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Writing: A Learner-corpus-based Study**

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ABSTRACT

Nominalization is one of the most remarkable features of grammatical metaphor. It is a complicated process involving both morphology and syntactic. This study conducts a longitudinal study on nominalization through quantitative and qualitative approaches by adopting a longitudinal learner corpus, which is composed of 180 compositions written by EFL learners at the tertiary level. The study analyzes the frequencies, proportions and characteristics of nominalization used by the research subjects in 3 school years. It is found that with the rise of their grades, the frequencies of nominalization raise continuously, with significant differences between adjacent semesters. From the perspective of lexical nominalization, the topic words exert a great influence on the production of nominalization. From the perspective of phrasal nominalization, the research subjects tend to use common phrases; and from the perspective of clausal nominalization, they have a tendency of using object clauses. Moreover, this study explores the possible reasons for the results and makes some useful suggestions on the teaching of nominalization.

Keywords: *nominalization, learner corpus, longitudinal study, Chinese EFL learners, development*

Introduction

One of the major goals for the EFL learners in China is to gain academic competence, especially in writing. However, writing formally is not an easy task. Despite the acceptability of grammar, the English writings of Chinese EFL learners are usually informal, colloquial or even speech-like. Scholars in China have made much research exploring the causes for this problem. Some researchers attributed this defect to the overusing some pronouns and high-frequency words (e.g. Wen Qiufang, Ding Yanren and Wang Wenyu, 2003). To some other researchers, colloquial tendency is caused by the low frequency of nominalization in their writings (e.g., Wang Lu, 2005). Sun Yujie and Cong Yingxu (2005) find that both the cognitive ability of students and the interference of their mother tongues are mutually responsible for the low frequency of nominalization used by Chinese EFL learners in their writings.

Nominalizations can assist in maintaining an impersonal tone by deleting a human agent. According to Biber et al. (1999), the higher frequency of nominalizations within academic writing can be attributed to the fact that nominalization functions “to treat actions and processes as abstract objects separated from human participants” (p. 61). Previous studies of nominalizations within academic writing have mainly focused on the use and frequency of nominalization within the writing of a variety of academic disciplines (e.g., Biber, 1988; Charles, 2003); the differences of use and frequency in spoken and written genres (e.g., Biber et al., 1998); the use of nominalizations as grammatical metaphor (Guillen Galve, 1998; Liardét, 2016).

Among the studies concerning the association between academic writing and nominalization, however, fewer studies focus on the development of nominalization among EFL learners within their school course learning. One study does explore this relationship. Baratta (2010) analyzes the academic writing of six English undergraduate students throughout 3 school years. For the first 2 years, 3 essays were collected from each student, and in the last year, a dissertation from each of the students is mandatory. The nominalization is measured from 6 aspects: derived nominalization, gerund, retrospective labels, textual nominalization, non-metalinguistic nominalization and attitudinal nominalization. The findings imply that students have demonstrated proficiency with regard to their nominalization development. However, nominalizations do not necessarily play a prominent role within the academic writing among these research subjects.

In a study taken the Chinese EFL learners as research subjects, Wang and Chen (2008) made a learner-corpus based study of the development of nominalization. The compositions used in this study are from WECCL (Written English Corpus of Chinese Learners), the sub-corpus of SWECCL (Spoken and Written English Corpus of Chinese Learners) (Wen and Liang, 2005) and the results are compared with the native corpus LOCNESS (Louvain Corpus of Native English Essays). Eight noun suffixes (*-ance/ence*, *-ery*, *-ment*, *-ion/tion/sion*, *-cy*, *-ity*, *-ness*, *-th*) are used as the measurement of nominalization. Their study found that the use of nominalizations increases from year 1 to year 4,

which to some extent corresponds to the development of students' English level. However, the general use of nominalizations by Chinese EFL learners is less than English native speakers and there exists the overuse of some nominalizations, such as the nominalization structure ended with the suffix – *ion*.

In the previous study, however, in spite of the developmental design, the research data were actually collected in a cross-section way. That is, the compositions in WECCL were contributed by different students in different grades, not by the same group of students over a couple of years. That leaves the gap for further research. Thus, it is theoretically and practically valuable to conduct a longitudinal study on nominalization used by Chinese EFL learners. The purpose of this study is to carry out a study based on longitudinally collected data over 3 years, and the observation of nominalization extends from the perspective of lexical nominalization (like the noun suffixes) to the perspectives of phrasal and clausal nominalization.

Understanding Nominalization from the Systemic-Functional Perspective

Scholars from many linguistic schools gave their own explanations of this phenomenon. In *Routledge Dictionary of Language and Linguistics*, nominalization refers to “every derivation of nouns from another word and the productive process of word formation through which words of all word classes can be used as nouns” (Bussmann, 1999: 335). Usually, nominalization concerns adjectives that appear as abstract concepts, or as nouns denoting persons, and verbs or verb phrases that appear frequently as gerunds in nominal phrases. In *Longman Dictionary of Language Teaching and Applied Linguistics*, nominalization is defined as “the grammatical process of forming nouns from other parts of speech, usually verbs or adjectives” (Schmidt, 2002: 395).

Halliday claims that “human cognition is developing in the direction of thingness” (2004: 353). That is, processes always have an inclination for turning into entities until nouns finally appear to refer to these entities. In his systemic-functional terms, nominalization is “a means of transferring words of other classes into nouns or noun phrases” (Halliday, 2004: 352). The nouns or noun phrases derived from other classes can increase the lexical density of discourses and thus make them concise and formal. Nominalization is also the most powerful resource for creating grammatical metaphor. Nominalization is “the predominant semantic drift of grammatical metaphor in modern English” (Martin, 2004: 406).

Systemic-functional linguists also give an expansion of the definition of nominalization. According to Halliday, nominalization refers to “any element or group of any elements which can function as a nominal group in the clause” (2004: 353). It includes clauses, nominalized adjectives, nominalized verbs, and so on. Nominalization involves metaphorically rendering into a nominal group or phrase that is originally process (congruently worded as verbs) and

properties (congruently worded as adjectives). It is a process whereby any element of group of elements is made to function as a nominal group in the clause.

According to the extended definition given by the systematic-functional linguists, nominalization can be classified into three types: lexical nominalization, phrasal nominalization, and clausal nominalization. This three-layered category, which is adopted in this study, offers a concrete way of evaluating nominalization in real texts.

The Present Study

Generally speaking, quantitative method has been adopted in some of the previous studies of English nominalization, but most of them center on the theoretical research. Hence, there is much room for further empirical investigation.

The Research Questions

To explore the application of nominalization in Chinese English majors' compositions, the present study investigates the following two research questions:

Q1: What are the general tendency of nominalization development among the Chinese EFL learners?

Q2: What are specific developmental tendency in the aspect of lexical, phrasal and clausal nominalization structures?

The Research Participants

This study makes use of a self-built learner corpus, which consists of 180 compositions written by 30 English majors from a key university in China. These compositions are mainly argumentations written for a required course examination. This data collection lasts 3 years, and roughly every 6 months, the students are required to write an essay with the length of 200 words to 300 words. The titles and/or the themes of these argumentations are mandatory. Since the writing takes place in examinations, reference materials, dictionaries or online resources are not available. During the 3 years, each of the participants contribute 6 timed argumentations, all together 180 compositions, with 6 different topics, which form the data source for this study. The purpose of building this corpus is to better describe and reflect the diversity and developmental patterns of learners' interlanguage across certain periods.

All the English majors in China are required to sit in two national examinations: TEM 4 and TEM 8 (Tests for English Majors, Band 4 and Band 8). TEM 4 is taken when they are sophomores, while the TEM 8 just before their graduation. In these two tests, their language proficiency is gauged in the aspects of listening comprehension, vocabulary and grammar, reading comprehension, translation and writing. Both the validity and reliability of the

tests are sound. The TEM 4/8 averages for the 30 students are 66.74 (national average 61.43), 62.24 (national average 59.96), respectively. Thus it is hoped that the present study with the data collected across 3 years is expected to reflect the characteristics of nominalizations used by Chinese EFL learners.

Types of Nominalization

According to the definition given by the systemic-functional linguists, nominalization can be classified into three types: lexical nominalization, phrasal nominalization, and clausal nominalization.

Lexical Nominalization

Lexical nominalization is usually accomplished by a morphological strategy, and it is a process which derives a noun from a verb or an adjective with the help of some suffixes. The formation of the new noun designates a generic type of action, state or attributes. The 14 lexical nominalizations used here are listed in the table below (Table 1).

Table 1 *Classification and Tagging of Lexical Nominalization*

Code	Suffixes	Examples
LN1	-tion	<i>foundation, organization, starvation,</i>
LN2	-ment	<i>agreement, amazement, management</i>
LN3	-age	<i>breakage, coverage, wastage</i>
LN4	-ing	<i>building, earning, saving</i>
LN5	-sion	<i>discussion, decision, conclusion</i>
LN6	-ance	<i>importance, entrance, resistance</i>
LN7	-er/or	<i>teenager, cooker, villager, actor, supervisor</i>
LN8	-ity	<i>rapidity, falsity, regularity</i>
LN9	-ence	<i>dependence, experience, occurrence</i>
LN10	-y	<i>society, economy, beauty</i>
LN11	-th	<i>depth, strength, health</i>
LN12	-ure	<i>pressure, exposure, closure</i>
LN13	-ant	<i>inhabitant, contestant, participant</i>
LN14	-ness	<i>kindness, usefulness, selfishness</i>

These 14 types of English lexical nominalizations are tagged with the codes LN1 to LN14 manually.

These lexical nominalizations are divided into three categories: topic words, common words and abstract words. Topic words refer to the words that have already appeared in the titles or the lead-ins of the compositions, such as *confidence, honesty, education, pollution*, etc. Common words refer to the words that belong to General Service List. The General Service List (GSL) is a list of roughly 2000 words published by Michael West in 1953. These words were taken from a corpus of English and were selected to represent the most frequent words of English. Abstract words refer to the words that are not included in GSL, and they are used more in formal written English than in daily life.

Phrasal Nominalization

Phrasal nominalization is a nominalization expression structure, which includes any phrase containing a noun or nouns, for example, expressions of *noun+of*, *noun+prep. (with, to, about, at)*, *with+noun*, *sb's+noun*, *adj.+noun*, *past p.+noun*, *noun+noun*, *be of+noun*, *It's (There be)+noun+that...*, etc. There are 11 categories of phrasal nominalizations, listed in Table 2.

Table 2. *Classification and Tagging of Phrasal Nominalization*

Code	Noun Phrase	Examples
PN1	noun+of	<i>the study of Chinese history, the misunderstanding of the meaning of democracy</i>
PN2	noun+prep. (with, to, about, at)	<i>their access to the computer</i>
PN3	with+noun	<i>with surprising rapidity</i>
PN4	sb's noun	<i>their astonishment, his support</i>
PN5	adj.+noun	<i>positive use of daydreams, the meaningful pursuit of</i>
PN6	past p.+noun	<i>improved concentration, improved self-control and enhanced creative thinking ability</i>
PN7	noun+noun	<i>population expansion, land depletion</i>
PN8	post modification	<i>the president elect, something interesting to read</i>
PN9	be of+n.	<i>is of importance, are of great indifference</i>
PN10	impersonal abstract noun as the subject	<i>An idea suddenly struck me.</i>
PN11	It's (There be)+n. that...	<i>It's the necessity that.../There is the book that I want.</i>

Like the lexical nominalization, these phrasal nominalizations are divided into three categories. They are topic phrases, common phrases and abstract phrases. Topic phrases refer to the phrases that have already appeared in the titles or the lead-ins of the compositions, such as *the advantages and disadvantages of...*, *the importance of confidence*, etc. As for common phrases and abstract phrases, according to the findings of a corpus-based study conducted by Wan Qi (2011), *n.+prep.*, *be of+n.*, *It's (There be)+n. that...* etc. are not common in daily life, so *n.+prep.*, *be of+n.*, *It's (There be)+n. that...* are viewed as abstract phrases, and others as common ones. Due to the inconvenience of concordance, some manual work is needed to identify the phrasal nominalizations.

Clausal Nominalization

Clausal nominalization refers to any clause which grammatically functions as a noun in a clause. It includes nominal clauses, infinitives, and gerunds, as are listed in Table 3.

Table 3. *Classification and Tagging of Clausal Nominalization*

Code		Clausal Types		Examples
CN1	CN1S	Nominal Clause	Subject Clause	<i>That he will be late is certain.</i>
	CN1O		Object Clause	<i>I think you are right.</i>
	CN1P		Predicative Clause	<i>The important thing is that I should work hard.</i>
	CN1A		Appositive Clause	<i>He came to a conclusion that she lied to him.</i>
CN2		Infinitive		<i>To eat three times a day is healthy.</i>
CN3		Gerund		<i>Traveling abroad can be very exciting.</i>

Tools of Statistics

In order to retrieve the frequencies and instances of nominalization in the samples, the concordance software AntConc3.2.1w is employed. The program can work under any windows environment including Windows 98/Me/2000/NT/XP, Macintosh OS X and Linux systems. It can be downloaded from the Laurence Anthony Laboratory website (<http://www.laurenceanthony.net/>). AntConc3.2.1w contains the following tools: concordances, concordance plot, file view, clusters, part of clusters, collocates, word list and keyword lists. The present study uses the tools “concordance” and “file view”. By using this concordance software, the index words are highlighted among concordances, and more context information can be obtained by double-click the index words.

Findings

In this part, the research questions are answered by the data extracted from the self-built learner corpus.

The General Tendency of the Development of Nominalization

With the help of tools of statistics, the frequency and proportion of lexical nominalization, phrasal nominalization and clausal nominalization are summarized. Thus in this section, some basic statistics are presented.

Table 4. *Frequency and Percentage of the Three Types of Nominalization*

	Lexical Nominalization		Phrasal Nominalization		Clausal Nominalization		Total	
	Freq.	&	Freq.	&	Freq.	&	Freq.	&
G1	447	48.43%	295	31.96%	181	19.61%	923	100%
G2	435	41.63%	283	27.08%	327	31.29%	1045	100%
G3	801	49.08%	543	33.27%	288	17.65%	1632	100%
Total	1683	46.75%	1121	31.14%	796	22.11%	3600	100%

Table 4 shows that that the frequencies of the three types of nominalization employed in the subjects' compositions increase continuously with the rise of their grades, and the total frequency of lexical nominalization is more than that of phrasal nominalization, which further outperforms that of clausal nominalization.

In order to test the significant difference among the three grades, a series of one-way analyses of variance (one-way ANOVA) and multiple comparisons are applied in this study. The results of difference in lexical, phrasal, and clausal nominalizations in three grades are shown in tables 5-6.

Table 5. *One-way ANOVA of Lexical, Phrasal and Clausal Nominalization in Three Grades*

		Sum of Squares	df	Mean Square	F	Sig.	
Between Groups	(Combined)	9579.267	2	4789.633	27.370	0.000	
	Linear Term	Contrast	8378.017	1	8378.017	47.875	0.000
		Deviation	1201.250	1	1201.250	6.864	0.010
Within Groups		15224.733	87	174.997			
Total		24804.000	89				

Table 5 is the results of the one-way ANOVA of lexical, phrasal and clausal nominalization in Grade 1, Grade 2 and Grade 3. From the ANOVA table, we can see that the F value of variance test is 27.370, and the significance is 0.000, which is less than the significance level 0.05. So it can be tentatively concluded that in three Grades, at least one Grade is significantly different from other two Grades, or the significant difference exists among three grades.

Table 6. *Multiple Comparisons of Lexical, Phrasal and Clausal Nominalization in Three Grades*

(I) Grade	(J) Grade	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-4.0667	3.41562	0.237	-10.8556	2.7222
2	3	-19.5667*	3.41562	0.000	-26.3556	-12.7778
3	1	23.6333*	3.41562	0.000	16.8444	30.4222

*The mean difference is significant at the 0.05 level.

Table 6 is the multiple comparisons of lexical, phrasal and clausal nominalization in Grade 1, Grade 2, and Grade 3. From the table, we can see that the significances of Grade 1 and Grade 3, Grade 2 and Grade 3 are less than the significance level 0.05, so there are significant differences between Grade 1 and Grade 3, Grade 2 and Grade 3, but there is no significant difference between Grade 1 and Grade 2. As a whole, the use of lexical, phrasal and clausal nominalizations in Grade 3 greatly outnumbers those of Grade 1 and Grade 2. Nominalizations are relatively more frequently used in Grade 3.

The Development of Lexical Nominalization

Table 7. *Frequency and Percentage of Lexical Nominalization in the Three Grades*

	Topic Words		Common Words		Abstract Words		Total	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
G1	218	48.77%	153	34.23%	76	17.00%	447	100%
G2	212	48.74%	159	36.55%	64	14.71%	435	100%
G3	340	42.45%	284	35.45%	177	22.10%	801	100%

Table 7 presents a general description of the lexical nominalization in three grades. Among these nominalizations used in subjects' compositions, the topic words all the time take the largest proportion, accounting for 48.77%, 48.74% and 42.45% respectively; the common words take the second largest proportion, accounting for 34.23%, 36.55% and 35.45% in Grade 1, Grade 2 and Grade 3 respectively; the abstract words take the smallest proportion all the time, accounting for 17.00%, 14.71% and 22.10% respectively. These statistical results show that with the increase of the grades, the subjects have a tendency of using less topic words and more abstract words. Though the percentage of topic words declines with the increase of the grades, it still takes up almost a half of the whole proportion. Words appearing in the titles or the outlines of the compositions like *importance, confidence, possibility, achievement, perception, relation, affection, difference, honesty, education, and protection* are frequently found in the subjects' compositions.

In order to test the significant difference of lexical nominalization among the three Grades, a series of one-way analyses of variance (one-way ANOVA) and multiple comparisons are applied in this study. The results of difference in lexical nominalizations among three grades are shown in Tables 8-9.

Table 8. *One-way ANOVA of Lexical Nominalization in Three Grades*

			Sum of Squares	df	Mean Square	F	Sig.
Between Groups	(Combined)		2882.400	2	1441.200	31.547	0.000
	Linear Term	Contrast	2088.600	1	2088.600	45.719	0.000
		Deviation	793.800	1	793.800	17.376	0.000
Within Groups			3974.500	87	45.684		
Total			6856.900	89			

Table 8 is the one-way ANOVA of lexical nominalization in Grade 1, Grade 2 and Grade 3. From the ANOVA table, we can see that the F value of variance test is 31.547, and the significance is 0.000 (≤ 0.05). This can be interpreted that in three grades, at least one grade is significantly different in lexical nominalization from other two Grades, or the significant difference in lexical nominalization exists among three Grades.

Table 9. *Multiple Comparisons of Lexical Nominalization in the Three Grades*

(I) Grade	(J) Grade	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	0.4	1.74516	0.819	-3.0687	3.8687
2	3	-12.2000*	1.74516	0.000	-15.6687	-8.7313
3	1	11.8000*	1.74516	0.000	8.3313	15.2687

Table 9 presents the multiple comparisons of lexical nominalization in Grade 1, Grade 2, and Grade 3. From the table, we can see that the significances of Grade 1 and Grade 3, Grade 2 and Grade 3 are less than the significance level 0.05, so there are significant differences in lexical nominalization between Grade 1 and Grade 3, Grade 2 and Grade 3. However, there is no significant difference in lexical nominalization between Grade 1 and Grade 2. In the table, asterisk after the mean difference indicates the significant difference. Overall, the application of lexical nominalization in Grade 3 greatly outnumbers those of Grade 1 and Grade 2. Lexical nominalization is relatively more frequently used in Grade 3.

Among the 14 lexical nominalization suffixes, the five top ones are “-ment,” “-ence/ance,” “-er/or,” “-ment” and “-y”. These are also the most productive suffixes in English.

Table 10. *The Top-five Lexical Nominalization Suffixes*

	Grade 1		Grade 2		Grade 3		Total	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
-tion	66	14.77%	120	27.58%	492	61.42%	678	40.29%
-ence/ance	209	46.76%	56	12.87%	21	2.62%	286	16.99%
-er/or	63	14.09%	31	7.12%	50	6.24%	144	8.56%
-ment	23	5.15%	23	5.29%	73	9.11%	119	7.07%
-y	13	2.91%	73	16.78%	4	0.50%	90	5.35%

The Development of Phrasal Nominalization

Table 11. *Frequency and Proportion of Phrasal Nominalization in the Three Grades*

	Topic Phrases		Common Phrases		Abstract Phrases		Total	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Grade 1	2	0.68%	282	95.60%	11	3.72%	295	100%
Grade 2	38	13.43%	214	75.62%	31	10.95%	283	100%
Grade 3	154	28.36%	355	65.38%	34	6.26%	543	100%

Among these nominalizations used in participants’ compositions, the common phrases all the time take the largest proportion, accounting for 95.60%, 75.62% and 65.38% respectively; the topic phrases take the second

largest proportion, accounting for 0.68%, 13.43% and 28.36% in Grade 1, Grade 2 and Grade 3 respectively; and the abstract words take the smallest proportion, accounting for 3.72%, 10.95% and 6.26% respectively. It also shows that the percentage of topic phrases rises in three grades; the proportion of common phrases declines in three grades; and the proportion of abstract phrases rises greatly from Grade 1 to Grade 2, but declines a little from Grade 2 to Grade 3. From these data, a conclusion can be made that with the increase of the grades, the subjects have a tendency of using more topic phrases and less common words. Though the percentage of common phrases declines with the increase of the grades, it still takes up more than a half. Phrases like *n.+of*, *sb's+n.*, *adj.+n.*, and *impersonal abstract noun as the subject* are frequently found in the subjects' compositions.

In order to test the significant difference of phrasal nominalization among the three Grades, a series of one-way analyses of variance (one-way ANOVA) and multiple comparisons are carried out in this study. The results of difference in phrasal nominalizations among three grades are shown in tables 12-13.

Table 12. *One-way ANOVA of Phrasal Nominalization in the Three Grades*

		Sum of Squares	df	Mean Square	F	Sig.	
Between Groups	(Combined)	1436.089	2	718.044	22.914	0.000	
	Linear Term	Contrast	1025.067	1	1025.067	32.712	0.000
		Deviation	411.022	1	411.022	13.117	0.000
Within Groups		2726.233	87	31.336			
Total		4162.322	89				

Table 12 is the one-way ANOVA of phrasal nominalization in Grade 1, Grade 2 and Grade 3. From the ANOVA table, we can see that the F value of variance test is 22.914, and the significance is .000. The significance .000 is less than the significance level 0.05, so the conclusion can be made that in three Grades, at least one Grade is significantly different in phrasal nominalization from other two Grades, or the significant difference in phrasal nominalization exists among three Grades.

Table 13. *Multiple Comparisons of Phrasal Nominalization in the Three Grades*

(I) Grade	(J) Grade	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	0.4	1.44536	0.783	-2.4728	3.2728
2	3	-8.6667*	1.44536	0.000	-11.5395	-5.7939
3	1	8.2667*	1.44536	0.000	5.3939	11.1395

From the table, we can see that the significances of Grade 1 and Grade 3, Grade 2 and Grade 3 are less than the significance level 0.05, so there are significant differences in phrasal nominalization between Grade 1 and Grade 3, Grade 2 and Grade 3, but there is no significant difference in phrasal nominalization between Grade 1 and Grade 2.

Table 14. *The Top-five Phrasal Nominalization Structures*

	Grade 1		Grade 2		Grade 3		Total	
	Fre.	%	Fre.	%	Fre.	%	Fre.	%
adj.+n.	96	32.54%	91	32.16%	263	48.44%	450	40.14%
impersonal abstract noun as the subject	94	31.86%	46	16.25%	126	23.20%	266	23.73%
sb's+n.	33	11.19%	45	15.90%	51	9.39%	129	11.51%
n.+of	12	4.07%	29	10.25%	48	8.84%	89	7.94%
with+n.	37	12.54%	21	7.42%	9	1.66%	67	5.98%

Table 14 shows the top five phrasal nominal structures that are used by the learners, for example:

- (1) *As is well known, most people are born with similar intelligence.* (adj+n.)
- (2) *In short, confidence is the basic foundation of success.* (impersonal abstract noun as the subject)
- (3) *My argument will be illustrated below.* (sb's +n.)
- (4) *With the development of economy, Internet is becoming a necessary element in modern life.* (n.+of)
- (5) *With our capability increasing, we can make progress and keep moving on.* (with+n.)

The Development of Clausal Nominalization

Now comes the last part of analyses—the analyses of clausal nominalization structures.

Table 15. *Frequency and Proportion of Clausal Nominalization in the Three Grades*

	Nominal Clauses		Infinitives		Gerunds		Total	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Grade 1	120	66.30%	27	14.92%	34	18.78%	181	100%
Grade 2	166	50.77%	40	12.23%	121	37.00%	327	100%
Grade 3	213	73.96%	53	18.40%	22	7.64%	288	100%

Among these nominalizations used in subjects' compositions, the nominal clauses all the time take the largest proportion, accounting for 66.30%, 50.77% and 73.96% respectively; It also shows that both the proportion of nominal clauses and the proportion of infinitives decline firstly from Grade 1 to Grade 2, but rise later from Grade 2 to Grade 3; and the proportion of gerunds rises greatly from Grade 1 to Grade 2, but declines sharply from Grade 2 to Grade 3.

In order to test the significant difference of clausal nominalization among the three Grades, a series of one-way analyses of variance (one-way ANOVA) and multiple comparisons are conducted in this study. The results of difference

in phrasal nominalizations among three Grades are shown in tables 16-17.

Table 16. One-way ANOVA of Clausal Nominalization in Three Grades

			Sum of Squares	df	Mean Square	F	Sig.
Between Groups	(Combined)		380.956	2	190.478	12.838	0.000
	Linear Term	Contrast	190.817	1	190.817	12.860	0.001
		Deviation	190.139	1	190.139	12.815	0.001
Within Groups			1290.867	87	14.838		
Total			1671.822	89			

From the ANOVA table, we can see that the F value of variance test is 12.838, and the significance is 0.000. The significance 0.000 is less than the significance level 0.05, so in the three Grades, at least one Grade is significantly different in clausal nominalization from other two Grades, or the significant difference in clausal nominalization exists among three Grades.

Table 17. Multiple Comparisons of Clausal Nominalization in the Three Grades

(I) Grade	(J) Grade	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-4.8667*	0.99457	0.000	-6.8435	-2.8899
2	3	1.3	0.99457	0.195	-0.6768	3.2768
3	1	3.5667*	0.99457	0.001	1.5899	5.5435

From the table, we can see that the significances of Grade 1 and Grade 2, Grade 1 and Grade 3 are less than the significance level 0.05, so the conclusion can be made that there are significant differences in clausal nominalization between Grade 1 and Grade 2, Grade 1 and Grade 3. However, there is no significant difference in clausal nominalization between Grade 2 and Grade 3.

Table 18. The Top-five Clausal Nominalization Structures

	Grade 1		Grade 2		Grade 3		Total	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
object clause	86	47.51%	107	32.72%	134	46.53%	327	41.08%
gerund	34	18.78%	121	37.00%	22	7.64%	177	22.24%
infinitive	27	14.92%	40	12.23%	53	18.40%	120	15.07%
appositive clause	12	6.63%	27	8.26%	32	11.11%	71	8.92%
subject clause	11	6.08%	28	8.56%	28	9.72%	67	8.42%
predicative clause	11	6.08%	4	1.23%	19	6.60%	34	4.27%
Total	181	100%	327	100%	288	100%	796	100%

The three most frequently used clausal nominalizations are *object clause*, *gerund*, and *infinitive*. Clausal nominalizations like *I think...*, *I support...*, *I hold...*,

etc. are frequently used in students' compositions. Among the 6 structures, one stands out for its rather steady increase, that is, the use of appositive clauses. The structure climbs from the 6.63% in Grade 1, to 8.26% in Grade 2 and reaches 11.11% in Grade 3. For example,

- (1) *It is of great importance for us to establish a belief that education is a lifelong process.*
- (2) *According to what I have said above, we can draw a conclusion that education as a lifelong process is helpful to our work, life and self-value.*

Discussion

From the above-mentioned results, it has been found that the students of higher grades use nominalizations more frequently than those of lower grades, and the frequency of lexical nominalization is more than that of phrasal nominalization, which outnumbers that of clausal nominalization. According to psycholinguistics, mental lexicon is generally defined as the speaker's internal representation of language-specific knowledge about the outside world. The process by which we activate our word knowledge is termed lexical access. Lexical access studies the mechanisms involved in the retrieval of words from memory for their recognition and production. In the process of writing, students need to continuously retrieve words stored in the mental lexicon, so the quality of their writings have much to do with both their mental lexicons and their abilities of lexical access. Because subjects of higher grades store more words in the mental lexicon and have better abilities of lexical access than those of lower grades, the frequencies of nominalization in the compositions of higher grades are more than those of lower grades. The reason why lexical nominalization suffixes outperform phrasal and clauses nominalization structure is that lexical nominalization is comparatively simpler in syntax, it can be accessed from the mental lexicon more quickly than phrasal nominalization and clausal nominalization.

As for the different categories of lexical nominalization, the subjects have a tendency of using less topic words and more abstract words; and the most frequent types of English lexical nominalizations are those most productive suffixes like *-tion*, *-ence/ance* and *-er/or*, *-ment*, and *-y*.

The phrase of *adj.+n.* is a kind of collocation which is acquired by Chinese English learners earliest and most widely, so it plays an indispensable, if not the most important, part in phrasal nominalization. Corpus-based studies have shown that the phrase of *adj.+n.* is a frequently occurring type of noun collocation. For example, in his analysis of 240,000 words written corpus, Howarth (1996) stated that over a third of the noun combinations are found to be adjective-noun collocations. Therefore, it is no surprise to find the fact that the *adj.+n.* and *sb's+n.* take the largest proportion in the samples' phrasal nominalizations.

In the case of clausal nominalization, from these data, we can see that with the increase of the grades, the subjects have a complicated tendency of using clausal nominalization. Though the tendency is not regular, the proportion of nominal clauses is all the time more than 50%. This means that the subjects are more familiar with the nominal clauses than infinitives and gerunds. A great number of nominal clauses are frequently used in the subjects' compositions.

When it comes to the development of clausal nominalization, we can see that the object clause takes the largest proportion in the clausal nominalization. The object clause is a kind of grammatical phenomenon that occurs in both written and oral English extremely frequently. And the gerund takes the second largest proportion. From the analyses, it can be concluded that the title affects the choices of the students, because one of the titles in Grade 2 is *the importance of honesty*. These students had the intention of avoiding using the word *honesty* appearing in the title repeatedly, so they turned to other forms to express their thoughts, and the gerund *being honest* at that time became an excellent choice. And the infinitive takes the third largest proportion in the clausal nominalization. It is found that the students do not use an infinitive as a subject directly, but use a "it" as an expletive subject. Some clauses like *It is important to...*, *It is necessary to...*, and *It is useful to...* are frequently found in the subjects' compositions.

Conclusion

Based on what has been found in this study, the developmental tendency in the learners' use of lexical, phrasal and clausal nominalization structures, once again, proves the existence of the association between high quality writing and nominalization. Therefore, some pedagogical interventions are needed to facilitate this development.

First, explicit instruction is necessary in teaching, especially in the case of the Chinese EFL learners, who have limited exposure of the target language outside of class teaching. According to Ellis, "explicit instruction on grammar and forms is a more efficient way of learning a foreign language for adults than trying to learn it in the street" (2000: 597). Ellis also advised that "explicit formal instruction is helpful for language learners to develop a greater proficiency in L2, particularly if they have opportunities to emerge themselves in natural linguistic exposure" (2000: 616). Nominalization, as a symbol of written English and an obvious feature presented in the advanced English learning, should be learned by explicit instruction. The aim of teaching nominalization well can be fulfilled in the process of reading and writing.

Second, Nominalization should be taught in a process-focused approach. Not only the explicit instruction before writing, but also the feedback after writing is of great value. A process-focused approach includes the following four procedures: prewriting, composing drafting, revising and editing. When students are making preparation for writing compositions, the nominalization awareness should be brought by teachers' explicit instruction. And after the

students' completion of their compositions, teachers should provide prompt feedback for them on nominalization by means of praising the excellent sentences containing nominalization or rewriting the awkward sentences to the ones containing nominalization.

Despite the above findings drawn from the study, this study has its limitations. In this study, group means are measured instead of the inter-/intra-variations and variabilities, which are more favored to show the dynamic nature of development. Besides, it takes year-interval as the data collection span, which may very much leave unseen the necessary fluctuations in the process of development. Therefore, it is suggested that future research take on a more dynamic perspective and more densely collected data method.

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