



Nominal Phrasal Complexity in English Argumentative Expository Text

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Abstract

Phrase complexity is a good application of phrase structure analysis, and it is one of the sub-composition of syntactic complexity, which focuses on phrasal complexity elaboration. The complexity of nominal phrases is an important aspect of analysis, which is closely related to the stylistic features. This paper is a case study of an argumentative expository text: *Ships in the Desert*, using the method of material analysis to investigate the complexity of nominal phrases in this text. The study finds that nominal phrases can function as Subject or Object, and there are some differences between the number of nominal phrases in subject position and the number of nominal phrases in object position, which reflects the usage characteristics of English grammar. What's more, prepositional phrases can function as noun post-modifiers and their multiple embedding.

Subject Areas

Linguistics

Keywords

Phrase Complexity, Phrase Structure, Linguistic Feature

1. Introduction

My corpus is an expository essay called *Ships in the Desert* written by AL Gore, and it was chosen from the Advanced English. This article mainly introduces the increasingly serious environmental pollution, and then calls on people to protect the earth. The particularity of this article lies in that it not only explains things scientifically, but also puts forward the author's own opinions by explaining reasons and presenting facts, so that it combines the characteristics of exposition and argumentation texts.

The reason why I choose this article is that the author's ability to make use of language for writing is high and the density of nominal phrases is strong, which is suitable for the analysis of phrase structure. In terms of genre, as argumentative expository text, the author skillfully explains his own views, and the description of the author can well reflect the ideas that he wants to express, and trigger readers to think about the deeper content of the article. Analyzing phrase structure can better understand the internal structure of the article and learn the writing characteristics of argumentative expository text.

In terms of content, this article has a clear theme. The article is divided into three parts. First, it put forward the severity of environmental pollution and the corresponding solutions; then it pointed out the dominant cause of the change; Finally, he advocated solutions for these environmental destructions. The content of the article is well organized and logical, which is worth our researching. The purpose of this paper is to understand the features of phrase structure in this text through the complexity analysis of nominal phrases, and dig into the effect of noun phrases.

As for the research questions:

RQ1: What is the nominal phrase complexity in this text?

RQ2: In nominal phrases, what is the function of prepositional phrases as post modifiers?

RQ3: What is the effect of phrase structure on text connection?

2. Theoretical Basis

The theory of systemic grammar was originally formulated by M.A.K. Halliday in the early 1960s. In the first half of the 1960s the theory was known as "scale and category grammar" (see Halliday 1961) [1]. During the latter half of the 1960s Halliday's work became influenced by ideas on the functional nature of language. Resulting from the inclusion of this new dimension, which was presented in terms of three broad metafunctions which are the ideational, the interpersonal and the textual metafunction. They reflect three types of meaning in language, the grammar no longer sought merely to analyse the syntactic (or, as Halliday's expression, the lexicogrammatical) structure of stretches of actual text. In terms of the Halliday's Functional Grammar, it offers a means of exploring meaning in language and of relating language use to social contexts so as to contribute to our understanding of language in social life.

According to Thompson (2004) [2], he introduces the Functional Grammar as "essential a 'natural' grammar, in the sense that everything in it can be explained, ultimately, by reference to how language is used". Mood and Residue are concepts introduced into the interpersonal analysis of language, for a clause is structured as an interactive event with speaker or writer and audience. As for the ideational function, the transitivity analysis system is used in language serves to reflect the issues involving people and things as well as the relative environmental factors including time and place in objective and subjective world

(Wang, 2010) [3]. In particular, English clauses consist of processes such as material processes of doing, mental processes of sensing and relational processes of being, participants and circumstantial elements, which are realized as verbal, nominal and adverbial group or prepositional phrase. Moreover, the theme analysis of textual function plays the role of illustrating the organization and arrangement of information by the writers, which is an essential evidence for exploring the emphasis. Besides, the Theme can be further divided into unmarked and marked types, each of them, especially the unmarked Themes containing a large range of underlying intentions.

The construction of functional grammar provides a theoretical framework for the analysis of various kinds of discourse. In this theoretical framework, any oral or written discourse in English can be analyzed.

According to Morley (2000) [4], the typical classes of Phrasal unit in systematic syntax are nominal phrase, adjectival phrase, verbal phrase, adverbial phrase and prepositional phrase. The nominal phrases have four elements to analyze, they are determiner(d), modifier(m), headword(h) and qualifier(q). Similar to nominal phrases the adjectival phrases are composed by modifier(m), headword(h), and qualifier(q). And the adverbial phrases have the same elements as the adjectival phrases. What's more, the prepositional phrases are characterized with different structure which consists of headword(h) and compleitive(c). Besides, the headword can not only be a single word such as "in" "of" and "at" but also preposition complex including "instead of" "in spite of" and "because of". The elements in verbal phrases are much more complicated which consists of auxiliary(x), headword(h), particle(p) and infinitive particle(inf) and finite element(f). In some cases, the finite element is constructed with the headword and sometimes it is presented by the auxiliaries, which is marked as (f/h) and (f/x) respectively. The genitive phrases refers to the structure xx's with "xx" as the compleitive element(c) and "s" as the headword(h). The last type is subordinator phrases which in most case, are realized simply by headword(h) and sometimes accompanied by a modifier(m). For instance, subordinator phrase "just after" consists of a modifier "just" and a headword "after".

3. Literature Review

Scholars have different definitions of syntactic complexity, most definitions are from the aspects of the diversity of sentence pattern, language refinement, language form complexity, and so on. For example, Ellis (2003) [5] believes that language complexity refers to the diversity of language. In 2012, Bulté and Housen [6] believe that "syntactic complexity is composed of multiple components and dimensions such as sentence, clause and phrase structure. It is a language subsystem representing language proficiency and language development and progress". Consequent research took into consideration the contribution of complex noun phrases to overall syntactic complexity. Most of the studies on phrase complexity focus on comparing the works of writers of different levels.

Therefore, the study of phrase complexity is an important index to measure the author's writing level. Jucker (1992) [7] proves that nominal phrase is an important stylistic sign. Previous studies have shown that there are more simple noun phrases in literary works of novel genre, and in non-novel genre (such as academic works) the usage of noun phrases is more complex, and most of them have post modification elements such as De Haan (1986) [8]. The contribution of complex nominal phrases to overall syntactic complexity is also the focus point of scholars' research. Biber and Gray (2016) claimed that "phrasal modifiers are equally important—although fundamentally different—reflections of complexity" (Biber & Gray, 2016, p. 256) [9].

About the measures to calculate the phrasal complexity, several scholars' researches had advocated that phrasal complexity measures are more suitable for the characteristic of advanced academic writing. (e.g., Biber *et al.*, 2016 [9]; Lu, 2011 [10]; Norris & Ortega, 2009 [11]); Norris and Ortega (2009) [11] advocated a holistic measure that is to count the mean length of clause. The underlying assumption is that the numbers of phrases and non-finite clauses in sentences will lengthen the whole clauses, so this measure can be regarded as a kind of complement to measures of clausal complexity and it can reflect phrasal elaboration. Then in order to measure the writing skills of first language and second language learners, Biber *et al.* (2011) [12] put forward five stages about the application of noun modifiers. And the statistics of different noun modifiers in this corpus will be illustrated in the following analysis. Also, Biber, Gray and Poonpon (2011) [12], used adverbial and noun modifiers to measure phrase complexity. Among them, adverbials include two subclasses which are adverbs as adverbials and prepositional phrases as adverbials; Noun modifiers include attributive adjectives, nouns as noun pre modifiers, prepositions as post modifiers and other subclasses.

4. Methods

This paper uses case study analysis, and the corpus I chose is the paragraph 2-paragraph 13, which it illustrate the environmental crisis including the destruction around the world in paragraph 2 - 5, and it tells the human's rethinking in paragraph 6 - 7. Then in paragraph 8 - 13, the author gives a classification of the images of the destruction. The total words of this corpus are 1937.

First of all, according to Morley's phrase structure classification, make the statistics on the types of phrases in this paper. Then, I analyze framework of phrasal elaboration from two dimensions: grammatical form and syntactic function. Phrases as sentence constituents can be divided into different categories based on their different syntactic functions, noun phrases can function as subjects/objects of a verb, or as attributes.(Nouns as noun pre-modifiers, such as "*high school education*". prepositional phrases as noun post modifiers, such as "*people around the global*").

The research contents include the length of noun phrases, the length and

composition of pre-modifiers in noun phrases, or the length and composition of post-modifiers in noun phrases. The aim of this statistics is to verify previous observations or draw new conclusions by analyzing and comparing actual material.

As for the structure, the key to analyzing phrase structure is to find the head word, which express the central meaning of the phrase. In nominal phrases, the headword is a central noun, such as “the global *process*”. There are four elements have to be considered, which are determiner(d), modifier(m), headword(h), and qualifier(q). They can compose in different forms, I will count the number of different types of nominal phrases and calculate their average length in this corpus, such as “d + m + h”, “d + h”, “d + m + q” and so on. According to the frequency of their occurrence in subject position and object position, I will analyze the characteristics and complexity of noun phrases in this style of text.

5. Analysis

This study applied the manual analysis of texts, since the automatic syntactic taggers and analyzers available have difficulty identifying nominal phrases of different syntactic functions. This method of coding is advantageous in that it yields more accurate results, but cannot be easily used to analyze very large amounts of data. Though automated tagging can be used to analyze very large corpora, Biber and Gray (2011) [13] admitted that the automated tagging system was not completely accurate and that, for structures such as prepositional phrases and appositive phrases, manual coding needed to be employed.

An example from our datasets to illustrate the coding process is provided below.

(1)///A new class of environmental problems /does affect/ the global ecological system, //and

NP VP NP

these threats/ are/ fundamentally strategic. ///(2)The 600 percent increase in the amount

NP VP AdjP

of Chlorinein the atmosphere during the last forty years / has taken place/ not just in those

NP VP PrepP

countries //producing/ the chlorofluorocarbons responsible /but in the air above every

VP NP PrepP

country,///(3)The increased levels of chlorine /disrupt /the global process /by which //the

NP VP NP PrepP NP

earth /regulates/ the amount of ultraviolet radiation from the sun //that /is allowed /through the

VP NP SubP VP

atmosphere to the surface; (4)and if / we /let /chlorine levels/ continue to increase, //the

PrepP		SubP	NP	VP		NP		VP
	radiation levels /will also increase to/		the point //that /all animal and plant life /will face /a					
NP		VP	NP	SubP		NP		VP
	new threat to their survival.							
			NP					

Summary of results:

- 1) Number of clauses: 4;
- 2) Nominal phrases: 15 (nominal phrases functioning as Subject: 8/nominal phrases functions as Object: 7);
- 3) Prepositional phrases: 4;
- 4) Verb phrases: 11;
- 5) Adjectives phrases: 1;
- 6) SubP: 3;

In this abstract, to better understand the complexity of noun phrases, I analyze the inner structure of nominal phrases, which is also an example of counting the length of subsequent noun phrases.

Firstly, in these 15 nominal phrases, there are 13 nominal phrases have determiner, which shows the characteristics of English grammar. The aim to use definite articles is that it can refer to something in particular, and also it reflects the explanatory nature of this paragraph. Second, there are 5 nominal phrases have qualifiers, and their function is to complement the meanings of head word appropriately. Thirdly, as shown in the statistics in **Table 1**, among the 15 nominal phrases which I analyzed as an example, there are 60% nominal phrases have modifiers, sometimes it is noun words and sometimes it may be adjective words, and their function is to modify and describe the central word. In a word, from this paragraph alone, we can see that the noun phrases in this article are of high complexity with 33% of the noun phrases have long prepositional phrases as qualifiers.

Then according to the above analysis method of phrase structure, I count the total number of phrase types in the corpus. Based on Morley's (2000) systemic syntax [4], I divided the phrasal unit of the corpus into nominal phrase, adjectival phrase, verbal phrase, adverbial phrase and prepositional phrase. As shown in **Table 2**.

5.1. Noun Modification and Its Role in Complexity

Biber *et al.* (2011) [12] research between L1 spoken language and written language based on different register. And they proposed a series of developmental stages for L1 writers of academic English. This can distinguish Phrasal complexity features of academic writing from academic spoken discourse, these five stages can be summarized as: in terms of grammatical form, it will be developed

from finite dependent clause to non-finite dependent clause then it will be dependent phrase. As for syntactic function: the stages will be from using clausal constituents (such as direct objects or adverbial) to using noun phrase modifiers.

As can be seen from **Table 3**, this article has many applications for language expression of attributive adjectives with the Mean Statistics of which in this corpus is 56.2 and nouns as pre-modifiers whose Mean Statistics in this corpus is 47.8, which is the most frequent phrase unit used in the text. And it reflects the high complexity of phrases and the important role of nominal phrases.

Table 1. The inner structure of nominal phrases.

	Determiner	Modifier	Headword	Qualifier
NP1	a	New	Class	of environmental problem
NP2	the	Global ecological	System	/
NP3	these	/	Threat	/
NP4	the	600 percent increase	Increase	in the amount of Chlorine in the atmosphere during the last forty years
NP5	the	/	Chlorofluorocarbons	/
NP6	the	Increased	Levels	of chlorine
NP7	the	Global	Process	/
NP8	the	/	Earth	/
NP9	the	/	Amount	of ultraviolet radiation from the sun
NP10	/	/	We	/
NP11	/	Chlorine	Levels	/
NP12	the	Radiation	Levels	/
NP13	the	/	Point	/
NP14	all	Animal and plant	Life	/
NP15	a	new	Threat	to their survival
Total number	13	9	15	5
Percentage	86.6%	60%	100%	33.3%

Table 2. In this paragraph, the number of phrase classes is as follows.

Phrase class	NP	VP	PrepP	SubP	AdjP	AdvP	Total
Number	228	173	95	56	12	36	600
Percentage	38%	29%	15%	10%	2%	6%	100%

Table 3. Biber *et al.*'s (2011) Hypothesized Developmental Stages for Noun phrase modification.

stage	Grammatical structure	Examples in my corpus	Mean Statistics in this corpus
2	Attributive adjectives	The most significant change	56.2
	Participle pre-modifiers	A badly burned face	9.3
	Relative clauses	Images [that signal the distress of our global environment]	4.9
3	Nouns as pre-modifiers	The north polar cap	47.8
	Possessive noun as pre-modifiers	One country's emissions	7.5
	Of phrase (concrete/locative meanings)	A twelve-toot-thick slab of ice floating	4.3
	Prepositions as noun post-modifiers other than of (concrete/locative meanings)	A conflict in one of three different categories,	4.6
	-ed participle as post-modifiers	The horizon defined by little hummocks,	6.4
4	-ing participle as post-modifiers	Those countries producing the chlorofluorocarbons responsible	2.1
	Attributive adjectives, nouns as pre-modifiers	The polar regions	11.2
	Of phrase (abstract meanings)	The bright lights of civilization	17.9
	Prepositions as noun post-modifiers other than of (abstract meanings)	My search/for the underlying causes of the environmental crisis	13.9
	Preposition + non-finite complement clause	With the sun glaring at midnight	2.5
5	Complement clauses controlled by nouns	The one that began with the industrial revolution early in the last century	0.3
	Multiple prepositional phrases as post-modifiers, with levels of embedding	In a small tent pitched on a twelve-toot-thick slab of ice floating in the frigid Arctic Ocean.	21.3

This aim of this table is to make an overall agreement of the major types of noun modifiers in the corpus. Noun phrase modifiers play an important role in measuring the complexity of noun phrases, and they have specific discourse functions in a register. For instance, Lim (2012, p. 236) [14] reports that when referring to the research gap in academic writing, expert writers use “adjectives signaling insufficiency (e.g., ‘little’, ‘few’, etc.)... to modify nouns denoting investigations (e.g., ‘research’, ‘studies’)”. In this argumentation expository text, in order to make the readers have a better understanding of the destruction situation, many proper nouns such as “chlorinated hydrocarbon” and “the chlorofluorocarbons responsible” are used.

5.2. Nominal Phrases Functioning as Subject/Object

Noun phrases (NPs) are “strings of words with an internal structure centered

around an obligatory head, which may be supplemented by determiners, pre-modifiers and post-modifiers” (Ni, 2003, pp. 159e160) [15]. According to Biber *et al.* (1999) [16], the basic structure of noun modification includes four key components: Determiner + (pre-modification) + head noun + (post-modification and complementation).

De Hana (1987) [8] pointed out that, in non-fiction, complex noun phrases occur in various grammatical functional positions of sentences. Most of the noun phrases in subject position are simple noun phrases, especially those consisting of one word. However, as direct object and object complement, the composition of noun phrases is more complex and more diverse. Elliott and Joseph (2019) [17] points out that the types of noun phrases include nouns modified by adjectives, nouns modified by prepositions, nouns modified by participles, nouns modified by all words, nouns modified by attributive clauses, etc., and concludes that the highest density of complex noun phrases occurs in high-scoring compositions.

As mentioned in **Table 2**, noun phrases account for 38% of the total number of phrase types in this whole article. Noun phrase can function as subject or object for verb in whole text.

There is only one kind of example that there is only one headword in noun phrases used as subjects, which is a pronoun or a kind of appellation. In the passage, the author mainly describes his own experience on doing an investigation on environmental pollution. Such as “*Two and a half years later/ I slept/ under the midnight sun/ at the other end of our planet, / in a small tent*”. In the forth paragraph. This kind of noun phrase has simple structure and strong subjective color. These are all the author’s personal experiences, which also enhance the authenticity of the article.

In the example of m + h + q, it is common to use preposition phrase such as “of...” to act as post-modifiers of noun phrase. Multiple prepositional phrases can also appear as post-modifiers to nouns, as shown in stage 5 in **Table 3**. For example, “*The 600 percent increase in the amount of chlorine in the atmosphere during the last forty years*”, these noun phrases are long and complex.

The nominal phrases act as the object with one headword are proper nouns, such as “Washington D.C.” or the personal pronoun “me”, “them” etc. The structure of “d + h” accounted for the largest proportion in the statistics of noun phrases as objects. There are many determiners used in this article, such as “the military”, “the earth”, which shows the preciseness of the words choosing. The structure of “d + m + h + q” such as “*all animal and plant life will face a **new threat to their survival**...*”. The more modifiers, the higher the complexity of noun phrases. As can be seen from the statistics in the table, noun phrases with modifiers and post-attributive account for 78%. Therefore, we can say that this paper has a high complexity of noun phrases, and the register of this text is formal.

According to the comparison of **Table 4** and **Table 5**, we can find that the length of subject-position noun phrases is generally shorter than that of object

Table 4. Statistics of noun phrases used as subjects in corpus.

Types of noun phrases	Number	Mean length	Proportion
A headword	39	1	17%
m + h	25	2.6	11%
d + m	9	2	4%
m + h + q	22	5	10%
d + m + h + q	7	7.4	3%

M = modifier; h = headword; q = qualifier; d = determiner.

Table 5. Statistics of noun phrases used as subjects in corpus.

Types of noun phrases	Number	Mean length	Proportion
A headword	11	1.3	5%
m + h	35	4	15%
d + m	30	2	13%
d + m + h	7	3.4	3%
m + h + q	24	8	10%
d + m + h + q	19	11	9%

M = modifier; h = headword; q = qualifier; d = determiner.

position noun phrases, in which the constituent structure of a noun phrase is mostly “h” and “m + h”. This feature is consistent with the grammar rules of English, and is also the two important principles affecting the order of English word, namely “End weight” and “End focus”. Noun phrases functioning as subject should not be too long, otherwise it will give the reader a sense of unbalance.

5.3. Prepositional Phrases as the Post Modifiers

The situation of Prepositional phrases acting as post-modifiers has the largest variety and the longest average length, which is an important factor in the study of the complexity of noun phrases. For instance, “*The increased levels of chlorine*” and “*the amount of ultraviolet radiation*” are nominal phrases, because its central word is a noun, but it includes a preposition group working as the post modifier. We can look at the following **Table 6**. Halliday has a special discussion on the phrases about preposition “*of*”, and believes that the “*of*” phrases are usually used as the post modifier of noun phrases, but it is not a typical prepositional phrase, because in most cases, “*of*” is not a process or predicate, but a structural marker in noun phrases. Its function is similar to that of particle to in verb phrases.

Table 6. Functional analysis of noun phrases with prepositional phrases as qualifier.

Nominal group	the	amount	of	ultraviolet	radiation
	Nominal phrase		Prepositional phrase		
Phrase structure	d	h	h	c	
Lexico grammar	determiner	noun	preposition	adj	noun

The nominal phrase with preposition *of* functioning as post-modifiers in this corpus can be regarded as a measure and can be replaced by the possessive form. For example, the amount of ultraviolet radiation can be expressed by “*ultraviolet radiation’s amount*”, it shows a kind of relation process. Li (2012) [18], analyzes the internal functional structure of this kind of noun phrases from the perspective of experiential function and interpersonal function. To be exact, as a qualifier of a noun phrase, a prepositional phrase cannot form a complete phase structure alone, but a clause is formed by the prepositional phrase and the headword it modifies, and the headword acts as a participant.

6. Results and Discussion

6.1. Analysis of Phrase Types in Corpus

First of all, from the statistics of various phrase types in the text, we can conclude that, in the analysis of functional syntax, phrases are the main resources to create meaning, and the analysis of clauses is particularly important. For research question3: Based on the table above, we can say this corpus has high proportion of nominal phrases, verb phrases and preposition phrases. The complexity of Noun Phrases is related to the level of sentences. This shows that the language of this article is more difficult and the register is more formal which accord with the characteristics of written language.

And the using of Prepositional Phrases means the author gives a detailed description of the object in the text. Prepositional phrases also play an important role in the integrity of the article structure. Prepositional phrases and group are at the same rank between clauses and words but they have different concepts. A prepositional phrase consists of a preposition plus a nominal phrase, such as “*in the atmosphere*”, “*during the last forty years*”. As far as its function is concerned, prepositional phrases are either used as adjuncts to clauses, or as post modifier of nominal phrases (Halliday 1994: 311) [19]. When a prepositional phrase is used as an adjunct to a clause, it is used to tell us what the environment in which the clause occurs is like. In other words, it is used to answer interrogative pronouns such as *when, where and how*, such as “*in the air above every country*”. It tells us the place where the polluted air came out.

In corpus, Subordinate Phrases also accounts for a large proportion. They are used to express the relationship between different clauses, sometimes it is a parallel relationship, and sometimes it is a progressive relationship. Attributive

clauses are used many times, relative pronouns such as “that” and “which” replaces the elements in the previous sentence. The clever use of complex sentence patterns also shows that the article is logically connected. However, the adjective phrases and adverbial phrases only count 8% in the whole corpus, which illustrate that it is not about describe some scenery, it is to explain an objective fact and let people pay attention to the seriousness of environmental pollution by way of reasoning.

6.2. Analysis of Nominal Phrase Complexity

In this analysis, I first considered the distributional patterns of different noun modifiers in the corpus based on their normalized frequency. According to the statistics, the most common types of noun pre-modifiers in the text are attributive adjectives and nouns, while prepositional phrases were the most common form of post-modification. Biber *et al.* (1999) [16] pointed out that, the highly using of noun phrases with nouns and adjectives as phrasal pre-modifiers as well as prepositional phrases as post-modifiers in conversation, are highly characteristic features of formal writing register.

Then in the comparison of different nominal phrases functioning as subject or object, we can find that noun phrases that appear in the subject position are short and mostly they are pronouns with only one headword, which are used to express the author’s opinion such as “*we have by now all witness...*”. This has reflected the argumentative nature of this article. Moreover, the frequent use of modifier phrases reflects the author’s meticulous description of the article and high level of language application. The structure and complexity of noun phrases are also restricted by the structural characteristics of English sentences, so noun phrases functioning as object are longer and more complex. Finally, the number of noun phrases in subject position is more than object-position noun phrases, but not by much. It shows that the author uses a lot of nominalization and in this way, the sentence structure is balanced, which reflects the completeness of the language use in the exposition.

7. Conclusion and Implication

7.1. Conclusion

This paper selects 12 paragraphs in the expository text *Ships in the Desert* to make statistics on the frequency of noun modifiers in the corpus, and then analyzes the complexity of noun phrases from the aspects of the function of noun phrases, phrase structure and average length of noun phrases. After analyzing the phrase structure, I have a better understanding of the internal structure between sentences. It also has a better understanding of the characteristics of language use and sentence connection as an argumentative expository text. That is, when the author needs to express his own point of view, the subject often uses the first person, using real experience to illustrate facts and it can enhance credibility. Besides, I also found that there are many writing skills in the paper. For

example, in the ninth paragraph, many rhetorical questions trigger people's thinking. This writing skill can be skillfully applied to argumentative writing, which is worth our learning.

7.2. Challenges Encountered in Analysis

First of all, there are still inaccurate and uncertain factors in the division of phrase structure. Secondly, it takes a lot of time in data statistics and calculations. In the case of a large amount of corpus, I hope to find a more labor-saving way. Finally, as for the judgment criteria of the complexity of noun phrases, different scholars hold diverse ideas and we can only learn from the views of authoritative scholars to analyze the complexity of noun phrases. Further research in this area needs to be improved and accomplished.

7.3. Implications for Further Study

Firstly, in the future study, I want to research some special phenomenon in grammar, such as how to analyse “*take place*” this kind of verb phrase act as the gradual verbalization of noun phrases. And there are also some idiomatic uses that are established, such as “*over all*”, (in para 5), “*acre by acre*” etc.

Secondly, the corpus I chose is not complete in terms of all phrase types, and Genitive Phrases are not included in the corpus. Such phrases mainly express the meaning of ownership. Quirk *et al.* (1985: 328) [20] explained that “the genitive ending is not a case inflection of the noun but rather a ‘postposed enclitic’ and the function of genitive phrases are parallel to that of a preposition”. Under these explanations, the principal syntactic difference between the normal prepositional phrase and the genitive phrase is the sequence of the head element (h) and the complement (c). Later, it can be further studied in what types of text the genitive phrases are often used.

The analysis of noun phrase complexity is mostly used to test the writing level of second language acquisition students. The analysis and research on noun phrase complexity of different genres and corpus need to be further expanded.

Thirdly, the analysis of noun phrase complexity is mostly used to test the writing level of second language acquisition students. And its application of different genres and register need to be further expanded. For example, in newspaper texts, noun phrases show different features when applied to different sections, which further confirms the argument that noun phrases are used as important parameters to distinguish stylistic signs proposed by Jucker (1992) [7]. Wang and Zhang (2005) [21] studied noun phrase complexity in different pages of *the Guardian* in 2005. The results show that the pages with strong written features use more noun phrases and have more complex structures. The colloquial layout uses fewer noun phrases and has a simpler structure.

Conflicts of Interest

The author declares no conflicts of interest.

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