

## Realizations and Functional Patterns of Shell Nouns in Applied Linguistics Research Articles

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### Abstract

This study intends to investigate the realizations and functional patterns of shell nouns in Applied Linguistics research articles. To this end, fifty research articles in the field of Applied Linguistic were selected from *Journal of English for Academic Purposes* and journal of *English for Specific Purposes* published by Elsevier. The articles were analyzed for the realizations of shell nouns based on the list suggested by Hinkel (2004). As to the functional patterns, Schmid's (2000) classification of functional patterns of shell nouns was also adopted. Findings reported that some shell nouns are used more frequently while some were put aside. Findings also reported that writers of research articles in the field of Applied Linguistics used functional patterns suggested by Schmid (2000). Findings of this study could have implications by raising the awareness of writers of Applied Linguistics research articles, especially in EFL contexts, concerning the use of shell nouns and functional patterns in which shell nouns are used.

**Keywords:** Shell Noun, Research Article, Applied Linguistics, Functional Patterns

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## Introduction

One of the pivotal attempts in academic writings is to create cohesive and coherent texts that facilitate successful communication with community members. Writers' attempt, more or less consciously, expertly, or successfully, is to help readers to treat texts as coherent texts rather than collections of unconnected words, phrases, and sentences. Several studies have tackled this issue in different academic writing genres in the last decades (Connor, 1984; Ebrahimi, 2014, 2017; Flowerdew, 2003; Hinkel, 2001; Liu, 2008; Kashiha & Chan, 2014; Nesi & Basturkmen, 2006). These studies have provided ESL academic writing classes with some pivotal information concerning lexical devices that make the text to be considered as a coherent and cohesive academic text. One of the lexical devices includes a special type of nouns that are called by different scholars as general nouns (Halliday & Hasan, 1976), carrier nouns (Ivanic, 1991), anaphoric nouns (Francies, 1986), enumerative nouns (Hinkel, 2001), shell noun (Hunston & Francies, 1999) and signaling nouns (Flowerdew, 2003). This type of noun is defined by different scholars as:

**Table 1:** Definitions previously given for abstract nouns (Adopted from Aktas & Cortes, 2008)

Study/Author	Terminology	Definition
1 Francis (1986)	Anaphoric nouns	“A-nouns are signals in the linear discourse that function as signposts by means of which he/she (reader) is periodically made aware of the writer’s design and how the parts fit together in the development of the central theme” (p. 2).
2 Ivanic (1991)	Carrier nouns	“They frequently carry a specific meaning within their context in addition to their dictionary meaning” (p. 95).
3 Francis (1989, 1994)	Advance/ retrospective labels	“Labels may function either cataphorically or anaphorically. Where the label precedes its lexicalization, it will be termed an advance label; where it follows its lexicalization, it will be called a retrospective label” (1994, p. 83).
4 Tadros (1994)	Enumerative nouns	“Enumeration carries a signal that commits the writer to enumerate” (p. 71).
5 Hinkel (2001, 2004)	Enumerative/’catch-all’ nouns	“They have specific, identifiable referents in the text, to which these nouns are connected” (2001, p. 129).
6 Flowerdew (2003)	Signaling nouns	“Any abstract noun, the meaning of which can only be made specific by reference to its context” (p. 2).

The above definitions are saying the same function of this type of noun in different ways. They all define shell noun as a noun that has “both a constant and variable meaning, and the variable meaning is dependent on the context in which it is [they are] used” (Ivanic, 1991, p. 109).

Several studies have been carried out on the use of shell nouns in different genres (Aktas & Cortes, 2008; Liu & Deng, 2017; Mousavi & Moinin, 2014). Aktas and Cortes (2008) studied the use of shell nouns in published writings and writings of international graduate students. They carried out their study on a corpus of a) 28 research articles written by non-native speakers of English and b) 166 published research articles. The corpus was taken from six disciplines. They found that shell nouns are important cohesive devices. They found that shell nouns were used with

greater variety in the students' writings compared to published research articles. This finding indicates that students need not only to use shell nouns but what is more important is how shell nouns are used in different patterns to serve different functions. Students need to be exposed to examples in which shell nouns are used.

Mousavi and Moinin (2014) analyzed the frequencies and lexico-grammatical patterns of shell nouns used in research articles. They selected 239 research articles from the discipline of education published from 2002 to 2010. They found that the most frequent shell nouns are “*change, process, and form*”. They also reported that the most frequent patterns are “*the+N+Prepositional phrases*”. They concluded that such pattern gives writers the space to give more details on the stated information.

Liu and Deng (2017) carried out a corpus-based study on the use of shell nouns in the “*N+be+that*” pattern in popular and professional science articles. Their study was based on a corpus from COCA (the Corpus of Contemporary American English) corpus. They analyzed articles from popular magazines in the domain of science and technology and research articles from the same domain. They found that there were overall similarities in the semantic distribution of shell nouns. They also indicated that there were variations in shell noun use in the “*N+be+that*” pattern that reflect the authors' preference for evaluation in popular and professional science articles.

The literature reviewed here indicated that genre and discipline could have impact on the use and patterns of shell nouns. Thus, this could motivate this study to shed light on the frequencies, lexico-grammatical patterns, and functions of shell nouns in Applied Linguistics (AL) research articles (RAs). Thus, this study intends to answer the following questions:

1. What are the frequent shell nouns used in AL RAs?
2. What are the lexico-grammatical patterns of frequent shell nouns used in AL RAs?
3. What are the functions of the frequent lexico-grammatical patterns of shell nouns used in AL RAs?

## **Methodology**

### **Corpus**

To meet the ends of this study, 50 Applied Linguistics (AL) research articles (RA) from two journals of *English for Specific Purposes* and *Journal of English for Academic Purposes* were selected. These two journals were selected as they are indexed in Thomson and Reuters and listed in JCR, and hence they could represent the discipline. These two journals are also among the prominent destinations of research carried out by experts of the discipline. The RAs were selected from 2015-2017 issues of these two journals. Particulars of the corpus are presented in Table 2.

**Table 2:** Particulars of the corpus

Discipline	Applied Linguistics
Journals	<i>English for Specific Purposes</i> <i>Journal of English for Academic Purposes</i>
No. of RAs	50 RAs
Years of publication/ Issues	Regular issues of 2015-2017
Structure of the RAs	Introduction, Method, Results, and Discussion (IMRD)
Word count	294774 words

## Framework

To analyze the corpus for the realizations, lexico-grammatical patterns, and functions of shell nouns, Hinkel's (2004) list of shell nouns and Schmid's (2000) classifications of lexico-grammatical patterns and their functions were adopted. Hinkel's (2004) list includes the following 35 shell nouns:

**Table 3:** Hinkel's (2004) list of shell nouns

effect	reason	change	task	difficulty
result	purpose	factor	category	phase
fact	characteristics	feature	challenge	topic
system	form	manner	subject	experience
process	issue	event	tendency	circumstance
problem	method	stage	aspect	facet
approach	type	trend	class	item

Schmid's (2000) classifications of lexico-grammatical patterns and their functions include four patterns and two functions. The patterns and functions are as follows:

**Table 4:** Schmid's (2000) classifications of lexico-grammatical patterns

patterns		Examples
<b>Cataphoric</b>		
1	N-be-to	<b>Our plan is to hire</b> and retain the best managers we can.
2	N-be-that	<b>The major reason is that</b> doctors are uncomfortable with uncertainty.
3	N-be-wh	Of course, the central, and the probably insoluble, <b>issue is whether</b> animal testing is cruel.
4	N-to	<b>The decision to disconnect</b> the ventilator came after doctors found no brain activity.
5	N-that	Mr. Shoval left open the <b>possibility that</b> Israel would move into other West Bank cities.
6	N-wh	If there ever is any <b>doubt whether</b> a plant is poppy or not, break off a stem and squeeze it.
7	N-of	The <b>concept of</b> having an outsider as Prime Minister is outdated.
<b>Anaphoric</b>		
8	th-N	Living expenses are much lower in rural India than in New York, but <b>this fact</b> is not fully captured if prices are converted with currency exchange rates.
9	th-be-N	People change. <b>This is a fact.</b>
10	Sub-be-N	If the money is available, however, <b>cutting the sales tax is a good idea.</b>

## Procedures

This study was carried out through the following procedures: First, the researchers extracted the RAs from the target journals and changed them into one PDF file for the sake of searching the shell nouns. Second, the researchers analyzed the corpus for the realizations, lexico-grammatical patterns, and functions of shell nouns. In this process, the researchers asked two researchers who published some paper in the field of Applied Linguistics on topics close to the current study's topic to check a sample 10 RAs. Third, the researchers tabulated and discussed the findings while they compared their findings with findings of other related studies.

## Results and Discussion

### Frequencies and Selections of Shell Nouns

The corpus analyzed for the realizations of shell nouns and the results are presented in Table 5.

**Table 5:** frequencies of shell nouns in AL research articles

	Shell noun	Frequency in corpus	Frequency per 100.000 words		Shell noun	Frequency in corpus	Frequency per 100.000 words
1	Approach	108	36.63	19	Problem	17	5.76
2	Process	107	36.29	20	Task	17	5.76
3	Fact	101	34.26	21	System	15	5.08
4	Type	91	30.87	22	Method	15	5.08
5	Purpose	87	29.51	23	Class	13	4.41
6	Form	54	18.31	24	Challenge	12	4.07
7	Result	52	17.64	25	Trend	11	3.73
8	Stage	43	14.58	26	Change	11	3.73
9	Category	40	13.56	27	Item	9	3.05
10	Aspect	39	13.23	28	Manner	7	2.37
11	Effect	38	12.89	29	Phase	6	2.03
12	Issue	36	12.21	30	Subject	4	1.35
13	Feature	36	12.21	31	Difficulty	4	1.35
14	Experience	33	11.19	32	Event	1	0.35
15	Reason	27	9.15	33	Facet	0	0
16	Factor	24	8.14	34	Circumstance	0	0
17	Tendency	23	7.80	35	Characteristics	0	0
18	Topic	22	7.46		<b>Total</b>	<b>1103</b>	34.94

The results in Table 5 indicate that writers of AL RAs are eager to use shell nouns in their RAs. This could be identified through the greater attention that these writers have devoted to the use of shell nouns by comparing the results of this study with a study carried out by Aktas and Cortes (2008). In their study, frequencies were fluctuating from 2 to 29 (per 100.000 words). In this study, the frequencies are fluctuating from 1 to 36.63 (per 100.000). The greater frequency of shell nouns could be an indicator of higher argumentative nature of the corpus analyzed in this

study (Botley, 2006; Flowerdew, 2003; Schmid, 2000). The other noticeable difference that is worth mentioning is that in the corpus of this study, writers used a greater number of shell nouns with frequencies more than 10 (per 100.000). The differences mentioned above could stress the fact that shell nouns are among the linguistic features that could highlight genre and disciplinary differences. This result could be clearly evident through a closer look at the results in Table 5. The results in Table 6 indicate that the most frequent shell nouns in the AL RAs analyzed are *Approach*, *Process*, *Fact*, *Type*, *Purpose*, *Form*, *Result*, *Stage*, *Category* and *Aspect*. Concerning most frequent shell nouns in this study and studies reviewed in the literature, Table 6 plot the most frequent shell nouns in this study and those in other studies.

**Table 6:** Frequencies of shell nouns in this study and studies reviewed in the literature

	This study	Aktas & Cortes 2008	Liu & Deng 2017	Liu & Deng 2017	Kolhatkar & Hirst 2014	Flowerdew 2003	Mousavi & Moini 2014
AL-RA	Published RA and student writings	RA from science	Article from Magazine	Articles from the New York Times	Lecture and textbooks	Education RA	
<b>1 Approach</b>	Effect	Reason	Problem	Idea	Function	Change	
<b>2 Process</b>	<b>Result</b>	Problem	Reason	Issue	Way	<b>Process</b>	
<b>3 Fact</b>	<b>Fact</b>	Advantage	Thing	Concept	<b>Result</b>	<b>Form</b>	
<b>4 Type</b>	System	<b>Result</b>	News	Decision	Case	Characteristics	
<b>5 Purpose</b>	Problem	Different	Advantage	Plan	Effect	<b>Type</b>	
<b>6 Form</b>	<b>Process</b>	Explanation	Difference	Policy	Kind	<b>Fact</b>	
<b>7 Result</b>	<b>Approach</b>	Thing	<b>Result</b>	Problem	-	<b>Purpose</b>	
<b>8 Stage</b>	Reason	Point	Idea	Trouble	-	<b>Approach</b>	
<b>9 Category</b>	<b>Purpose</b>	Assumption	Point	Difficulty	-	Issue	
<b>10 Aspect</b>	Characteristics	Feature	Explanation	Reason	-	<b>Effect</b>	

As is evident, the frequent shell nouns of this study have more in common with the frequent shell nouns found in studies carried out by Aktas and Cortes (2008) and Mousavi and Moini (2014). The similarities could be due to the similarity in the nature of the corpus analyzed in the studies and this study. In these studies, the corpus included RAs. Thus, it seems that the nature of genre plays a vital role in the selections and frequencies of shell nouns. For instance, the shell noun *purpose* as a common shell noun could be selected and received great attention from writers because, in the genre of RA, writers are eager to show the rational and purpose of the steps taken in conducting the study. Therefore, the genre imposes a selection of shell nouns like *purpose*. The least similarities are among the common shell nouns found in this study and studies conducted by Flowerdew (2003), Kolhatkar and Hirst (2014), and Liu and Deng (2017). The little similarities could be due to the nature of the corpus analyzed in these studies. Article from New York Times, texts from magazines, and academic lectures and textbooks are considered as different genres with different natures. Thus, we can reach the same discussion that the nature of the genre is an important factor in deciding which shell noun to select and how frequent it should be.

## Functions and Patterns of shell nouns

This section presents a detailed analysis of the functions and lexico-grammatical patterns of the most frequent shell nouns. Based on the results in Tables 7, it is clear that cataphoric function is more preferred than the anaphoric function. This result could be discussed based on the fact that cataphoric function could help in creating links at the sentence boundaries and presenting the shell noun using phrase structure (Schimdt, 2000) (Example 1). AL writers favor this function over anaphoric function, as it is suitable to act as a signpost to guide readers through the RA. Little attention to anaphoric function is possibly due to the nature of this function as it is suitable for use at the beginning of the paragraphs (Schmid, 2000).

Example 1:.... Before developing the survey instrument to be distributed to a large pool of potential respondents, six phone or face-to-face interviews were conducted with individuals from each of the four target stakeholder groups discussed above. ***The purpose of these small-scale interviews*** was twofold: first, to confirm the characteristics that .....

Example 2: However, ***this approach*** would not necessarily help the student in the long term. Google Translate is (currently) only able to translate at a lexico-grammatical level. The program .....

As is evident in Table 7, we can classify the most frequent shell nouns into two groups according to lexico-grammatical patterns. The first group includes *Approach*, *Process*, *Type*, *Result*, *Stage* and *Category* shell nouns that are mostly used in two lexico-grammatical patterns. The second group includes *Fact*, *Form*, *Purpose*, and *Aspect* shell nouns that are mostly used in one lexico-grammatical pattern.

Concerning the first group, five shell nouns (other than *Approach*) were realized through “N+of” and “Th-+N” patterns. The results in Table 7 show that “N+of” pattern outruns the other pattern. It seems that this pattern was preferred to fulfill the functions of characterizations and temporary concept formation (Example 3-5). According to Kolhatkar and Hirst (2014), it seems that such preference of one lexico-grammatical pattern over others is due to the fact that we get used to read and write these shell nouns in this pattern. For example, writers prefer using the preposition “of” with shell nouns such as *Process*, *Result*, *Type*, and *Stage*.

Example3: ***The process of*** analyzing collocations and clusters led to several observations and a few modifications for the analysis.

Example 4: For this reason, ***the result of*** the study can be interpreted as a natural outcome of being advanced learners of L2.

Example 5: In addition, ***a category of*** ‘unclear’ was added, in case the intended meaning was impenetrable.

The other lexico-grammatical pattern, “Th-+N”, was used to serve the function of linking (Example 6-8).

Example 6: Thus, while they would not need to be able to generate such grammatically complex sentences, students will need to be able to check it for accuracy, cohesion, and quality of translation. *This process* could be exploited in the classroom to enhance teaching and learning.

Example 7: Although metadiscourse usage overall is more frequent in the L2CD, both EAP teachers and university lecturers employed more interactional metadiscourse (L2CD: 135.37 ptw vs. MICASE: 94.91 ptw) than interactive metadiscourse (L2CD: 70.21 ptw vs. MICASE: 57.15 ptw) in their classroom discourse. In fact, over 60% of all metadiscourse in both corpora is of this resource. *This result* indicates that instructors in both contexts draw more heavily on metadiscursual elements that signal their stance toward and engagement with content and students than on features structuring discourse organization.

Example 8: Hedges are used to express “possibility rather than certainty” and are a means of indicating “a lack of complete commitment to the truth of a proposition or [...] a desire not to express that commitment categorically” (Hyland, 1996:251). Two examples are provided in (6) and (7). Following Hewings and Hewings (2002:370), *this category* is also taken to include instances of the introductory *it* pattern with a modal verb functioning as a downtoner such as the modal *could* in (8).

The other shell noun in the first group is “*Approach*”. To make use of this shell noun, the lexico-grammatical pattern of “N+to” was preferred on the pattern of “Th+N”. This result could be discussed from two folds, one, it is the preferred lexico-grammatical pattern of realization of this shell noun (Kolhatkar & Hirst, 2014). Second, AL writers preferred to use this shell noun to perform the function of characterization. Aktas and Cortes (2008) indicated that the function of characterization is performed through this pattern (Example 9).

Example 9: Another important addition is the analysis of frequency data from each individual test taker, instead of analyzing the group as a whole. *This approach* is relatively rare in studies investigating lexical bundle use and importantly allows for the use of inferential statistics.

As to the second group, shell nouns, apart from *Fact* shell noun, were taken to use through the lexico-grammatical pattern of “N+of” (Example 10-11). This pattern was mainly used due to pattern preferences. Such use is expected since, in academic writings such RA, writers prefer to know patterns for the sake of not blocking understanding. The result concerning the use of *Fact* shell noun is in line with findings reported in Aktas and Cortes (2008). They suggested that the shell noun *Fact* is mostly preferred with *that-clause* as it can convey the function of characterization (Example 12).

Example 10: What might appear to be just a comparison of results with a previous study, in fact, has the *purpose of* evaluating the study’s methodology.

Example 11: This approach builds on the insight that very frequent words in the language typically form the cores of phrases, whether in the *form of* collocational frameworks, p-frames or short lexical bundles.

Example 12: *The fact* that the MA students were all English Language teachers with at least two years classroom experience may make this a group of international graduate students with a somewhat higher than average proficiency in English.

**Table 7:** Functions and patterns of most frequent shell nouns

Function	Pattern	Approach	process	Fact	Type	Purpose	Form	Result	Stage	Category	Aspect
Cataphoric	N+be+to	3(%3)	5(%4)	-	-	6(%7)	-	-	5(%11)	-	-
	N+be+that	-	-	-	-	-	-	3(%6)	-	-	-
	N+be+wh-	-	-	-	-	-	-	-	-	-	-
Cataphoric	N+to	69 (%62)	-	-	-	3(%4)	-	-	-	-	4(%10)
	N+that	7(%6)	3(%4)	99(%98)	2(%3)	-	1(%2)	1(%2)	3(%8)	3(%8)	2(%5)
	N+wh-	-	9(%8)	-	-	-	-	-	-	1(%2)	-
	N+of	3(%3)	61(%57)	-	72(%79)	71(%81)	51(%94)	37(%71)	22(%51)	18(%45)	30(%77)
Anaphoric	Th+N	26(%24)	29(%27)	2(%2)	17(%18)	7(%8)	2 (%4)	11(%21)	13(%30)	18(%45)	3(%8)
	Th+be+N	-	-	-	-	-	-	-	-	-	-
	Sub+be+N	-	-	-	-	-	-	-	-	-	-
		108	107	101	91	87	54	52	43	40	39

## Conclusion

This study examined the frequency, function, and lexico-grammatical pattern of shell nouns used in AL RAs. This study also compared the results of this study with results reported by other studies on the use of shell nouns in different genres or disciplines aiming to figure out the possible similarities or differences.

As to the frequency of shell nouns, it seems that the frequency of shell nouns in AL RAs are to some extent great that we can conclude that it is considered as a cohesive device in writing AL RAs. The results also reported that the most frequent shell nouns in the AL RAs are *Approach, Process, Fact, Type, Purpose, Form, Result, Stage, Category* and *Aspect*. The results also helped to conclude that there are differences concerning the frequency and most frequent shell nouns across genres and disciplines.

In relation to the functions of shell nouns, the cataphoric function was preferred on anaphoric function possibly due to the linking function of cataphoric. This linking could play a pivotal role in the cohesion of the RAs. The most frequent shell nouns were mostly realized in two lexico-grammatical patterns; that of “N+of” and “Th+-N”. These two patterns were mostly preferred by writers, generally because shell nouns have their own pattern preferences.

Results of this study could indicate that systematic teaching of shell nouns could play a pivotal role in writing cohesive texts. Students need to know the frequent shell nouns of genres of academic writing and what functions they serve. They also need to know the preferred lexico-grammatical patterns of shell nouns. From reader side, understanding shell nouns preferred lexico-grammatical patterns could help better understanding and recall of information in academic writing texts.

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