

FREQUENCY AND STRUCTURAL PATTERNS OF LEXICAL BUNDLES IN BOOK REVIEWS PUBLISHED IN Q1 INDEXED JOURNALS: A CORPUS STUDY

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Abstract

Considering the problem regarding demands to publish the researchers' works in reputable journals, the texts published in reputable journals need to be analysed. This study investigated the frequency and the structural patterns of lexical bundles in book reviews to explain how these structural patterns of lexical bundles are frequently used by the authors in writing book reviews published in Q1 indexed journals. Therefore, it has two research questions which are: (1) how is the frequency of lexical bundles in book reviews published in Q1 indexed journals? (2) how are the structural patterns of lexical bundles in book reviews published in Q1 indexed journals?

A corpus-based study was used to explain the process of observing the data. The corpus consists of twenty book reviews that were published in ten Q1 indexed journals. The frequency and the structural patterns of lexical bundles in book reviews published in Q1 indexed journals will be analysed by using *AncConc v 4.2.2* software and manual procedures. Additionally, the instrument proposed by Biber et al. (2021) combined with Salazar (2011) will be used to analyse the data.

Finally, the results of this study revealed that the frequency of occurrences of lexical bundles used in this corpus is 163 times in 33.579 tokens. There are 37 variations of lexical bundles found in this corpus. Subsequently, the structural patterns of lexical bundles which dominate variants of four-word lexical bundles are prepositional-phrase fragments and noun phrases. Therefore, it can be stated that these findings support the relevant previous studies.

Keywords – Book Reviews, Q1 indexed journals, Lexical Bundles, Structural Patterns

Introduction

Demands related to the publication of scientific works in reputable and indexed international journals have become a hot issue among academics and scholars. This reflects the increasing importance of dissemination and recognition of knowledge among academics and scholars. This is in line with Datta and Jones (2018) who say that academics and scholars are the people responsible for publishing their research works in reputable and indexed international academic journals in order to improve the quality of their institutions. In an era marked by global connectivity and information sharing, publishing in reputable and indexed

international journals has become much more visible and prestigious. There is increasing demand on researchers to generate high-quality research output that advances knowledge and improves their professional standing and future employment opportunities. An additional layer of relevance is added by the indexing of journals, which acts as a quality assurance mechanism and promotes wider distribution of research findings to an international audience. Therefore, it is important to investigate the texts of scientific works published in reputable and indexed international academic journals in order to help academics and scholars in the

future to publish their works in these journals.

One of the conditions for the results of our scientific works to be published in reputable and indexed international academic journals is the use of good English. This is in line with the findings of Datta and Jones (2018) who said that many writers seemed to ignore the correct use of English and punctuation. This could be one of the reasons why a scientific work is rejected by reputable and indexed international academic journals. Therefore, the accurate use of English and punctuation can support the scientific works to be accepted and published in these journals. In this case, the use of accurate lexical bundles in a research work becomes crucial since they can lead better English proficiency among language learners. Consequently, knowing the use of lexical bundles appropriately in a scientific work can be a reference for future researchers to write using appropriate lexical bundles in order to achieve good use of English in a scientific work.

Lexical bundles become an interesting language pattern to be studied by academics and scholars. Many academics and scholars have investigated the use of lexical bundles in various texts (Cortes, 2004; Biber et al., 2004; Conrad & Biber, 2005; Biber & Barbieri, 2007; Hyland, 2008a; Hyland, 2008b; Beng & Keong, 2014; Jalali, 2015; Bychkovska & Lee, 2017; Fitriati & Wahyuni, 2018; Islami et al., 2019; Wachidah et al., 2020; Faqih & Harjanto, 2022). Its presence provides a significant function in indicating the speaker's or writer's stance, organizing discourse and contributing to textual coherence and cohesion (Cortes, 2004; Biber & Barbieri, 2007; Hyland, 2008b; Salazar, 2011). From the previous studies, academics and scholars have

emphasised their significance in differentiating between various genres and registers, rendering them an invaluable instrument for linguistic analysis and language instruction. Furthermore, lexical bundle research can shed light on the cognitive mechanisms behind language comprehension and production by revealing how language users store and recall frequently used terms. Based on these reasons, it becomes important to study lexical bundles in other genres or areas that have not been investigated.

Knowing structural patterns and frequency of lexical bundles in a text is important to know their characteristics in each text. This analysis sheds light on the functional roles these bundles perform in various settings by identifying common phrases that support the overall cohesiveness and coherence of the text. For instance, high-frequency lexical bundles in academic writing often serve as organizational signals or indicators of stance, while in conversational language, they may function to facilitate smooth interaction and maintain flow (Cortes, 2004; Biber et al., 2004; Hyland, 2008a; Hyland, 2008b; Chen & Baker, 2010). Researchers can gain a deeper understanding of the subtle differences between different types of discourse and the language used in a certain genre by looking at these patterns. Furthermore, this knowledge can improve language instruction and help language learners become more fluent and proficient in comprehension by giving them context-specific language chunks in authentic texts.

Book review is one of academic prose that is important to increase the criticality of language learners. Some academics believe that book review is important in the field of researches. According to a number of studies

(Spink et al., 1998; East, 2011; Oinas & Leppälä, 2013; Wei & Fan, 2018), book review can serve as a platform for thoughtful discussion or debate on the ideas presented in the book as well as instructive, evaluative, and reflective objectives for the book being reviewed. Writing book review can also help researchers in other ways, like strengthening their assessment abilities, enhancing their own research, and establishing their authority in a certain field (Obeng-Odoom, 2014). A number of publications also examine how the genre of book reviews has evolved over time (Hartley 2006, 2010) and offer tips on how to create effective reviews (Hartley et al., 2016). Hence, a good book review can give many benefits for their readers. That is why book review can be one of corpus of a research to know how to write a book review properly.

In addition, Q1 indexed journals can be one of the matters to improve educational institutions. In this case, academics must publish their work in respectable, internationally recognised journals with indexes to raise the calibre of their institutions (Datta & Jones, 2018). Since Q1 indexed journals are the most prestigious in the world (Scimago Journal & Country Rank, n.d.), it is imperative that they publish their scientific work in these journals. These journals offer vital venues for disseminating research findings to a global audience, facilitating the cross-national exchange of ideas and knowledge. One way to contribute to a more inclusive and richer academic discourse is through publishing in Q1 indexed journals, which provide opportunities for interaction with different academic communities. Therefore, knowing the language patterns used in these journals become important so that the draft of our book reviews can be accepted by

these journals. It becomes one of the reasons why the frequency and structural patterns of lexical bundles as one of language patterns in book reviews published in Q1 indexed journals should be investigated. In this study, 10 academic journals will be taken from the 50 best journals in the world in the field of social sciences, especially linguistics and language, which publish book reviews (Scimago Journal & Country Rank, n.d.).

Lexical bundles are a part of formulaic languages. This formulaicity even has been identified into 50 terms that have same meaning or purpose (Wray, 2002). In this case, lexical bundles are included as one of formulaic language types (Vilkaitė, 2016; Biber et al., 2021). Furthermore, scholars also define lexical bundles with various definitions. Biber et al. (2021, p. 983) explain that lexical bundles are essentially groups of word forms that frequently occur together in natural discourse. Additionally, Vilkaitė (2016) explains that lexical bundles are word clusters that have a statistically significant likelihood of occurring together in a text. Based on those explanations, it can be concluded that lexical bundles are a series of recurrent multi-word units (3 words or more) that have a certain structure and function in a text.

In determining the frequency of lexical bundle occurrences in a corpus, some scholars have different argumentation. According to Biber et al. (1999, p. 992), lexical bundles made up of three- and four-word bundles are found in five different categories of text at least ten times per million words. However, they chose to investigate five times per million words using a lower cut-off because five- and six-word lexical bundles are significantly less common than those of four-word lexical bundles (Biber et al., 1999, p. 985). To eliminate

the individual speaker or writer idiosyncrasies, these occurrences must be dispersed throughout a minimum of five distinct texts in a register (Biber et al., 1999, p. 985). In addition, Biber and Barberi (2007) add that if the corpus is small, they have three criteria to determine the range of lexical bundles in each text. If the corpus consists of 50.000 words, the word bundles must be distributed in at least three different texts. Additionally, if the corpus consists of 100.000 words, the word bundles must be distributed in at least four different texts. Lastly, if the corpus consists of 200.000 words, the word bundles must be distributed in at least five different texts. Nonetheless, the exact frequency cut-offs continue to be highly subjective. In contrast, Hyland (2008b, p. 8) clarifies that bundles are merely expanded collocations that are distinguished by their frequency of occurrence and range of usage. According to Hyland (2008b, p. 8), the range of lexical bundle usage requires at least 10% of the texts to appear and a minimum frequency of lexical bundles is 20 times per million words. Therefore, from this explanation, it can be concluded that determining a raw cut-off frequency and range of the lexical bundle usage in a study depends on the number of words used in the corpus.

Based on Biber et al. (2021, p. 1007-1017), the structures of lexical bundles are divided into twelve types which are (1) noun phrase with *of*-phrase fragment, (2) noun phrase with other post-modifier fragments, (3) prepositional phrase with embedded *of*-phrase fragment, (4) other prepositional phrase (fragment), (5) anticipatory *it* + verb phrase/adjective phrase, (6) passive verb + prepositional phrase fragment, (7) copula *be* + noun phrase/adjective phrase, (8) (Verb phrase +) *that*-clause fragment, (9)

(verb/adjective +) *to*-clause fragment, (10) adverbial clause fragment, (11) pronoun/noun phrase + *be* (+...), (12) other expressions. Additionally, Salazar (2011) that basically adapts the structures of lexical bundles proposed by Biber et al. (1999) adds some types that are not mentioned by Biber et al. (1999). There are 16 structures of lexical bundles proposed by Salazar (2011) which are (1) noun phrase with *of*-phrase fragment, (2) noun phrase with other post-modifier fragment, (3) other noun phrase, (4) prepositional phrase + *of*, (5) other prepositional phrase (fragment), (6) anticipatory *it* + verb or adjective phrase, (7) passive + prepositional phrase fragment, (8) other passive fragment, (9) copula *be* + adjective phrase, (10) (verb phrase or noun phrase) + *that*-clause fragment, (11) (verb or adjective) + *to*-clause fragment, (12) adverbial-clause fragment, (13) verb phrase with personal pronoun *we*, (14) other verbal fragment, (15) other adjectival phrase, (16) other expressions. Both of the classification proposed by Biber et al. (2021) and the classification proposed by Salazar (2011) are combined and used as the instrument of this study to complement each other between the two classifications.

Some researchers have conducted a number of recent studies pertaining to the many sorts of lexical bundle structures. These studies looked into the structural application of lexical bundles in a variety of text genres, including research articles, reading texts, legal texts, academic writing and newspapers (Jalali & Moini, 2014; Beng & Keong, 2014; Berūkštienė, 2017; Hong, 2019; Xu & Sun, 2022). The researchers discovered that the structures of lexical bundles in the texts they examined included the employment of noun, verb, adjective, prepositional, and adverbial phrase fragments. The choice of which

linguistic structures and recurring bundles to employ in a given text is carefully and strategically thought out. In this case, the researchers were able to identify specific stylistic traits connected to each genre by conducting a structural analysis of the existence and frequency of these bundles. Therefore, it could be claimed that a certain writing style or author discipline was unique at the lexical bundle structure level.

In this study, four-word lexical bundles became the only bundles that were investigated. The reason for this is that there are fewer four-word bundles, making it easier to categorise and examine their context (Chen & Baker, 2010). Moreover, Hyland (2008b) states that investigating four-word lexical bundles is significantly more prevalent than 5-word lexical bundles and gives a clearer range of structures than three-word lexical bundles. Thus, the purpose of this study is to examine the frequency and structural patterns of four-word Lexical Bundles that were found in book reviews published in Q1 indexed journals.

Method

This study employed a corpus-based approach. A corpus-based study is described as a methodology that employs the corpus primarily to elaborate, test, or demonstrate theories and descriptions that were developed before large corpora were available to support language research (Tognini-Bonelli, 2001, p. 65). Therefore, there are some stages that have been done in order to investigate the frequency and structural patterns of lexical bundles in book reviews published in Q1 indexed journals. They are compiling a corpus of book reviews from 10 Q1 indexed journals, using a corpus tool, and doing corpus analyses.

The corpus used in this study consists of 20 book reviews that were published in 10 carefully chosen Q1 indexed journals, which are among the top 50 publications worldwide for linguistics and language studies. It is in line with Cheng (2012, p. 3) who states that a corpus is a set of texts that have been put together with a particular goal in mind. In this case, this study aims to find lexical collections that are often used by book review writers who have published their work in Q1 indexed journals. To guarantee that the corpus is representative, stratified random sampling is utilized to choose the book reviews that are included in this study. The sample texts will be book reviews with a variety of themes, volumes, and publishers that were released between 2020 and 2023. In addition, if the book review is prepared independently, the author's name may only appear once. It aims to prevent anomalies. From these 20 book reviews, the corpus consists of 33.579 tokens.

In addition, a corpus tool was used to collect and analyse the data. It is important since computerized procedures of this tool can analyse the data effectively. In this study, *AntConc v 4.2.2* software was used to analyse the data because it can read many file formats, identify the bundles in the corpus and conduct analysis through *n*-gram and frequency. In addition, manual identification was also carried out to ensure that there were no repetitions of lexical bundles in this corpus. By combining the computerized and manual procedures, the identified bundles are accurate, valid and reliable for the analysis.

In identifying the four-word bundles in this corpus, the cut-off frequency and range of usage are the two criteria for determining lexical bundles. For relatively small corpora, a raw cut-off

frequency of 2-10 is typically used (e.g. Biber & Barbieri, 2007; Chen & Baker, 2016). According to Hyland (2008b), the normalised frequency threshold is often 20-40 per million words. In this study, since the total of the tokens is 33.579 that is categorized in around 50.000 words, the frequency threshold is $(40 \times 50.000) / 1.000.000$. Thus, the frequency threshold used in this study is 2. According to Biber and Barbieri (2007), if the corpus consists of around 50.000 words, the range of usage is distributed in at least 3 texts. Thus, the range of usage in this study is 3.

In analysing the data, the classifications of the structural patterns proposed by Biber et al. (2021) and Salazar (2011) are combined and used as the instrument of this study. In addition, this study looked into the frequency of each structural category once each bundle was assigned to it. In order to explore and expound on the educational implications, the results pertaining to the kinds and frequency of structural patterns were subsequently evaluated and linked to the earlier research. There are 17 categories of the structural patterns of lexical bundles proposed by Biber et al. (2021) combined with Salazar (2011) as shown in the table 1 below.

Table 1. The structural patterns of lexical bundles used in this study

Structural Patterns of Lexical Bundles	Example
Noun phrase with <i>of</i> -phrase fragment	<i>the end of the, in the presence of</i>
Noun phrase with other post-modifier fragment	<i>the ways in which, such a way that</i>
Other noun phrases	<i>language teaching and learning, English for academic</i>

Structural Patterns of Lexical Bundles	Example
	<i>purposes</i>
Prepositional phrase + <i>of</i>	<i>About the nature of, as a result of</i>
Other prepositional phrases (fragments)	<i>at the same time, in addition to the</i>
Anticipatory <i>it</i> + verb or adjective phrase	<i>it is possible to, it is easy to</i>
Passive + prepositional phrase fragment	<i>is shown in figure, is based on the</i>
Other passive fragments	<i>used in this study</i>
Copula <i>be</i> + noun phrase/adjective phrase	<i>is one of the, is due to the</i>
(Verb phrase or noun phrase) + <i>that</i> -clause fragment	<i>these results indicate that</i>
(Verb or adjective) + <i>to</i> -clause fragment	<i>not appear to be, remains to be determined</i>
Adverbial-clause fragment	<i>as shown in figure, as we have seen</i>
Pronoun/noun phrase + <i>be</i> (+ ...)	<i>this is not the, there was no significant</i>
Verb phrase with personal pronoun <i>we</i>	<i>We were unable to</i>
Other verbal fragments	<i>had no effect on</i>
Other adjectival phrases	<i>Similar to that of</i>
Other expressions	<i>this is consistent with</i>

Finding and Discussion

The results of the data analyses revealed the answers of two research questions in this study. The following is a presentation of the data found in this corpus and discussion related to the theoretical reviews and the results of the previous studies which is divided into two parts.

1. The frequency of lexical bundles in book reviews published in Q1 indexed journals

in a table. The table 2 shows the frequency of four-word lexical bundles found in book reviews published in Q1 indexed journal.

After analysing the data, a list of four-word lexical bundles has been collected

Table 2. The frequency of lexical bundles in book reviews published in Q1 indexed journals

Lexical Bundles	Rank	Frequency	Range of Usage
English for academic purposes	1	9	5
In the United States	1	9	3
A wide range of	3	8	7
At the same time	3	8	5
Language teaching and learning	5	7	4
The ways in which	5	7	3
As well as the	7	6	5
This book is an	7	6	6
As a result of	9	5	3
From the perspective of	9	5	3
In chapter the authors	9	5	3
Of the book is	9	5	4
An overview of the	13	4	4
At the end of	13	4	3
In the development of	13	4	4
In the use of	13	4	4
Of the book and	13	4	4
The book consists of	13	4	4
The discussion of the	13	4	4
The relationship between language	13	4	3
To the field of	13	4	4
Who are interested in	13	4	3
With the help of	13	4	3
As a second language	24	3	3
End of the book	24	3	3
English language education in	24	3	3
Highlights the significance of	24	3	3
Is one of the	24	3	3
Of the book it	24	3	3
On the other hand	24	3	3
On the part of	24	3	3
Teachers and teacher trainers	24	3	3
The book could be	24	3	3
The end of the	24	3	3
The role of the	24	3	3
The use of the	24	3	3
To learn more about	24	3	3
With a discussion of	24	3	3
Total		163	

Lexical bundles with a minimum cut-off frequency of two and three text dispersion ranges were found in a list of 37 four-word concordances. Lexical bundles were detected using *Antconc v 4.2.2* throughout this corpus, and the list was automatically sorted from the most frequent bundles to the least frequent ones. Table 2 lists the most common four-word bundles used by the authors of book reviews published in Q1 indexed journals. The data shows that book reviews published in Q1 indexed journals contain various types of lexical bundles and the most common sort of bundles. Based on the data above, overall, the frequency of four-word lexical bundles used in this corpus is 163.

The two bundles become the most frequent bundles used in this corpus which are “*English for academic purposes*” and “*in the United States*”. However, the bundle “*English for specific Purposes*” has 5 ranges of usage while the bundle “*in the United States*” has only 3 ranges of usage. Nevertheless, the bundle “*in the United States*” which is the bundle most frequently found in the book review corpus, namely appearing 9 times in 3 different texts, is also the bundle most frequently used in the study by Beng and Keong (2015) who examined about the use of lexical bundles in reading texts of Malaysian University English test. It indicates that this bundle is often used in several corpora, especially corpora related to English learning. This bundle certainly shows a topic of discussion in the book being reviewed relating to the United States, so these lexical bundles often appear in this corpus.

On the contrary, the bundle “on the other hand” which is the bundle most often found in the studies of Hyland (2008b), Chen & Baker (2010), Staples

et al. (2013), Chen & Baker (2016) is actually the bundle that is ranked last with as many appearances as 3 times in 3 different texts. Nevertheless, it is still counted as the bundle used in this corpus. The interesting thing is that the lexical bundles which are the most frequently used lexical bundles in some corpora do not appear in this book review corpus. The bundles like “*the result of the*” in master's theses and doctoral dissertation, especially in findings and discussions (Faqih & Harjanto, 2022; Islami et al., 2019) and “*in the presence of*” in published research writing in health sciences (Salazar, 2011) are the most frequently bundle used in these corpora. However, those bundles do not appear in this corpus. It indicates that the differences of genre influence the frequency of appearance of bundles in a corpus. Therefore, multi-word learning, especially lexical bundles, needs to be adapted to each genre. A previous study conducted by Biber et al. (1999) explains that the use of lexical bundles in conversation is different from the use of lexical bundles in academic process. The results of this study also show that each genre has unique lexical bundles which may be different from other genres.

Furthermore, the bundle “at the same time”, which is the bundle with the second most frequent use in the third rank (because there are two lexical bundles which is in the first rank), is also the bundle with the second most frequently used in applied linguistics corpus by Hyland (2008b). This shows that similar topics can influence the similarity of the lexical bundles used.

Additionally, the bundles such as “*a wide range of*”, “*as a result of*”, “*the end of the*”, “*at the end of*”, and “*is one of the*” are also the 50 most frequently bundles used in research articles,

doctoral dissertations and master's theses in three discipline sciences, namely Biology, Applied linguistics and Business studies (Hyland, 2008b). This shows that some bundles are also often used in other academic prose with a different genre. Moreover, the academic journals that become the corpus of this study were taken from the field of social sciences, especially linguistics and language. That is why some of the lexical bundles used in this corpus are the same as those in Hyland's study (2008b) which used research articles, doctoral dissertations and master's theses in Applied linguistics. Therefore, this could be one of the reasons why lexical bundles need to be taught to language learners in writing academic prose so that they can write good and correct academic prose.

The four-word bundles like *"in chapter the author"*, *"this book is an"*, *"of the book is"*, and *"the book consists of"* are bundles that really represent the lexical units used in the book review and are not lexical bundles found in other genres, such as theses, articles or abstract. This is because book reviews are a genre that discusses and evaluates the contents of books. Hence, the lexical units that often appear in this corpus are related to the word "book" itself.

Based on these findings, it shows that the lexical bundles used in one genre are not necessarily the lexical bundles used in other genres. Moreover, the topic of a scientific field also influences the lexical bundles used. This is proven by the emergence of the bundle *"English for academic purposes"* which is the most frequently bundle used in this corpus because this corpus contains book reviews related to linguistics and language published in Q1 indexed journals.

2. The structural patterns of lexical bundles in book reviews published in Q1 indexed journals

Following Biber et al. (2021) and Salazar (2011), the structural patterns of lexical bundles were divided into 17 categories. However, not all categories were found in this corpus. There are only 11 categories of lexical bundle structures found in this corpus. The interesting thing is the discovery of a new lexical bundles structure, namely *"noun phrase + verb phrase"* which is not found in the combination of structural patterns proposed by Biber et al. (2021) and Salazar (2011). The table 3 show the structural patterns of lexical bundles in book reviews published in Q1 indexed journals in detail.

Table 3. The structural patterns of lexical bundles in book reviews published in Q1 indexed journals

Structure	Variation of Lexical Bundles	%	Lexical Bundles	Frequency of the Occurrences	%
Noun Structure					
Noun phrase with <i>of</i> -phrase fragment	6	16,22	a wide range of, an overview of the, the discussion of the, the end of the, the role of the, the use of the	25	15,34

Structure	Variation of Lexical Bundles	%	Lexical Bundles	Frequency of the Occurrences	%
Noun phrase with other post-modifier fragment	4	10,81	the ways in which, this book is an, the relationship between language, English language education in	20	12,27
Other noun phrase	3	8,11	English for academic purposes, language teaching and learning, teachers and teachers trainers	19	11,66
Verb Structure					
Other verbal fragment	2	5,41	highlights the significance of, to learn more about	3	1,84
Prepositional-phrase fragments					
Prepositional phrase + <i>of</i>	9	24,32	as a result of, from the perspective of, at the end of, in the development of, in the use of, to the field of, with the help of, on the part of, with a discussion of	36	22,09
Other prepositional phrase (fragment)	7	18,92	in the United States, at the same time, in chapter the authors, of the book is, of the book and, of the book it, on the other hand	37	22,70
Other Structures					
Other adjectival phrase	1	2,70	who are interested in	4	2,45
Copula <i>be</i> + noun phrase	1	2,70	is one of the	3	1,84
Adverbial-clause fragment	1	2,70	as a second language	3	1,84

Structure	Variation of Lexical Bundles	%	Lexical Bundles	Frequency of the Occurrences	%
Other expression	1	2,70	as well as the	6	3,68
Noun phrase + verb phrase	2	5,41	the book consists of, the book could be	7	4,29
Total	37	100		163	100

Based on the number of variations in the lexical bundles, it can be seen that the structural pattern "*prepositional phrase + of*" has the largest number of variations compared to other structural patterns. It has 9 variations of lexical bundles (24,32%). Furthermore, the structural pattern "*other prepositional phrase*" is in second place with 7 variations of lexical bundles (18,92%). Group of noun structures that consists of "*noun phrase with of-phrase fragment*", "*noun phrase with other post-modifier fragment*" and "*other noun phrase*" has respectively 6 variations (16,22%), 4 variations (10,81%) and 3 variations (8,11%). In addition, they are followed by the structural patterns like "*other verbal fragment*" and "*noun phrase + verb phrase*". Both of them have 2 variations (5,41%). And finally, structural patterns like "*other adjectival phrase*", "*copula be + noun phrase*", "*adverbial-clause fragment*", and "*other expression*" have 1 variation (2,70%). Overall, there are 37 variations of lexical bundles found in this corpus.

Based on the data above, it can also be stated that variations of lexical bundles are dominated by the structural patterns of lexical bundles which are based on prepositional phrases and noun phrases. This confirms the results of previous study conducted by Conrad and Biber (2005) which explained that around 60% of lexical bundles in academic prose are parts of noun phrases and prepositional phrases. Furthermore, the results of this study also support the

results of previous studies which also confirm that in the academic prose, structural patterns, such as "*prepositional-phrase fragments*" and "*noun phrases*" are ranked first and second in terms of number of variations of 4-word lexical bundles (Bal, 2010; Shirazizadeh & Amirfazlian, 2021). This indicates that the roles of "*prepositional-phrase fragments*" and "*noun phrases*" are very crucial in writing academic prose by knowing the frequent use of lexical bundles in these structural patterns.

In addition, based on the frequency of occurrences, it can be seen that the structural pattern "other prepositional phrase (fragment)" is the most commonly used structural pattern in this corpus, appearing 37 times (22,70%). Subsequently, there are 36 occurrences of the structural pattern "*prepositional phrase + of*" in the second position (22,09%). Furthermore, ranking third, fourth, and fifth in terms of frequency of occurrences, respectively, are the group of noun structures made up of the structural patterns "*noun phrase with of-phrase fragment*", "*noun phrase with other post-modifier fragment*" and "*other noun phrase*" with 25 times (15,34%), 20 times (12,27%), and 19 times (11,66%). A few of structural patterns in the group of other structures, such as "*noun phrase + verb phrase*", "*other expression*" and "*other adjectival phrase*" have a frequency of occurrences of 7 times (4,29%), 6 times (3,68%) and 4 times (2,45%) respectively. Finally, the frequency of

occurrences of the structural patterns “*other verbal fragment*”, “*copula be + noun phrase*” and “*adverbial-clause fragment*” is 3 times (1,84%). Totally, this corpus contains 163 instances of lexical bundle usage.

In this case, there is a slight difference with several previous studies which also examined the use of 4-word lexical bundles in the academic prose. In this study, the most frequently used structural pattern is “*other prepositional phrase (fragment)*”. This is different from several previous studies which stated that the most frequently used structural pattern of 4-word lexical bundles in their corpus is “*noun phrase + of*” (Jalali & Moini, 2014; Fitrianasari et al., 2018). Jalali and Moini (2014) examined a corpus regarding the introduction section of medical research articles. Based on their study, it was found that the structural pattern “*noun phrase + of*” was the most frequently used in the corpus. In line with Jalali and Moini (2014), Fitrianasari et al. (2018) who observed the use of 4-word lexical bundles in results and discussions sections of students' undergraduate theses and master theses showed that the structural pattern “*noun phrase + of*” was the most frequently used in their corpus. Based on these findings, it can be concluded that different genres in a corpus can influence the frequency of the types of structural patterns used by the authors in writing their texts. Therefore, it is important for teachers, lecturers and stakeholders in the educational sector to be more aware of this so that language learners can learn lexical bundles more optimally. This is because each genre has its own characteristics in using lexical bundles.

Furthermore, as stated in the beginning that not all structural patterns of lexical bundles proposed by Biber et al. (2021)

and Salazar (2011) were found in this corpus. However, the interesting thing is the discovery of a new structure of lexical bundles that was not found previously in the combination of structural patterns of lexical bundles proposed by Biber et al. (2021) and Salazar (2011), namely the bundle “*noun phrase + verb phrase*”. In this case, Biber et al. (2021, p. 1017) state that some lexical groups in academic prose that do not fit into any of the previous categories are included in the category “*other expressions*”, such as “*as well as the*”, “*as well as in*”, “*than that of the*”, “*may or may not*”, “*the presence or the absence*”. Therefore, the bundles like “*the book consist of*” and “*the book could be*” can be categorized in a new structure which is the category “*noun phrase + verb phrase*”. This finding can be used as an additional structural pattern of lexical bundles in academic prose. As a result, this finding could also be a complement to the structural taxonomy of lexical bundles which was previously proposed by Biber et al. (2021) and Salazar (2011). This also indicates that differences in genre in a corpus can influence the differences in structural patterns of lexical bundles found.

Moreover, based on the data found above, it can also be seen that most of the lexical bundles found are lexical bundles that have an incomplete structure. This finding also supports the findings of Biber et al. (1999) who stated that in academic writing, lexical bundles generally have an incomplete structure. Therefore, it can be said that the findings from this study support the results of previous research conducted by Biber et al. (1999). In fact, there are only a few words that have a complete structure found in this corpus, such as the bundles “*English for academic purposes*”, “*language teaching and learning*”, “*teachers and teacher*

trainers", "at the same time", and "on the other hand".

Conclusions

This study aims to explain how the frequency and the structural patterns of 4-word lexical bundles occur in book reviews published in Q1 indexed journals. Based on data analysis, it can be concluded that in total there are 163 four-word lexical bundles used in this corpus. There are two lexical bundles that have the same frequency, namely the bundles "English for academic purposes" and "in the United States". These two are the four-word lexical bundles that are most widely used in this corpus. However, the bundle "*English for academic purposes*" has more distributions, namely 5 different text distributions. On the other hand, the bundle "in the United States" is also the bundle that has the highest frequency in the previous study conducted by Beng and Keong (2015). Additionally, several other four-word lexical bundles were also proven to be found in several previous studies which examined the use of four-word lexical bundles in academic prose. This indicates that the use of lexical bundles cannot be avoided in creating discourse, especially academic prose. Additionally, several lexical bundles found in this corpus show the characteristics of a genre itself. For example, because book reviews are an academic prose that reviews a book, some of the four-word lexical bundles found are fragments of the word "book". Subsequently, lexical bundles are also influenced by the subject matter of a scientific field. This is demonstrated by the emergence of the bundle "English for specific purposes" which is the most commonly used bundle in this corpus. It can occur since the corpus includes book reviews pertaining to language and linguistics.

Regarding the structural patterns of the four-word lexical bundles, it can be concluded that the structural patterns of four-word lexical bundles which dominate variants of four-word lexical bundles are prepositional-phrase fragments and noun phrases. This also happened in previous studies (Corad & Biber, 2005; Bal, 2010; Shirazizadeh & Amirfazlian, 2021). In addition, the two groups of prepositional-phrase fragments and noun phrases also dominate the frequency of occurrences. In this study, there were only 11 structural patterns of four-word lexical bundles found in this corpus. The intriguing finding is the bundle "noun phrase + verb phrase" which is a new lexical bundle structure since it was not previously identified in the combination of structural patterns of lexical bundles suggested by Biber et al. (2021) and Salazar (2011). Furthermore, these findings also support the previous study conducted by Biber et al. (1999) which found that lexical bundles in academic process generally have an incomplete structure.

However, the results of this study need to be treated with caution. This is due to the limitations of this study which only used a small corpus in conducting the investigation. For future researchers, it is hoped that they will be able to investigate the use of lexical bundles in book reviews by using a larger corpus so that the frequency threshold and range of usage of a lexical bundle can be increased further. However, the results of this study still can be used as additional information and help language learners understand the use of four-word lexical bundles, especially in book reviews published in Q1 indexed journals.

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