Structural Analysis of Lexical Bundles Across Two Types of English News Papers
Edited by Native and Non-native speakers by Marzieh Rafi & Mansoor Tavakoli

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Abstract

Language learners often acquire second or foreign language as multiword sequences. These chunked expressions (named as lexical bundles, by Biber et al, 1999) may be used in different context, some of which do not match the way natives use them. Regarding this point, this study aims to shed further light on the frequency of occurrence and distribution structural types of lexical bundles used in four newspapers, two of them published in Iran (Iran daily and Tehran Times) and other ones published in England (Times and Independent) in English, whose editorial boards are non-native speakers and native speakers of English, respectively. For this purpose, more than 3 million words of different English and Persian-produced online newspapers were collected and the lexical bundles were identified by the help of computer program, then the structures of them were analyzed. The findings show that Iranian journalists used lexical bundles more frequently compared with native speaker journalists. Regarding structural classifications of bundles, Iranian journalists used the same categories of bundles as native speaker journalists did. The new subcategories of bundles found in newspaper register were added under the appropriate category. The results provide some interesting pedagogical implications for language teachers, EFL practitioners and EFL learners as well.

Key words: Lexical bundles, Journalistic writing, Newspaper register
1. Introduction

An important component of fluent linguistic production is the control of multi-word expressions referred to as clusters, chunks or fixed expressions. These are extended collocations which appear more frequently than expected by chance, helping to shape meanings in specific contexts and contributing to our sense of coherence in a text (Hyland, 2008).

Presumably, lexical bundles, a particular and relatively newborn category of word combinations, are words which follow each other more frequently than expected by chance, helping to shape text meanings and contributing to our sense of distinctiveness in a register. Thus the presence of extended collocations like as a result of, it should be noted that, and as can be seen help to identify a text as belonging to an academic register while with regard to, in pursuance of, and in accordance with are likely to mark out a legal text (Hyland, 2008).

As a distinguishing feature of them, lexical bundles can be "stored and retrieved holistically from the mental lexicon" (Nekrasova, 2009) in language production. Essentially, the frequent occurrence of these formulaic expressions is an aid both at the point of production and reception; on the one hand, it minimizes the decoding and encoding load of both parts in producing and receiving a fluent spoken and written discourse (Erman, 2007; Pawley & Syder, 1983; Raupach, 1984; Wood, 2006); on the other hand, as Haswel (1991) believes, the more writers (and speakers as well) rely on fixed expressions, the more they are accounted to have the characteristics of apprentice writers. In addition to these arguments, the efficient and skilful use of chunk expressions is essential to gain a high level of native-like
proficiency in language learning (Dufon, 1995; House, 1996; quoted in Nekrasova, 2009).

Thus, if learning to use the more frequent fixed phrases of a discipline can contribute to gaining communicative competence in a field of study, there are advantages in identifying these clusters to better help learners acquire the specific rhetorical practices of their communities (Hyland, 2008).

Maybe one of the most interesting things about such sequences is their very pervasiveness, which has, in fact, led writers such as Sinclair (1991) and Hoey (2005) to present radical new theories of language to re-establish our traditional view of grammar. "Instead of seeing lexical choices as constrained by the slots which grammar makes available for them, they regard lexis as systematically structured through repeated patterns of use" (Hyland, 2008).

As Hyland (2007) says, the study of lexical bundles among other word combinations is a crucial but almost an over-looked aspect of genre analysis. Considering this problem, the present study tries to investigate variations across mainstream newspapers whose editorial boards are directed by native speakers of English and non-native speakers.

Therefore, the present study aims to investigate the structural frequency of lexical bundles in a written register, i.e. newspaper register. Following Biber & Barbieri (2007), in this study, frequency refers to the number of occurrences of a particular lexical bundle or a particular group of lexical bundles within a single corpus or a set of corpora.

The study attempts to answer the following research questions:

1) What are the most frequent lexical bundles in journalist writings, which are directed by native and non-native editors?
2) How are such lexical bundles classified structurally?

3) Which group of newspapers (native vs. non-native) shows the appropriate and effective application of lexical bundles?

2. Literature Review

2.1. Lexical bundles: previous research

During the last century, the study of word combinations has attracted many linguists and researchers. What made researchers more interested, was the use of these building blocks by EFL learners of English. In a study done by Milton (1998) the essays written by Hong Kong students and native English speakers were compared and it was concluded that Hong Kong students used more recurrent word combinations, compared to their counterpart, native speakers. Also De Cock (2000), in her study on essays produced by English and French EFL learners, states French EFL learners used more word combinations than native speakers of English. The studies done on lexical bundles, as a new category of word combinations, more focused on L1 speakers' production of lexical bundles in both conversational and academic registers. The example studies are the ones conducted by Biber and Conrad (1999) who analyzed the use of lexical bundles in academic writing and conversation, Hewings & Hewings (2002), who compared the use of lexical bundles in the written production of published authors and university students, Cortes (2002a, 2004), who identified four-word lexical bundles (called *target bundles*) used by published authors in history and biology and by students at three different levels in those disciplines, Biber, Conrad & Cortes (2004), who described the use of lexical bundles in two university instructional registers: classroom teaching and textbooks, Biber & Barbieri (2007), who investigated the use of lexical bundles in a wide range of spoken and written university registers, including both instructional registers and students advising/management registers (e.g., office
hours, class management talk, written syllabi, etc.), and finally Hyland (2008), who explored forms, functions and structures of lexical bundles in three disciplinary variation; research articles, doctoral dissertations and Master's theses.

Although there are studies designed to make a contrastive interlanguage analysis of lexical bundles used by native and non-native English speakers, there should be more works to be done in this field. Juknevičienė (2009) in her study of "lexical bundles in learners language" compared and contrasted the language produced by Lithuanian EFL learners vs. English native speakers in three different levels in terms of the use of lexical bundles. The finding shows that non-native learners "rely on more limited set of lexical phrases" and they often use the same "safe" bundles more repetitively in their writing. In another study Ping (2009) compared the functions and structures of lexical bundles in argumentative writing between Chinese EFL learners and English native speakers. The Chinese learners were found "to use 4 times as many lexical bundles as the native speakers do". In terms of functional and structural analysis of lexical bundles, the two groups showed different usage of bundles in their writings.

2.2. Lexical bundles: Operational definitions

Formulaic expression, as an umbrella term, is comprised of certain subcategories: proverbs, collocations, idioms, speech formulae, which according to Wray (2002) list, can be classified as being completely fixed (e.g. idioms and collocations) or being more compositional (e.g. patterns, sentence builders) (Nekrasova, 2009). The main concern of ESP researches in recent years is the more compositional groups of formulaic sequences. As a particular and relatively newborn category of word combination, "lexical bundles" was first introduced by Biber et al (1999) in *Longman Grammar of Spoken and Written English*. The definition they offered for "lexical bundles" is as follows: "lexical bundles are recurrent words (e.g. the fact
that the, I don’t think so) regardless of their idiomaticity, and regardless of their structural status. Lexical bundles are simply sequences of word forms that commonly go together in natural discourse.

2.3. Structural Taxonomy of Lexical Bundles

In lexical bundles’ studies, structure refers to the particular syntactic or grammatical configuration which a lexical bundle assumes or within which it is embedded. For example a lexical bundle like *is one of the* is considered to be as a bundle that can incorporate a verb-phrase fragment.

Biber et al (2004) proposes taxonomy by regarding the structural characteristics of lexical bundles found in their study of bundles in university registers. Basically, "lexical bundles have strong grammatical correlates", in spite of the fact that they are not complete structural units (Biber et al, 2004). Table 1 shows the structural types of lexical bundles.

*Table 1: Structural taxonomy of lexical bundles (Biber et al, 2004)*

<table>
<thead>
<tr>
<th>Lexical bundles that incorporate verb phrase fragments</th>
</tr>
</thead>
<tbody>
<tr>
<td>(connector)+ 1st/2nd person pronoun + VP fragment</td>
</tr>
<tr>
<td>Example bundles: <em>I’m going to, you don’t have to</em></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>(connector)+ 3rd person pronoun + VP fragment</td>
</tr>
<tr>
<td>Example bundles: <em>It’s going to be, that was one of the</em></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Discourse marker + VP fragment</td>
</tr>
<tr>
<td>Example bundles: <em>I mean you know, you know it was</em></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Verb phrase (with non-passive verb)</td>
</tr>
<tr>
<td>Example bundles: <em>is going to be, is one of the</em></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Verb phrase with non-passive verb</td>
</tr>
<tr>
<td>Example bundles: <em>is based on the, can be used to</em></td>
</tr>
</tbody>
</table>
### Yes/no question fragments
Example bundles: *are you going to, do you want to*

### WH question fragments
Example bundles: *what do you think, how many of you*

### Lexical bundles that incorporate dependent clause fragments

<table>
<thead>
<tr>
<th>Type of Fragment</th>
<th>Example Bundles</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st/2nd person pronoun + dependent clause fragments</td>
<td><em>I want you to, I don't know if</em></td>
</tr>
</tbody>
</table>

### WH clause fragments
Example bundles: *what I want to, what's going to happen*

### If-clause fragments
Example bundles: *if you want to, if you look at*

### (verb/adjective)+ to-clause fragment
Example bundles: *to be able to, to come up with*

### That-clause fragments
Example bundles: *that there is a, that I want to*

### Lexical bundles that incorporate noun phrase and prepositional phrase fragments

<table>
<thead>
<tr>
<th>Type of Fragment</th>
<th>Example Bundles</th>
</tr>
</thead>
<tbody>
<tr>
<td>(connector)+ Noun phrase with of-phrase fragments</td>
<td><em>one of the things, the end of the</em></td>
</tr>
</tbody>
</table>

### Noun phrase with other post-modifier fragments
Example bundles: *a little bit about, those of you who*

### Other noun phrase expressions
Example bundles: *and stuff like that, a little bit more*

### Prepositional phrase expressions
Example bundles: *of the things that, at the end of*

### Comparative expressions
Example bundles: *as far as the, greater than or equal*

### 3. Method
3.1. Corpus used for the study

The present study is based on an analysis of different parts of newspapers (e.g. UK news, Domestic Economy, Middles East, World, Art & Culture, and Science, Politics, etc.). The texts used in this corpus belong to four newspapers, two of them published in Iran (Irandaily and Tehran Times) and the other ones published in England (Times and Independent), from 1/1/2009 to 15/1/2010. The newspapers were chosen as the source of corpus collection because they were online and accessible for downloading the necessary files. Besides, they were more popular than other English newspapers in Iran and England in terms of readership. At least seven parts of the newspapers were selected because they contained more words than the other parts of the newspapers in each number. Table 2 below shows the corpus used in this study:

Table 2: Composition of sub-corpus used in the analysis

<table>
<thead>
<tr>
<th>Newspaper</th>
<th>Published in</th>
<th>No. of words</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irandaily</td>
<td>Iran</td>
<td>1,007,331</td>
</tr>
<tr>
<td>Tehran Times</td>
<td>Iran</td>
<td>1,002,629</td>
</tr>
<tr>
<td>Independent</td>
<td>England</td>
<td>987139</td>
</tr>
<tr>
<td>Times</td>
<td>England</td>
<td>1,010,000</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>4,007,099</td>
</tr>
</tbody>
</table>

3.2 Bundles Identification
As Biber et al (2004) state in their study on the bundles, frequency has the key role in identification of bundles. "... frequency data identifies patterns that must be explained." (p. 376). Besides, there is one additional importance of frequency in the study of multi-word sequences, i.e. these sequences of words "are one reflection of the extent to which a sequence of words is stored and used as a prefabricated chunk, with higher frequency sequences more likely to be stored as unanalyzed chunks than lower frequency sequences"(p.376). Although the actual frequency cut-off point used by different researchers is arbitrary, in the present study, the cut-off point 20 times in a million words, was selected. Two computer programs were used in this study to explore lexical bundles, their frequencies, the number of texts in which they had been used, and their actual contexts of use: Antconc3.2.1w (Anthony, 2007), and Wordsmith tools5 (Scott, 2008). The former was used for identification of lexical bundles and concordancing while the latter was only used to find the number of texts within which each bundle had been used. In this study like some other previous studies of lexical bundles (e.g. Cortes, 2002), only four-word combinations or bundles were investigated. When all the texts had been processed, the program identified all the bundles which occurred at least 20 times in more than four million words and in 20 out of 28 of these selected texts.

According to Biber et al (1999) a word combination must recur at least 10 times per million words in a register and must be repeated in five or more texts to be qualified as lexical bundles. To limit the scope of this study, just four-word sequences were focused in the analysis, because five-word and six-word sequences are generally less common and three-word bundles "can be considered as a kind of extended collocational association" (Biber et al, 1999).

4. Results and Discussion

4.1. Structural Types of Lexical Bundles
According to Biber et al (1999) lexical bundles can be divided into two categories; conversational and academic ones. In this study, the categories named as academic prose in the Longman Corpus (1999) and its revised version, i.e. Biber et al (2004) were employed, because journalistic writing is more similar to academic prose than conversational register. In general, the analysis of lexical bundles in English corpora shows that while conversation primarily contains more bundles incorporating clause fragments, written English overuses bundles incorporating noun/prepositional phrase fragments (Biber et al, 1999; Biber et al, 2004; Hyland, 2008). The analysis of the corpora confirms the previous findings. In Table 3, all the lexical bundles found in the corpus are categorized according to their structural collocations.

Table 3: Lexical bundles in journalistic writing classified according to their structural collocations

<table>
<thead>
<tr>
<th>Lexical bundles that incorporate verb phrase fragments</th>
</tr>
</thead>
<tbody>
<tr>
<td>➢ (connector +) 3rd person pronoun + VP fragment</td>
</tr>
<tr>
<td>Example bundles: there will be a, it was the first, this is the first, there will be no, he added that the,</td>
</tr>
<tr>
<td>➢ Discourse marker + VP fragment</td>
</tr>
<tr>
<td>Example bundles: I think it is</td>
</tr>
<tr>
<td>➢ Verb phrase (with non-passive verb)</td>
</tr>
<tr>
<td>Example bundles: is one of the, was one of the, said in a statement, will be able to, is likely to be, is going to be, not be able to, is the first time, come up with a,</td>
</tr>
<tr>
<td>➢ Verb phrase with passive verb</td>
</tr>
<tr>
<td>Example bundles: is believed to be, have been able to, is expected to be,</td>
</tr>
</tbody>
</table>

| Lexical bundles that incorporate dependent clause fragments |
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<table>
<thead>
<tr>
<th>Category</th>
<th>Example Bundles</th>
</tr>
</thead>
<tbody>
<tr>
<td>(verb/ adjective +) to-clause fragments</td>
<td>to be one of, to set up a, to deal with the, to do with the, to be able to, to take part in,</td>
</tr>
<tr>
<td>That-clause fragments</td>
<td>that there is a, that it would be</td>
</tr>
<tr>
<td>Wh-clause fragment</td>
<td>when it comes to</td>
</tr>
<tr>
<td>Lexical bundles that incorporate noun and prepositional phrase fragments</td>
<td>(connector +) noun phrase with of-phrase fragment</td>
</tr>
<tr>
<td></td>
<td>the end of the, one of the most, the rest of the, a member of the, the start of the, the head of the, one of the world, the beginning of the, a result of the, tens of thousands of, the time of the, hundreds of thousands of, the chairman of the, the heart of the, one of the best, the size of the, a great deal of, the state of the, the top of the, a lot of people, the president of the,</td>
</tr>
<tr>
<td></td>
<td>Noun phrase with other post-modifier fragments</td>
</tr>
<tr>
<td></td>
<td>the first time that, the fact that the, the first time since, the first time in, in a way that</td>
</tr>
<tr>
<td></td>
<td>Other noun phrase expressions</td>
</tr>
<tr>
<td></td>
<td>a spokesman for the, and the United States, the past five years, all over the world, the latest in a,</td>
</tr>
<tr>
<td></td>
<td>Prepositional phrase expressions</td>
</tr>
<tr>
<td></td>
<td>at the end of, by the end of, as a result of, as part of a, as one of the, at the age of, in the face of, as part of the, with the help of, in the middle of, in front of the, until the end of, in the history of, at the time of, in one of the, in the case of, in a bid to, at a time when, for a long time, in a way that, in the form of, at the start of, on the verge of, in the aftermath of, at the beginning of, of one of the, at the heart of, in an interview with, in an attempt to, for the first time, in the United</td>
</tr>
</tbody>
</table>
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*States, in the Middle East, at the same time, on the other hand, in addition to the, in charge of the, in a series of, in terms of the, for the sake of, over the course of, at the university of,*

- Comparative expressions

Example bundles: *as well as a, as well as the,*

Figure 1 below shows clearly the distribution of different structural types of lexical bundles in journalistic writing:

*Figure 1 The structural distribution of lexical bundles in journalistic writing:*
As the definition says, one of the characteristics of lexical bundles is the naturalness of language production. For this reason, it was expected that native speakers' writings be more "bundalized" than non-native writings. Quite surprisingly, as Figure 1 shows, non-native speakers mostly used lexical bundles in their writings more than native speakers, except the category of lexical bundles that incorporate clause fragment, which native speakers applied them more.

Structurally, as Table 3 and Figure 1 demonstrate, it seems that the majority of bundles in the corpus are phrasal rather than clausal in line with findings of previous studies like Biber et al. (1999) that academic writing, unlike some registers like conversation and classroom teaching, are characterized as including more phrasal rather than clausal bundles.

Non-native writers' relatively frequent use of target bundles could be due to the fact that they have already been exposed to such word sequences several times in their prior readings of various kinds of English literature. In addition, it may be justified by the fact that lexical bundles are very pervasive in different registers especially university language (Biber et al., 1999; Biber and Barbieri, 2007) and may have a formulaic status (Wray, 2000, Wary and Perkins, 2000). However, there are still a good number of target bundles which non-native writers do not make frequent use of (e.g. the extent to which, the end of the, in the context of, the use of the, at the end of, and it is important to).
5. Conclusion and pedagogical implications

The main purposes in this study was to identify the most frequent four-word lexical bundles in journalistic writings and comparing their applications between magazines directed by native and non-native editors. The findings support the studies done by De Cock, 2000; De Cock, Granger, Leech, & McEnery, 1998; Granger, 1998 and Warga, 2005, which had a contrastive approach to the analysis of the use of multi-word expressions (including lexical bundles) by comparing L1 and L2 production of written and oral corpora. These studies show that L1 and L2 speakers' use of recurrent word expressions differ both quantitatively and
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qualitatively. Predominantly, L2 speakers were found not to have the knowledge of L1 chunked expressions. In order to compensate for their lack of knowledge, they often tended to use L1 transfer. According to Nekrasova (2009), L2 speakers treated the L1 transfer process in the following ways:

- Avoidance and modifications of L2 constructions which did not have L1 equivalence: L2 speakers often avoided or modified those L1 constructions which did not have L1 counterpart,
- Overuse of those L2 expressions whose L1 counterparts were more common, and finally,
- Misuse of those constructions whose L2 equivalence did not match their L1 counterparts.

As De Cock (2000) believes, these L1 transfer processes during second language productions may eventually lead to the "foreign-soundness" of L2 speaker's oral and written speech.

Here it can be assumed that non-native speakers' writing are based on a limited set of lexical bundles while native speakers' writings have a broader repertoire of them. The non-proficient occurrence of lexical bundles in language of non-native learners leads to verbosity and the repetition of "safe" expressions (Juknevičienė, 2009).

Pedagogically, there may be a kind of acquisition advantage for L2 learners in the use of lexical bundles as some formulaic sequences (Conklin and Schmitt, 2008). Such kind of acquisition should receive enough attention in EFL/ESL contexts. These word sequences are not idiomatic in meaning and therefore, may be easy to understand, but they do not seem to be marked and perceptually salient. Consequently, there may still be a need to leave a particular place in any L2 syllabus or EAP English for academic purposes) course for an increased pedagogical focus on lexical bundles especially those that students need to understand and use in their future target genres (Hyland, 2008b).
However, the results should be treated with some cautions. Although frequency counts served as an indication of bundles identifications, some corpus linguists believe that only frequency cannot be the major criteria to analyze lexical bundles corpora (De Cock, 2000; De Cock, 1998). One of the reasons they provide is that frequency does not show how language structure is presented in speakers' minds (for example, two words *it* and *is* frequently occur together and this does not indicate whether they are holistic units or because they are close-class items which commonly occur together). More works need to be done on the psycholinguistic validity of lexical bundles. Besides, it can be useful to carry out a cross-linguistic research on Persian and English bundles to see if the use of them by writers of different eras has been under the influence of translation.

**References**


