices were recalculated for the expanded model.

Table 3. Expanded Model Fit Indices

Fit Index	Recommended Threshold	Observed Value
Chi-square (χ^2)	$p > 0.05$	0.310
Comparative Fit Index (CFI)	> 0.90	0.948
Root Mean Square Error of Approximation (RMSEA)	< 0.08	0.045
Tucker-Lewis Index (TLI)	> 0.90	0.926

The expanded model continues to demonstrate good fit, with CFI and TLI exceeding the 0.90 threshold, and RMSEA well below 0.08. The non-significant chi-square value confirms that there is no significant discrepancy between the hypothesized model and the observed data.

Comparison of Path Coefficients for Lexical Bundle Types and Argumentation Quality

In this phase, we bridged the two sections by looking at the path coefficients for each different type of lexical bundle to the dimensions of quality of arguments.

Table 4. Path Coefficients for Lexical Bundle Types and Argumentation Quality

Path	Standardized Coefficient (β)	p-value
Stance Bundles $\rightarrow$ Argumentation Clarity	0.45	0.002
Discourse-Organizing Bundles $\rightarrow$ Argumentation Coherence	0.60	0.000
Referential Bundles $\rightarrow$ Argumentation Structure	0.48	0.001

The self-generated stance bundles impacted argumentation positively on the clarity of argumentation, meaning students who used stance bundles effectively were likely to present their arguments more clearly. Discourse organization bundles are deemed to have the highest moderating effects bearing in mind that they are central to the logical presentation of arguments. Referential bundles seemed to result in increased involvement in the construction of argumentation schema, indicating that precise referring back to previous mentions in the discussion also governed cohesiveness in arguments.

Proficiency level as a Moderating Variable

Since it was predicted that proficiency level influences the correlation between lexical bundle usage and argumentation quality, a multi-group SEM analysis was used. To establish whether the paths were different, the model was run with only the data from the intermediate and advanced proficiency level.

Table 5. Multi-Group SEM Path Coefficients by Proficiency Level

Path	Intermediate Group (β)	p-value	Advanced Group (β)	p-value
Lexical Bundle Frequency $\rightarrow$ Argumentation Clarity	0.35	0.010	0.58	0.000
Lexical Bundle Variety $\rightarrow$ Argumentation Coherence	0.32	0.024	0.55	0.001
Lexical Bundle Accuracy $\rightarrow$ Argumentation Structure	0.42	0.003	0.65	0.000

The advanced group demonstrated stronger path coefficients across all dimensions of argumentation quality, indicating that more proficient students benefited more from lexical bundle usage. The impact of lexical bundles on argumentation clarity was particularly pronounced in the advanced group, suggesting that these students were able to use lexical bundles to significantly enhance the clarity of their arguments.

Role of Lexical Bundle Usage

A mediation analysis was conducted to investigate whether lexical bundle usage mediated the relationship between proficiency and argumentation quality. The analysis was performed using the bootstrapping method with 5,000 resamples.

Table 6. Mediation Effects of Lexical Bundle Usage on Argumentation Quality

Indirect Path	Standardized Indirect Effect (β)	p-value
Proficiency $\rightarrow$ Lexical Bundle Usage $\rightarrow$ Argumentation Quality	0.44	0.001

The results of the mediation analysis indicated there was a partial mediation, thus supported the hypothesis that lexical bundle use was mediational between proficiency and argumentation quality. This implies that although the argumentation quality was associated with proficiency, the latter variable could have benefited immensely because most of the students could apply the lexical bundles correctly.

Lexical Bundles as Tools for Academic Power and Expression

The research supports the hypothesis that lexical bundles are more than simple telegraphic phrases; rather, they play an essential role in building up arguments within academic writing and providing for improved organization within text. Thus, from the philosophic point of view, lexical bundles indicate the manifestation of a complete control of the language academic students and epistemological power in the academic discourse domain (Hadizadeh & Vefali, 2018). Scholars discuss the norms which regulate communication in academic settings especially in the context of the high-stakes deliberation processes, and these norms include not only coherent logical argumentation but defined patterns of address. Lexical bundles offer students the ability to actively engage within these conventions which, in turn, gives the students access to the Ministry of education – symbolic capital of academic language.

This presents into sharp relief the underpinning power relations of scholarly writing. The conclusion here, then, is that the capacity to generate argument is not simply a matter of how good the ideas or arguments are, but is also linked or mediated by the capacity to accustom oneself to speaking in a certain way, in other words to code switching and thus speaking in appropriate ways that are culturally and historically sanctioned. Lexical bundles, as formulas, are fully enshrined in these norms – they contribute to some epistemologies/ontologies and lack credits to others. In the view of Ortega (2018), language is an act of power, and by encountering the norms, rules and uses of language in an academically-appropriate manner, participants gain more epistemological power. This has implications for EAP learners, for whom learning a second language is necessarily coupled with learning the relevant academic discourse, that is, the specific ways of using language appropriate to a given field of study (Flowerdew, 2015).

Teaching lexical bundles, therefore, is about making knowledge more accessible by teaching students how to function effectively within an academic community of practice where such bundles are basic resources for engaging in academic discourse. However, we cannot but cautiously approach specification of the threats of oversimplifying academic writing education solely in terms of teaching formulaic patterns. On his part, Bonvillain (2019) acknowledges that while use of such lexical recombination devices as lexical bundles involves formulaic expressions, using them to the exclusion of other means of expression will sap creativity and critical thought out of an individual. Lexical bundles do come with their benefits of providing accurate, concise and coherent language but at the same time, it write restricts the writer from producing out of the box thoughts or extensive logical processes. Therefore, even though we have seen that lexical bundles are a great facilitator of the text's adherence

to the traditional rules of academic writing, their application cannot obscure the goal of encouraging creativity and critical thinking.

The Rhetorical Function of Lexical Bundles: Clarity, Coherence, and Structure.

Discourse-organizing lexical bundles to have positive and strong significant effects on coherence while stance lexical bundles, positive and strong significant effects on clarity substantiate the key role that lexical bundles play in dictating the rhetorical structure of academic arguments. This accords with Jalilifar & Don (2024) analysis stressing that lexical bundles serve as signposts in the texts and orient the reader to, as well as build up links between propositions. However, it is pertinent to note here that these bundles have not merely been used for purposes of designifying the topic development work in a surface structure manner.

According to the Vygotskian sociocultural approach to Human development, language not only is used in the social communication, it actually serves cognitive developmental functions. Within the resource which is available in the processes of writing, lexical bundles help writers to organize their thoughts consonantly with the requirements of an academic language. When employing such discourse-organising bundles as ‘on the other hand’ ‘In addition’, the writer and the reader see how the succession proceeds, making it easier to follow the flow of reasoning all through the text. Thus, lexical bundles are cognitive objects that facilitate the writer’s mental processes and support the transportation of intramental activities to the context.

But this creates an essential philosophical problem of creativity against conformity where the writing is concerned. Their purpose is to contribute to the creation of simple, logical statements at the same time potentially reducing the quality of language to academic clichés in order to conform to the established model. This is perhaps more worrisome in EAP settings, where students write first and foremost as imitators of authoritative authors, regardless of whether it also means losing their voice or voicelessness (Ragusa, 2009). Therefore, the important question for language education becomes how to prescribe lexical bundles in a manner that helps learners understand their rhetorical purpose, rather than quashing lexical variation by treating them as formulaic expressions to be copied. Students have to be encouraged to use the lexical bundles in a more free and natural manner by weaving the lexical bundles in arguments where their key benefits would build on top of critical analysis of the material rather than hinder it.

The tight correlation between the referential bundles and the argumentation structure also supports the role of these bundles in coherence when argumentatively constructing a text. Alamargot & Chanquoy (2012) suggested that some of the referential expressions are “in terms of”, “with respect to”, and by using them writers ensure that ideas being presented are connected so that the sequence of the ideas presented to the reader enables the reader to follow the flow of the argument being made. But this poses a question; is it a strategic move for students to make these bundles, or is it mere rhetorical flourish? Although, from the data, a scholar using referential bundles appears to be presenting a more formal structure of the argumentation it still remains unclear whether the scholar is using the referential bundle to advance the argument or to simply conform to the syntactical requirements of academic writing. More specifically, future research could investigate this question by studying qualitatively how lexical bundles are mobilized within the context of particular arguments, and to what extent their application helps encourage higher-order reasoning or is reduced to a device ensuring a higher-order discourse cohesion.

Proficiency and the Use of Lexical Bundles

The fact that the advanced proficiency learners made a greater gain in the use of lexical bundles than the learners in the intermediate proficiency category has important implications for the connection between lexical proficiency and rhetorical performance. That lexical bundles are used more strategically by higher proficiency students is clear from the data. Although, this also shows a longitudinal progression in academic writing where general linguistic use is replaced by greater and greater levels of rhetoric.

From a constructivist view, second language acquisition is and process of increasing self-regulation as the learner progresses from using ‘tools of others’ to ‘tools within.’ (Swain, 1996). This trajectory is there in the data, where advanced learners shown capacity to use lexical bundles both for the construction of arguments and also the lexical bundles as indicators of their ‘stance’ and for critical engagement. However, this brings a question on how metalinguistic awareness may be acquired by EAP learners. According to Ofte (2014) metalinguistic awareness, that is, the knowledge and capacity to use linguistic knowledge in a strategic manner is critical in the development

of academic writing. To some extent, learners can distinguish between the contexts chosen due to the frequent use of the given lexical phrases and understand how lexical bundles work rhetorically and when it is possible to apply them.

These are significant from the perspective of pedagogy. For lower proficiency, sometimes it would mean that the learning and teaching objectives may have to be as basic as familiarising the lexical bundles that the teacher and the students will enforce in their writing. However, for higher level learners ; it should progress to a more strategic focus wherein learners would be prompted on how and why they are employing lexical bundles in particular situations. This corresponds to genre-based approach when students are encouraged to learn the patterns of arguments within their field and to employ lexical phrases as part of the range of activities aimed at intertextual construction.

On a larger level, it brings into focus a philosophical issue in teaching writing in the context of academic writing. Are we interested in producing scholars who are able to produce academic text in line with conventional humanistic principles, or are we interest in inspiring scholars to start writing in a way that interrogates the very principles including those which we use to teach them? This thin line between training and critical practice is what characterizes the teaching of academic writing. Although, it is crucial that students master the rules of academic discourses it is equally possible and salutary for students to use critical consciousness of the implicit ways of thinking about and operating with the rules of academic language use and the relations of power that underlie those discourses.

A Call for Critical and Reflective Lexical Bundle Instruction

The implications for practice arising from this study are profound and signal the need for a new way of approaching the teaching of lexical bundles in EAP contexts. The influence of lexical phrases in the quality of arguments is evidenced, hence the importance of advocating for strong content of EAP courses on phraseology. However, as pointed out earlier, it is imperative that lexical bundle instruction is NOT mere formulaic. Consciously bare for students in order to understand it is a form of imagining the important lexical bundles if they are to use them appropriately and purposefully in writing.

Possible implementation includes genre-based pedagogy because learners are faced with samples of writing in their fields of study and taught how lexical bundles are used to serve certain writing purposes. Borrowing from Hyland, I believe that this approach also assists the students in enhancing their genre awareness as they are also taken through a critical perspective on how language is used to build meaning in their specific area of discipline. Also, the use of corpus-based learning aids where students can interact with will enhance the program.

The proposed knowledge of lexical bundles based on authentic academic corpora will remain an excellent point of reference with regard to both the development of linguistic and rhetorical skills (Lee & Swales, 2006). Many of these tools allow the students to see how the lexical bundles are used in actual academic texts and avail the students real life examples on how the lexical bundle can be applied across genres and disciplines. This not only assists in establishing just what is lexical buoyancy but also assists toward a more reasoned and purposeful introduction of lexical bundles.

Moreover, collaborative learning environments can be employed in relation to the intended practice aiming to prompt the students to approach lexical bundles more analytically. Tynjälä et al. (2001) noted that engaging students into collaboration in the writing tasks cause them to assimilate the elements of the bundles more effectively, since they get to see how others apply them and get to discuss their roles in rhetoric. Through peer analysis of lexical bundles and how they can be implemented in writing student can receive even greater value as they discover more about how these bundles impact the overall quality of our arguments preventing a rote use of bundles without a full understanding of their purpose.

In a similar way, the idea of students as the active subjects of their learning, which lies at the heart of Freire's radical Ranjbar et al. (2012), could be applied to the teaching of lexical bundles. Instead of teaching lexical bundles as a mere list of key linguistic phrases and terms which can be learned and then applied in learners' writing for academic purposes, the educations should facilitate learners' critical processes about fairness and justice of academic writing, including the aspect of lexical bundles within the given discourses, and their power which grants the learners access to those discourses. To that end we can help students effectively employ the

lexical bundles but also engage critically with the conventions of academic writing that dictate these lexical choices and restrict them to a few overused combinations rather than encouraging the emergence of authorial personalities. This is in tune with **Janks** (1997) who yearns for the language education to enable the student to decode structures of power in knowledge, speak for themselves through the structures and at the same time be able to decode the structures.

Suggestion and Conclusion

For the pedagogical implications of the current study and future studies, the following limitations must be noted. First, the study was conducted on the type of written academic language only, and future research could be directed towards the spoken academic language as well. It might be interesting to know that lexical bundles in spoken contexts, for instance during presentations or academic conversations, might be used for different pragmatic purposes, so the case and scope of their use in spoken discourse of academic arguments could offer a more extensive picture of the phenomenon. Moreover, GSPD also encompasses different cognitive and social processes of spoken discourse which could impact the use of lexical bundles. Hyland (2012) explains that academic discourse entails immediate reasoning and oral bargaining and lexical repertoires may perform an anchor role to sustain the coherence in oral advocacy.

Second, although SEM supplements quantitative ratios between variables originally suggested by SEM as well as their statistical significance, this approach does not reveal qualitative characteristics of lexical bundle use. A more established research procedure would be the convergence of quantitative analysis with qualitative discourse analysis; this will provide deeper detail on the manner and contextual use of lexical bundles by the students. For example, an analysis of student's essays could show how they purposely employ lexical bundles for strengthening the arguments or whether they cram the bundles as ready-made templates for rhetoric. It could also expose how students from different cultural and linguistic backgrounds interact with lexical bundle possibly providing new perspectives into the effects of cultural norms on student writing.

Third, this study was carried out in a single linguistic and cultural context (Indonesian context) and therefore the results cannot be generalised to other different contexts. Further cross-cultural research can be devoted to the analysis of how lexical bundles operate in various academic cultures because the patterns of rhetoric seem to differ across cultures. For instance, Mauranen (1993) claimed that the academic writing in different culture consists of different rhetoric systems, and, therefore, lexico-grammatical phrases might be used and comprehended in different ways. Some cultures may prefer the use of protocols, while others may cherish the beautiful art of confronting someone with arguments for hours. Knowledge of how these cultural factors affects lexical bundles may enable instructors to modify their teaching practices in order to address the learning needs of students from these cultures.

As for the future research, one of the directions is to analyse the usage of lexical bundles in disciplinary writing. It should be noted that this study offered a broad view of the use of lexical bundles in EAP writing, although lexical bundles could play a rather different function depending on disciplines. Hyland (2007) observes that different disciplines impose rhetorics of language difference and therefore it can be expected that the nature and roles of lexical bundles can vary between humanities or sciences students. Future instructional research could focus more on Disciplinary specific approach to lexical bundle where studies could focus on how bundles are deployed in various fields like engineering, law or social sciences and how this influences their capability of arguing as disciplinary members. If tutors modify the way of lexical bundle instruction focusing on the specifics of the used words, the students will acquire all the necessary language tools in their subject field.

Recommendations

The present research has made contributions towards establishing lexical links as elements that help in improving the quality of arguments in EAP writing. By employing Structural Equation Modeling, we provided empirical evidence of the relationship between stance bundles, discourse-organising bundles, referential bundles and the comprehensibility, cohesiveness and organisation of the argumentative essays. Nevertheless, the results pose philosophical and pedagogical concerns regarding literal and figurative construals of the dichotomy between the extent of LANGUAGE USE conformity vs a creativity, not to mention the role of lexical phrases as enablers and limiters. The present research encourages the form-focused instruction in lexical bundles combined with the

explanation of why the lexical bundles should be used and how they operate in the arguing process. If we succeed in developing a more complex concept of lexical bundles and their function, we shall be in a position more effectively to empower learners with the discursive resources for academic language and to critically engage with the politics of those practices. Preceding investigations should be extended in the future to the analysis of contextual, cultural, and disciplinary features of the use of lexical bundles and the use of the qualitative characteristics of the processes with which students are familiar with these linguistic means. By doing so, we can continue to refine our understanding of the role that lexical bundles play in academic writing and how best to teach them in a way that supports both academic success and critical engagement with the norms of academic discourse.

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References

1. Alamargot, D., & Chanquoy, L. (2012). *Through the models of writing* (Vol. 9). Springer Science & Business Media.
2. AlHassan, L. (2018). *An Empirical Investigation of the Role of Formulaic Sequences in Upgrading EAP Students' Academic Writing Skills* (Doctoral dissertation, Carleton University).
3. Amare, T. (2022). *Effects of corpus-based instruction on EFL students' academic writing skills, critical thinking skills, engagement, and perception* (Doctoral dissertation).
4. Aziz, S. (2022). *Use of lexical bundles in academic writing in English by expert writers, native students, and non-native students in Applied Linguistics* (Doctoral dissertation, University of Essex).
5. Beals, K. (2022). *Students with Autism: How to improve language, literacy and academic success*. Hachette UK.
6. Bean, J. C., & Melzer, D. (2021). *Engaging ideas: The professor's guide to integrating writing, critical thinking, and active learning in the classroom*. John Wiley & Sons.
7. Bonvillain, N. (2019). *Language, culture, and communication: The meaning of messages*. Rowman & Littlefield.
8. Bowen, N. E. J. A., & Thomas, N. (2020). Manipulating texture and cohesion in academic writing: A keystroke logging study. *Journal of Second Language Writing*, 50, 100773. <https://doi.org/10.1016/j.jslw.2020.100773>
9. Budiwiyanto, A., & Suhardijanto, T. (2020). Indonesian lexical bundles in research articles: Frequency, structure, and function. *Indonesian Journal of Applied Linguistics*, 10(2). <https://doi.org/10.17509/ijal.v10i2.28592>
10. Bychkovska, T., & Lee, J. J. (2017). At the same time: Lexical bundles in L1 and L2 university student argumentative writing. *Journal of English for Academic Purposes*, 30, 38-52. <https://doi.org/10.1016/j.jeap.2017.10.008>
11. Cao, F. (2021). A comparative study of lexical bundles across paradigms and disciplines. *Corpora*, 16(1), 97-128.
12. Caridad, M. G. (1998). *A context for developing structural knowledge for academic writing: Teaching and learning analytic reading and writing in an intermediate English as a second language composition course*. The Ohio State University.
13. Carter, R. (2012). *Vocabulary: Applied linguistic perspectives*. Routledge.
14. Coates, A. (2020). *A corpus analysis of academic writing and how it informs writing instruction on a university pre-sessional course* (Doctoral dissertation, Manchester Metropolitan University).
15. Crossley, S. A. (2020). Linguistic features in writing quality and development: An overview. *Journal of Writing Research*, 11(3), 415-443. <https://doi.org/10.17239/jowr-2020.11.03.01>
16. Dobbs, C. L. (2013). *The use of academic language markers in middle grade persuasive essays: Using academic vocabulary and markers of organization and stance*. Harvard University.
17. Flowerdew, L. (2015). Data-driven learning and language learning theories. *Multiple affordances of language corpora for data-driven learning*, 69, 15-36.

18. Geoffrey, R. K., Behruz, L. G., & Milad, M. (2022). A functional analysis of lexical bundles in the discussion sections of applied linguistics research articles: A cross-paradigm study. *Russian Journal of Linguistics*, 26(3), 625-644. <https://doi.org/10.22363/2687-0088-27752>
19. Ghanbari, N., & Salari, M. (2022). Problematizing argumentative writing in an Iranian EFL undergraduate context. *Frontiers in Psychology*, 13, 862400. <https://doi.org/10.3389/fpsyg.2022.862400>
20. Hadizadeh, A., & Vefali, G. M. (2022). Formulaic language in oral academic discourse socialization of graduate students in a Northern Cyprus university. *Poznan Studies in Contemporary Linguistics*, 58(3), 449-475. <https://doi.org/10.1515/psicl-2022-0021>
21. Halpern, D. F. (2013). *Thought and knowledge: An introduction to critical thinking*. Psychology press.
22. Hinkel, E. (2003). *Teaching academic ESL writing: Practical techniques in vocabulary and grammar*. Routledge.
23. Horwitz, E. K. (2020). *Becoming a language teacher: A practical guide to second language learning and teaching*. Castledown Publishers.
24. Jalilifar, A., & Don, A. (2024). *Applicable Approaches to Analyzing Texts in Academic Discourse*. Cambridge Scholars Publishing.
25. Janks, H. (1997). Teaching language and power. In *Encyclopedia of Language and Education: Language Policy and Political Issues in Education* (pp. 241-251). Dordrecht: Springer Netherlands. <https://doi.org/10.1007/978-94-011-4538-1>
26. Khamis, N., & Abdullah, I. H. (2018). What Do Different Word Lists Reveal about the Lexical Features of a Specialised Language?. *3L, Language, Linguistics, Literature*, 24(3).
27. Lamont, P. (2020). The construction of “critical thinking”: Between how we think and what we believe. *History of Psychology*, 23(3), 232. <https://doi.org/10.1037/hop0000145>
28. Lee, D., & Swales, J. (2006). A corpus-based EAP course for NNS doctoral students: Moving from available specialized corpora to self-compiled corpora. *English for specific purposes*, 25(1), 56-75. <https://doi.org/10.1016/j.esp.2005.02.010>
29. Matipano, J. (2018). *An exploration of how Higher Education L2 learners conceptualise and articulate voice in assessed academic writing on an intensive pre-sessional EAP course at a UK University* (Doctoral dissertation, University of Sheffield).
30. McCarthy, M. (2020). *Innovations and challenges in grammar*. Routledge.
31. Milli re, R. (2024). Language models as models of language. *arXiv preprint arXiv:2408.07144*.
32. Nystrand, M. (Ed.). (2023). *What writers know: The language, process, and structure of written discourse*. BRILL.
33. Ofte, I. (2014). English academic writing proficiency in higher education: Facilitating the transition from metalinguistic awareness to metalinguistic competence.
34. Ortega, L. (2018). Ontologies of language, second language acquisition, and world Englishes. *World Englishes*, 37(1), 64-79. <https://doi.org/10.1111/weng.12303>
35. Pang, W. (2010). Lexical bundles and the construction of an academic voice: A pedagogical perspective. *Asian EFL Journal*, 47(1), 10-11.
36. Qin, J. (2014). Use of formulaic bundles by non-native English graduate writers and published authors in applied linguistics. *System*, 42, 220-231. <https://doi.org/10.1016/j.system.2013.12.003>
37. Ragusa, D. A. (2009). *Writing Ethics in the Writing Major: Rhetorical applications for plagiarism pedagogies in the collaborative age*. University of Rhode Island.
38. Ranjbar, N., Pazhakh, A., & Gorjian, B. (2012). The Effect of Lexical Bundles on Iranian EFL Learners Linguistic Production Fluency. *International Education Studies*, 5(4), 243-251.
39. Stubbs, M. (2007). Quantitative data on multi-word sequences in English: The case of the word world. *Text, discourse and corpora: Theory and analysis*, 163-189.
40. Swain, M. (1996). Integrating language and content in immersion classrooms: Research perspectives. *Canadian Modern Language Review*, 52(4), 529-548.
41. Tynj l , P., Mason, L., & Lonka, K. (Eds.). (2001). *Writing as a learning tool: Integrating theory and practice* (Vol. 7). Springer Science & Business Media.
42. Willis, J. (2004). *Teachers exploring tasks in English language teaching*. Springer.