



LEXICAL BUNDLES IN ACADEMIC WRITING BY UNDERGRADUATE AND GRADUATE STUDENTS OF ENGLISH LANGUAGE EDUCATION PROGRAM

¹Nevita Indah Fitrianasari; ²Terry Sulistyorini; ³Try Retno Sugiarti

Magister Program of English Language Education Faculty of Language
and Art State University of Jakarta Indonesia

¹nevita,indah@live.com; ²missriry02@gmail.com; ³tryretno27@gmail.com

Abstract: *Studies related to the ubiquity of lexical bundles used by undergraduate and graduate students in writing their academic writing, more specifically skripsi and thesis, seems to be limited. As an important defining feature of academic discourse and a significant component of fluent linguistic production, its existence in writing not only can contribute coherence in a text but also can determine the writing ability of a writer, either professional or novice one (Hyland, 2012, p. 166; Cortes, 2004, p. 397). Therefore, it is necessary to conduct this study in order to know the most frequent forms, structures, and functions of lexical bundles used by undergraduate and graduate students in composing their skripsi and thesis. It was revealed that (1) graduate students use more varied bundles rather than undergraduate students; (2) both students tend to use the same structure of noun phrase with of fragment bundles; (3) undergraduate students tend to use research-oriented bundles, while graduate students prefer to use more text-oriented bundle.*

Keywords: *lexical bundles, undergraduate students, master students, skripsi, master thesis*

INTRODUCTION

The study of the lexical bundle has been become a challenging research area and begun to attract considerable attention in linguistic studies. As an extended collocation, a lexical bundle is an important defining feature of academic discourse and a significant component of fluent linguistic production (Hyland, 2012, p. 166). Its existence in writing not only can contribute coherence in a text but also can determine the writing ability of a writer, either professional or novice one (Cortes, 2004, p. 397).

Besides, it can also mark out how expert a writer is in using academic language in range of genres (Hyland, 2012, p. 166).

Lexical bundles can be defined as a recurring expression of three or more words or also known as chunks or cluster (Hyland, 2008, p. 5). It is usually neither idiomatic nor complete structural units although they have strong grammatical correlates (Bieber, Johanson, Leech, Conrad, and Finegan, 1999). Examples of lexical bundles in academic discourse include the aim of the purpose of the, on the other hand, one of the most, etc.

Generally, there are three main categories of lexical bundles, they are noun-based, prepositional-based, and verb-based bundles (Biber, Johansson, Leech, Conrad, & Finegan 1999, p. 996). The first main structure of lexical bundle is noun-based bundles. Noun-based bundles merely consist of two sub-categories, they are (1) noun phrase with of fragment and (2) noun phrase with other post modifier fragments. A noun phrase with of fragment has several functions in writing. It is used structurally to describe a physical description, including identification of place, size and amount, for examples the positions of the as in the following examples:

*The heads of insects are divisible into three types, depending on the inclination of the long axis and **the positions of the mouthparts.***

Besides, noun-phrase with of fragment is also used to mark simple existence or presence by using bundles such as *the existence of local reality* as shown in the following examples:

*Principles (1) and (2) lead us to interpret this regular correlation as an indication of **the existence of a local reality.***

Moreover, identifying a variety of abstract qualities can also use this structure by using bundles like *the use of a, etc.* For example:

The use of a constant inner diameter is often found in industrial units.

Last, noun phrase with of fragment is used to describe processes or events lasting over a period of time, like *the development of a, etc.*

They contributed only very slowly to the development of an additional depletion zone.

Beside noun phrase with of fragment, the other sub-categories of noun-phrase bundles is noun phrase with other post modifier fragment. Its existence in writing has several functions, they are: (1) to describe how a process occurs, such as *the extent to which, etc;* and (2) to identify relationships among entities, for example: *the relationship between the, etc.* The elaborations of the use of lexical bundles in text are as the following below:

(1)*The extent to which sodium enter the melilite structure is not precisely known.*

(2)*The difference between the two weights is equivalent to the two weight of the equal volume of water.*

The second main categories of lexical bundle are prepositional-based bundles. Prepositional based-bundles consist of two sub-categories: first, a prepositional phrase with of fragments and second, a prepositional phrase with other fragments. Prepositional phrase with of fragments are used to (a) mark abstract and logical relation, such as-as a result of, as a function of, in the absence of, in the case of, etc; (b) mark temporal relations or to compare two prepositions or events if it begins with the prepositional at, such as at the end of, at the time of, at the same time, etc; (c) identify time periods, a particular location or discourse context if it begins with prepositional in, such as in the process of, in the development of, etc; and (d) to contrast two arguments or events which are presented as mutually exclusive, such as on the other hand. The use of such bundles in the text are presented below:

- (a) *As a result of these two factors, molecules of both A and B have a greater tendency to escape.*
- (b) *At the end of this period the land may again be ploughed.*
- (c) *In the next chapter we shall discuss the concept of a limit in more detail.*
- (d) Centralisation, *on the other hand* refers to

The last main structural forms of lexical bundles are verb-based bundles. Verb-based bundles have seven sub-categories, namely (1) anticipatory it; (2) passive verb, (3) copula be, (4) that clause, (5) to clause, (6) adverbial clause, and (7) other expressions. The first type of verb-based bundles is anticipatory it. Anticipatory it consists of anticipatory it with verb phrase and anticipatory it with an adjective phrase.

Anticipatory it with verb phrase is usually formed in passive form, for example, it can be seen, it should be noted, it was found that for example it should be noted that selection within a pure line offers little scopes for further improvement in yield. Differ with anticipatory it with of fragment, anticipatory it with adjective fragments are used to report both the stance of the writer, such as possibility/likelihood (it is possible that, etc) and importance or necessity (it is clear that, etc). The uses of this structure in sentences are as shown below:

It is important to distinguish between the processes of growth and development.

The second type of verb-based is passive verb with prepositional phrase fragment. This is used to identify tabular/graphic displays of data like is shown in figure, etc, to identify the basis of some finding or assertion, as is based on the, etc. In a sentence, this bundle will be like “examples are shown in table 3.7.” or “the explanation of this is based on the fact that”.

The third type of verb-based bundle is copula be with a noun phrase or adjective phrase, such as are a number of, is part of the, is due

to the, may be due to, etc. In a sentence, the use of this bundle will be like “cosmos is part of the UK Aley Programme” or “chemical constraint may be due to shortages of nutrients”.

The fourth type of verb-based bundles is (verb phrase with) that clause fragment. It has three main function such as to identify information (It should be noted that the police can insist on entering the premises even against the wishes of the organizers.), to mark complement clause in unmarked declarative structures (Japanese scientists have found, as might be expected, that there is a positive correlation between transpiration rate and crop yield.), to mark an extra posed clause embedded in the that-clause, with it as the subject and the copula is as verb (This means that it is not necessary to require that wave function is unchanged by the interchange of two identical particles).

The fifth type of verb-based bundles is (verb/adjective +) to-clause fragment. These structures are used to indicate possibility or ability by using a predicative adjective (PA) + to-clause, for example: “nevertheless, such work is likely to be empty rewarding”. While to identify previous findings or known information, (passive) VP + to-clause is used. For example: “the free-radical mechanism, however, has been shown to operate in some cases”.

The sixth type of verb-based bundles is adverbial clause fragment. It is used for deictic reference to other discourse segments, for example: as shown in figure, as we have seen, etc. The seventh type of verb-based bundle is pronoun/NP + be (+ ...). It can be formed as this + be (+ . . .), for example this is not the, this is not to, etc. It functions to link the information that follows to the preceding discourse. Besides, it can also be formed as there + be (+ . . .), for example there was no significant, there is a number, there has been a, etc. It is used for informational packaging purposes.

Based on those structural categories, Biber, Johansson, Leech, Conrad, & Finegan (1999) proposed three functions of lexical bundles, namely referential expressions, discourse organizers and stance expressions. However, as Biber’s classification seems to have generated

far more personal, referential and directive bundles than research-focused genre, Hyland (2008) have divided it into a grouping in which bundles refer to either the writer or reader. They are research-oriented, text-oriented and participant-oriented bundles.

Research-oriented, which is also known as referential expressions in Biber's, helps the writer to structure their activities and experiences of the real world. It includes (1) location to indicate time or place. For example: at the beginning of, at the same time, in the present study, (2) procedure, like the use of the, the role of the, the purpose of the, the operation of the, (3) quantification, such as the magnitude of the, a wide range of, one of the most, (4) description, for example: the structure of the, the size of the, the surface of the, and (5) topic: it is related to the field of research. For example: in the Hong Kong, the currency board system.

Second, text-oriented, which is also known as discourse organizers in Biber's, concerns with the organization of the text and its meaning as a message or argument. It includes (1) transition signals which are used to establish additive or contrastive links between elements, such as in the other hand, in addition to the, in the contrast to the, (2) resultative signals which are used to mark inferential or causative relations between elements. For example: as a result of, it was found that, these results suggest that (3) structuring signals or text-reflective markers which organize stretches of discourse or direct reader elsewhere in text, such as in the present study, in the next section, as shown in figure, and (4) framing signals which are used to situate arguments by specifying limiting conditions. For example: in the case of, with respect to the, on the basis of the, in the presence of, with the exception of.

Last, participant-oriented, which is also known as stance expressions in Biber's, focuses on the writer or reader of the text. It includes (1) stance features which convey the writer's attitudes and evaluations. For example: are likely to be, may be due to, it is possible that, and (2) engagement features which address readers directly, such as it should be noted that, as can be seen.

Skripsi and *thesis* are chosen due to its important role in the academic context. They have become one of the requirements for a university student to acquire a degree from the university, either bachelor, master or doctoral degree. It merely consists of five chapters, namely introduction, literature review, methodology, result, and discussion as well as also conclusion chapter. In writing the content of each chapter, generic moves are used as a guideline. The study conducted by Cortes (2003, p.33-34) revealed that lexical bundles help the writer to construct the content of each thesis chapter by trigger the generic moves or complement other expressions in a move.

In writing a good *skripsi* and *thesis*, a writer should able to attract readers' attention by creating a reader-friendly writing (Murray, 2011, p.72). A reader-friendly writing not only will create a flowing and coherent text, but also will make the text easier to be understood and followed by readers. One way to achieve these is by using appropriate lexical bundles in writing. Moreover, based on a study conducted by Kazemi, Kohandani & Farzaneh (2014), it is revealed that, in Iran, the use of lexical bundles has a significant effect on Iranian instructors and article reviewers' evaluation of research articles. Lexical bundles become one key indicator in evaluating research articles. Presumably, this could also be the same here in Indonesia. Hence, it is suggested that students who wish to publish research articles should give special attention to lexical bundles.

As a multiword expression which commonly consists of more than three words, lexical bundles can only be identified if it exists in more than five different texts and reoccur in at least 20 to 25 times per one-million-word corpus (Johnston, 2017, p. 10). Since it takes a very large amount of word corpus, so it is permitted to use a computer software in order to help the researchers analyzing the data (Krippendorff, 2004, p. 258). The computer software which was used by the researchers is *Antconc* 3.5.7. As a free software tool that can locate and count all occurrences of potential lexical bundles, *Antconc* is originally created and developed by a professor of Educational Technology and

Applied Linguistics at Waseda University, Tokyo, Japan, named Laurence Anthony.

The study of lexical bundles in academic writing might be large in number, however specific study of lexical bundles existence used by Indonesian writers in writing their academic writing, more specific result and discussion sections in *skripsi* and master *thesis*, seems to be limited. Therefore, the writers are interested to conduct a study about lexical bundles usage used by Indonesian writers in composing their *skripsi* and *thesis* in terms of its most frequent four bundles, structures and functions, more specifically in result and discussion sections.

METHOD

This study employed qualitative content analysis. The data of this study are all words and phrases considered as lexical bundles that were retrieved from result and discussion sections of *skripsi* and master *thesis*. While the data sources of this study are 45 results and discussion sections of *skripsi* totaling altogether 101,589 words corpus and 70 results and discussions sections of *thesis* totaling altogether 421,870 words corpus. Both result and discussions sections of *skripsi* and *thesis* were collected from universities in Jakarta. Only four-word bundles were analyzed in this study because it is more common and manageable (Hyland, 2012, p. 151). It happened perhaps because the four-word bundles are the extended form of three-word bundles and it is over 10 times more frequent than five-word bundles and offer a wider variety of structures and functions to analyze. *AntConc* 3.5.7 was used by the researchers to help analyzing the lists of potential lexical bundles found in the corpus. All of the potential bundles found by the software then being analyzed manually by the researchers to decide whether they are lexical bundles or not.

FINDINGS

Based on the analysis, it was revealed that undergraduate students are aware of lexical bundles (Sugiarti, 2018). It was proven by 439 cases of lexical bundles found in the result and discussion sections. Among those cases, ten most frequently used lexical bundles used in composing result

and discussion sections are *the result of the, can be seen in, it can be seen, be seen in the, can be seen that, in the form of, in the first circle, teaching and learning process, above it can be, and it can be concluded.*

Undergraduate students tend to use more *noun-phrase with of fragment structure* of lexical bundles in their result and discussion section, however, it seemed that they do not use any to clause fragment, adverbial clause fragment, pronoun/noun phrase with being and other expressions structure. Based on those bundles found in the result and discussion sections of *skripsi* written by undergraduate students, it can be concluded that the bundles they use merely function as research-oriented bundles, more specifically description bundles. Conversely, they rarely used text-oriented bundles in their writing. For more detailed illustration, it is shown as the following below.

Table 1.1. Lexical Bundles in Results and Discussions Sections in *Skripsi* and Master Thesis

Lexical Bundles	<i>Skripsi</i>	Master Thesis
Total words	101,589 words corpus taken from 45 <i>skripsi</i>	421,870 words corpus taken from 70 master thesis
Frequency of lexical bundles	439 cases of lexical bundles	3668 cases of lexical bundles
Ten most frequent lexical bundles	<ol style="list-style-type: none"> 1. <i>the result of the</i> (62 times) 2. <i>can be seen in</i> (57 times) 3. <i>it can be seen</i> (46 times) 4. <i>be seen in the</i> (37 times) 5. <i>can be seen that</i> (29 times) 6. <i>in the form of</i> (28 times) 7. <i>in the first circle</i> (27 times) 8. <i>teaching and</i> 	<ol style="list-style-type: none"> 1. <i>to be able to</i> (171 times) 2. <i>on the other hand</i> (110 times) 3. <i>it can be seen</i> (107 times) 4. <i>it was found that</i> (102 times) 5. <i>can be seen in</i> (94 times) 6. <i>in the form of</i> (79 times) 7. <i>should be able to</i> (77 times) 8. <i>can be seen that</i> (69 times)

		<i>learning process</i> (25 times) 9. <i>above it can be</i> (25 times) 10. <i>it can be concluded</i> (20 times)	9. <i>the background of the</i> (69 times) 10. <i>the result of the</i> (67 times)
Structures of lexical bundles	Most frequently used	noun-phrase with of fragment	noun phrase with of fragment
	No appearance	to clause fragment, adverbial clause fragment, pronoun/noun phrase with be and other expressions	noun phrase with other post modifier fragment, pronoun/noun phrase with be
Functions of lexical bundles	Most frequently used	Research-oriented bundles (description)	Text-oriented bundles (resultative signals)
	Least frequently used	Text-oriented bundles (resultative signals)	Participant-oriented bundles (stance features)

On the other hand, it is found out that graduate students use 3,668 lexical bundles forms or variations in their result and discussion sections (Fitrianasari, 2018). Among those thousands of bundles, graduate students more likely use *to be able to*, *on the other hand*, *it can be seen*, *it was found that*, *can be seen in*, *in the form of*, *should be able to*, *can be seen that* and *the background of the*.

Result and discussion sections of the master *thesis* written by graduate students mostly consist of *noun phrase with of fragments* bundles, but do not use any noun phrase with other fragment and pronoun/noun phrase with be structures. The lexical bundles found in the result and discussion sections of master *thesis* merely function as text-oriented, especially resultative signals bundles. Surprisingly, among those amounts of bundles, there are no bundles which function as participant-oriented bundles, especially stance features bundles.

DISCUSSION

Based on the findings, it can be concluded that both undergraduate and graduate students are aware of the existence of lexical bundles in writing.

Interestingly, even though, the amount of word corpus of result and discussion sections in *skripsi* and this study are different, there are quite many shared lexical bundles in result and discussion sections of *skripsi* by undergraduate students and master *thesis* by graduate students. The shared lexical bundles in *skripsi* and master *thesis* are *the result of the*, *can be seen in*, *it can be seen*, and *in the form of*. Structurally, both undergraduate students and master students use *noun phrase with of fragment* bundles in composing their result and discussion sections. This structure is used to identify physical description (place, size, and amount), mark simple existence or presence, identify a variety of abstract qualities, or describe processes or events lasting over a period of time. Functionally, both learners use lexical bundles differently in their result and discussion sections. Undergraduate students tend to use more research-oriented bundles of description, while master students tend to use text-oriented bundles of resultative signals. It presumably happened because of the same discipline they acquire, that is English Language Education.

Master degree students, at an upper education level rather than bachelor degree students, are considered an expert in their given community. Thus, it is natural if the frequency, forms, structures, and functions of lexical bundles used by them are more varied rather than those used by bachelor degree learners. As master degree students have read numerous books or research articles during their study time, they tend to be more aware of the use of lexical bundles in writing than the lower education level do. In other words, they tend to be more expert in writing their scientific writing rather than the bachelor degree.

CONCLUSION

The purposes of the study are to identify (1) the most frequent lexical bundles in result and discussion sections of English Language Education *skripsi* and master *thesis*; (2) the most frequent structures of lexical bundles used by undergraduate and master students, and (3) the most frequent functions of lexical bundles in result and discussion sections of English Language Education *skripsi* and master *thesis*. The forms of lexical bundles are identified by using computer software named *Antconc*. While in classifying the structure of lexical bundles, the writer

uses Biber, Johansson, Leech, Conrad, & Finegan's (1999) framework which grouped lexical bundles into three main categories, namely noun-based, prepositional-based and ver-based bundles. Last, in analyzing and classifying the lexical bundle functions, the writer adapts Hyland's (2008) framework that is research-oriented, text-oriented and participant-oriented.

The findings show that (1) *the result of the, can be seen in, it can be seen, and in the form of* are the most frequent bundles used by both undergraduate and master students in writing result and discussion sections of *skripsi* and *thesis*; (2) Structurally, both undergraduate students and master students use *noun phrase with of fragment* bundles in composing their result and discussion sections; and (3) functionally, both learners use lexical bundles differently in their result and discussion sections. Undergraduate students tend to use more research-oriented bundles of description, while master students tend to use text-oriented bundles of resultative signals.

The findings of this study have theoretical and practical benefits. Theoretically, the findings of this study are expected to enrich the knowledge of lexical bundles in English Language Education Master *thesis*. More specifically, it is hoped to enrich the knowledge of the forms, structures as well as the functions of lexical bundles used in English Language Education Master *thesis*. Furthermore, it is also intended to provide readers an insight on how education level effects on the use of lexical bundles in academic writing, especially English Language Education master thesis.

Practically, the results of this study have important implications for the study of academic writing as one of the compulsory courses taught in the universities. It is expected to provide and enrich knowledge on lexical bundles used in academic writing, especially in writing result and discussion sections of the master thesis. Moreover, as for the students, it is also hoped that the findings of the study can improve the quality of students' academic writing and help them to be clearer in pointing out their ideas so that they will gain the credibility as a scholar and thus will affect to the acceptance in scholar community. Last, the findings of this

study are expected to be beneficial for English Language Education Program in designing a syllabus for academic writing courses so that the students and graduates can produce good writing competency.

It is suggested to students who wish to write academic text, either *skripsi*, *thesis*, dissertation or even research articles to pay attention to lexical bundles. It has proven that lexical bundles can contribute coherence in a text and can mark how expert a writer in his/her disciplines. Besides, it is also suggested for the researchers who are interested to conduct the same field: to examine and compare lexical bundles on other chapter/section, on different academic text genre, written by native/non-native and even across disciplines with larger words corpus in order to get more complete knowledge about lexical bundles ubiquity.

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