"My Excellent College Entrance Examination Achievement" — Noun Phrase Use of Chinese EFL Students' Writing

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Abstract—**Previous studies have shown that phrasal structure, particularly complex noun phrases with phrasal modifiers, is a feature of advanced academic writing. Therefore, it would be important for those who plan to pursue further studies to learn to write in the way that is appropriate for academic writing. Using the manual annotation function of UAM corpus tool, this study compared the noun phrase use of Chinese EFL students' writing with that of proficient language users. This study also discussed the significant differences found between these two groups in terms of noun phrase use and their implications for EFL/ ESL writing instruction.**

Index Terms—**EFL Chinese students, writing, noun phrase**

I. INTRODUCTION AND LITERATURE

Researchers in second language writing put forward the idea of complexity, fluency and accuracy. As one aspect of proficiency evaluation, writing complexity in L2 research has been measuring indices of verbal subordination such as T units. Many scholars accept T-unit based measures as indicators of writing proficiency (Ortega, 2003; Wolfe-Quintero, Inagaki, & Kim, 1998). However, some studies have found that higher proficiency learners do not produce longer T-units (Rimmer, 2006, Taguchi et al. 2013). T-based measurement might fall short of its purpose in evaluating L2 writing proficiency, including academic writing. Such measures therefore have been challenged by a number of researchers. Lambert & Kormos (2014) pointed out the problems of using such measures in evaluating the syntactic complexity of L2 development by arguing that this approach failed to "differentiate types of subordination; no controlling for item-based use of subordinate structures and not considering potential interactions between subordination, discourse genre, and mode of production" (p. 2). Wang & Slater (2016) found that the use of complex nominals is one important difference between Chinese EFL writers and the more proficient writers. Biber & Gray (2010) argued that academic writing as a register of advanced writing, is found to rely heavily on phrases rather than dependent clauses and they argued "academic writing is characterized by an extremely dense use of non-clausal phrases and extremely complex noun phrase structures" (Biber & Gray 2011, p. 226). Their corpus investigation seems to show that phrasal level complexity, particularly noun phrase complexity, may be a more effective grammar indicator both for L1 and L2 learners. Taguchi et al. (2013) also found that "noun phrase modification (by attributive adjectives and post–noun-modifying prepositional phrases) had a tendency to contribute to essay quality" (p. 428-429). Besides, Biber & Gray (2011) found that the frequency of noun phrases related structures such as attributive adjectives, premodifying nouns, postmodifying prepositional phrases, appositive noun phrases and nominalisations have greatly increased in academic prose in the last 200 years, thus, making it even more important to examine the noun phrases because of its relevance to the students writers to acquire such structures (Parkinson & Musgrave, 2014).

Following Biber &Gray (2011), Parkinson & Musgrave (2014) investigated the noun phrase use of two groups of L2 students and found that the less proficient language learners relied more heavily on pre-modifiers than the more advanced language learners whose use of noun modifiers were found to be much closer to the published academic articles compared with less proficient language learners. Musgrave & Parkinson (2014) reported the task design that would increase learners' understanding and use of noun-noun phrases.

The Parkinson & Musgrave (2014) study furthered our understanding on the issue of noun phrase use in academic writing. Yet there is still some gap as the data for the study came from two student groups and different tasks. Noun phrase use is a very specific part of language use in writing and different kinds of genre might lead to the different use of noun phrases even by the same author. Literature also suggests that tasks can be one important factor in writing. For instance, Lu (2011) found that task type might influence the complexity of writing in addition to other factors such as timing. The current study explored the use of noun phrase by having two different groups of participants performing the same task to make the two dataset more comparable.

The number of Chinese students who further their studies in English-speaking countries has increased sharply in the past ten years. For example, the number of Chinese students studying in U.S during 2012-2013 was 235,597, an increase of 21.4 % from 194,029, the number of Chinese students studied in U.S during the previous Academic Year (2011-2012) (see Beckett & and Zhao, 2016). Academic readiness of these students in general (see Wang & Beckett, 2014) and writing level in particular is of tremendous importance to their academic success English-medium instruction environment. The current investigation focused on the use of noun phrase by Chinese EFL students to help address some of these concerns. More specifically, this study compared the noun phrase complexity in less proficient Chinese EFL students' writing to more proficient English users. A definition of the proficient English users as used in this study is explained in the data collection section. A study in the phrase level of EFL writing could serve as a guide for pedagogical purposes in writing instruction.

II. METHODOLOGY

A. Data Collection

Data source for this study is a particular writing genre called "personal statement", a type of document required as part of the admission requirement for further learning by many universities. This document provides supplementary information about the applicants that other application documents are not able to show. It is also an important document that shows potential candidates' writing ability. The successful candidates are expected to write for the intended audience, the admission committee, who are generally professors in the relevant fields.

Participants in this study consists of two groups students: the proficient language users group and Chinese EFL student group, mainly for comparison purposes. The proficient language users in this study are defined as those who can the English language proficiently in their writing. These users could be native speakers or the other language speakers. However, based on the fact that their writings are chosen as samples on the official websites of colleges and universities, it should be assumed that these are good examples of personal statements. Fifteen personal statements were collected for the study from the official websites of nine relevant universities. There are several principles that guided the data collection including the representativeness of different types of universities such as top universities and local community and colleges. Different disciplines are also considered including social sciences, medicine, and natural science.

The Chinese EFL students group took a writing course with one of the authors. As part of the course design, the students were required to write their personal statements after two hours of instruction of how to write a personal statement. The instruction discussed the purpose of the document and analyzed some sample personal statements. The instructor also offered the students some more samples as a reference. The students then were given two weeks' time to finish the writing after class. These students were second-year college students majored in international finance at a top financial institution in China. Altogether, 38 personal statements were collected for the study. For the proficient user group, 15 personal statements were collected. It would be more statistically balanced to find an equal number of personal statements from the proficient users. But due to the availability and also representative considerations, only 15 were selected.

TABLE 1
DATASET SUMMARY

Participants	English proficient users	Chinese EFL students
Number of pieces of writing	15	38
Average length of each	788	669
Total number of words	11822	25414
Source	US/Canada university websites	Course assignment writing
Disciplines	Social science, medicine, engineering	Finance

B. Data Coding

The study used UAM Corpus Tool 2013 version, developed by Micky O'Donnell, for coding. The tool affords automatic annotation as well as manual annotation of the corpus material. For instance, the automatic annotation of grammatical units produces information about tokens (all the words included in each data set) and parts of speech (POS) in the data sets. The following section would introduce the tool including some preliminary analysis as relevant to the current study and the coding scheme.

TABLE 2
PARTS OF SPEECH BY PROFICIENT USERS AND EFL CHINESE STUDENTS

	English proficient Users		Chinese EFL Students		Chi-square Significance	
Token-type	N=12603		N=25161			
POS	Feature Number	Percentage	Feature Number	Percentage		
Noun	3178	25.22%	5628	22.37%	38.10	+++
Verb	1899	15.07%	4097	16.28%	9.29	+++
Adjective	1066	8.46%	2025	8.05%	1.88	
Pronoun	1016	8.06%	2477	9.84%	31.80	+++
determiner	1078	8.55%	2075	8.25%	1.03	
Adverb	451	3.58%	1129	4.49%	17.29	+++
Conj	516	4.09%	957	3.80%	1.89	
Prep	1485	11.78%	2856	11.35%	1.54	

Chi-square Significance: "+" indicates weak significance (90%),
"++" indicates medium significance (95%), "+++"indicate strong significance (98%).

As can be seen from the above table, POSs used by the EFL Chinese students and the proficient users provide evidence that there is a difference between these two groups in their language choice for a very similar task. More specifically, the English proficient users and the EFL Chinese students' use of nouns, verbs, pronouns and adverbs showed statistically significant difference. While the English proficient users use more nouns in their writing, the EFL Chinese students use more verbs. The authors speculated that there might also be a correlation that adverbs go along with verbs and that is why the use of adverbs is also significantly different between these two groups. But this hypothesis needs to be further studied. This study would only focus on the noun phrase use; therefore, the other differences are beyond the scope of this study.

Besides the automatic annotation system, the UAM tool also enables the researchers in designing their own annotation scheme and set it up in the system. The following is the scheme designed by the authors for this study based on literature focusing on noun phrase (Biber et al. 2011, Halliday & Matthiessen, 2014). The following table summarized the noun phrase components as they are classified into pre-modifiers and qualifiers. The authors manually annotated the texts using the following scheme.

TABLE 3
ANNOTATION SCHEME FOR NOUN PHRASE

	Modifier type	Examples from the texts
Pre-modifier	determinative	my patients, their profession, these traits, that goal,
	numerative	two years, first year, some companies,
	Epithet	young leaders, smaller journals, strong curiosity,
	classifier--adj	financial analyst, high school, personal time
	classifier-noun	Career goal, gang violence, labor law, concert halls
qualifier	prepositional phrase	An emphasis on serving; contribution to the field, conflicts among members
	clause	The knowledge I've learned; children whose parents were; theories that you choose to believe
	infinitive	my ability to communicate; the years to follow,
	appositive	middleway house, the local battered women's shelter
	present participle	my plans following completion,
	past participle	award given, time spent,
	adj as post modifier	opportunities available,

The study did not include the use of "a" "an" or "the" as determiners because the preliminary statistics showed that there is no significant difference between the use of determiners such as "a", "the", "this" "that" in the EFL students' writing and the proficient users' writing. The current determiners does include the use of other determiners including possessives like "my, their, his etc." In the following, the study would focus only on the noun phrase.

III. RESULTS AND DISCUSSION

A. A General Picture of Noun Phrase Modifiers: The Quantitative Differences

It is found that the two groups under study did show a statistical difference in terms of their use of noun modifiers. The Chinese EFL students using more pre-modifiers while the English proficient using more qualifiers. The Chinese EFL students used 2267 raw counts of pre-modifiers which is about 81.75% of the overall modifiers of their noun phrases. In comparison, the English proficient users generated 1443 raw counts of the pre-modifiers which equals to a 73.77% of the overall modifiers. In terms of qualifiers, the Chinese EFL students generated 497 cases of qualifiers, a 17.92% while the English proficient users generated 501 cases, 25.61% of the total count. A Chi-square measurement showed there is strong significance between these differences.

Biber, et al (2011) hypothesized that nominal complexity is an indicator of academic writing complexity. In their hypothesis, Biber, et al (2011) proposed both first language and second language learners would go through a development progression process in terms of noun phrase complexity development and both L1 learners and L2 learners would first learn pre-modifiers and then develop qualifiers. Parkinson & Musgrave (2014) examined the academic writing of two groups of L2 learners and confirmed the hypothesis of the noun phrase development progression hypothesis. The data results from this study also support this hypothesis in that the Chinese EFL students use more pre-modifiers than qualifiers.

TABLE 4
NOUN MODIFIER DIFFERENCES BETWEEN PROFICIENT USERS AND EFL STUDENTS

Noun modifier	English proficient users		Chinese EFL students		Chi-square Significance	
	Feature Number	Percentage	Feature Number	Percentage		
Pre-modifier	1443	73.77%	2267	81.75%	43.20	+++
qualifier	501	25.61%	497	17.92%	40.74	+++

Chi-square Significance: "+" indicates weak significance (90%),
"++" indicates medium significance (95%), "+++"indicate strong significance (98%).

B. Pre-modifiers: The Quantitative Differences

A more detailed subdivision analysis of the pre-modifiers indicates that the Chinese EFL students used a slightly higher percentage of determinatives compared with the English proficient user group. It is also noted that the Chinese EFL students used a higher percentage of numeratives when compared with the English proficient group. Since all the Chinese students majored in international finance, it could be assumed that this particular group of students was quite sensitive to numbers and this, reflected in their writing is a much higher percentage of numeratives in their writing. In terms of adjective or noun use, it seems that there is not much difference in this table, at least not shown in terms of numbers.

TABLE 5
PRE-MODIFIER DIFFERENCES BETWEEN PROFICIENT USERS AND EFL STUDENTS

pre-modifier	English proficient users		Chinese EFL students		Chi-square Significance	
	Feature Number	Percentage	Feature Number	Percentage		
	N=2154		N=3207			
determinative	492	22.84%	829	25.85%	6.28	+++
numerative	76	3.53%	206	6.42%	21.67	+++
epithet	322	14.95%	576	17.96%	8.38	+++
classifier	624	28.97%	930	29.00%	0.00	

C. Qualifiers: The Quantitative Differences

As for the qualifiers, it can be seen that preposition as post-modifier works as the most significant differences. The more proficient group used more prepositional phrases after the noun as part of the noun phrase. 395 prepositional phrases are identified and it counts about 18.34% of the overall noun modifiers. In comparison, the Chinese EFL students produced about 432 prepositional phrases which accounts for a 13.47% of the overall noun modifiers. The Chi-square showed there was a high statistical difference between these two groups.

Besides prepositions, one other modifier that showed statistical difference is appositive. While the proficient users generated 16 cases of appositive phrases to modify the noun, a 0.74% of the modifiers, the Chinese students only produced 6 cases, a 0.19% of the total modifiers. Still it should be noted that the overall number of appositives are relatively small and therefore these numbers should be interpreted with caution. Adjective as a post modifier and clause as modifier also showed statistically significant differences. The other types of qualifiers such as infinitive-as-modifier, pre-p-as-modifier and past-p-as-modifier failed to show statistically significant differences as indicated by the Chi-square significance in Table 6.

TABLE 6
QUALIFIER DIFFERENCES BETWEEN PROFICIENT USERS AND EFL STUDENTS

Qualifier	English proficient users		Chinese EFL students		Chi-square Significance	
	Feature Number	Percentage	Feature Number	Percentage		
	N=2154		N=3207			
pp-as-modifier	395	18.34%	432	13.47%	23.40	+++
clause-as-modifier	91	4.22%	99	3.09%	4.88	++
infinitive-as-modifier	21	0.97%	39	1.22%	0.68	
appositive	16	0.74%	6	0.19%	9.74	+++
pre-p-as-modifier	10	0.46%	13	0.41%	0.10	
past-p-as-modifier	14	0.65%	19	0.59%	0.07	
adj_post_modifier	8	0.37%	2	0.06%	6.61	+++

Parkinson & Musgrave (2014) compared students' use of noun modifiers with that of expert writers in published sources and found a number of differences. Using the data of noun modifiers in published sources reported by these authors, the following table is a comparison between the three groups in their use of noun modifiers.

TABLE 7
STUDENTS' NOUN PHRASE USE (PER THOUSAND) COMPARED WITH THE PUBLISHED SOURCES

Noun modifier	Proficient users/1000 words	Chinese EFL students/1000 words	Published sources/1000 words
Adjective	62	50	62
Nouns	15	11	40
prepositions	33	18	60
appositives	1	0.1	6

When the use of adjectives, nouns, prepositions and appositives were compared with published sources, it was found that both the proficient users and the EFL students' writing in this study are lower in terms of numbers, with the EFL students lowest in all the numbers. This showed that both the proficient users' and Chinese EFL students' writing are still not very close to the features showed in the academic published sources. On the one hand, these results were directly influenced by the nature of the data collected for this study. Its personal side of the writing might mean that it is not so vigorously academic per se. On the other hand, it might indicate that since the Chinese students used fewer nouns in general when compared with the proficient writers, they also used less noun modifiers in their writing, thus making their writing not as elaborated or condensed as the proficient writers or the published sources.

D. Other Differences

The previous sections discussed the quantitative differences in terms of the noun phrase modifiers of the more proficient users of English and Chinese EFL students. The following section will discuss the qualitative differences that are found in the more proficient writers and the student writers. Chinese EFL students differ with the more proficient users of English in their noun phrase use such as the use of prepositional phrases as postmodifiers, as discussed in the above. Besides those quantitative differences, there are also differences which did not show in terms of numbers but nonetheless showed if examined from a qualitative perspective. A closer examination could reveal that. In this section, one such difference will be discussed as an example: when noun is used as a classifier to modify nouns.

The data set identified 199 cases of nouns that used as noun modifiers in the more proficient user group, a 9.26% of a general noun phrases and 276 cases of nouns used as noun modifiers for the student users, which is a 8.62% out of the total number of noun phrases. It seems that there is not much difference between the use of nouns as noun modifiers between the proficient users and the student users. As could be expected, that the nouns used as the modifier of the head noun is quite diverse in both groups, yet, for the student group, it seems there are more similarities across different individual students.

When nouns are used as modifiers, it is found that in the proficient users' writing as sampled in Table 8, the noun modifiers are often related with the field that the author has been working in or would like work in the future. A variety of nouns used as modifiers could be found in the following examples from the proficient users the data collected for the study.

TABLE 8
EXAMPLES OF PROFICIENT WRITERS' USE OF NOUNS AS CLASSIFIERS

PFU/PFU-5.txt	teacher at a local	ballet school
PFU/PFU-1.txt	meaningful	patient education
PFU/PFU-2.txt	ing and refining my	soldier skills
PFU/PFU-6.txt	my announcement the	excavation team
PFU/PFU-8.txt	tive aspects of the	justice system
PFU/PFU-9.txt	est in the field of	laser technology
PFU/PFU-11.txt	labour agreement	royalty agreements,
PFU/PFU-12.txt	ntal tradition as a	philosophy research assistant
PFU/PFU-13.txt	e community through	vision screenings
PFU/PFU-1.txt	is my number one	career choice
PFU/PFU-10.txt	lace. Not all of my	work experience

TABLE 9
EXAMPLES OF CHINESE EFL STUDENTS' USE OF NOUNS AS CLASSIFIERS

SL/SL-10.txt	of my grade in the	university entrance exam
SL/SL-12.txt	he first year of my	college life, I have
SL/SL-14.txt	his or her work in	the school union and
SL/SL-19.txt	to prepare for the	college entrance examination
SL/SL-20.txt	m provided with the	university life I am
SL/SL-21.txt	tudy. Besides the	school curriculum, I
SL/SL-25.txt	caution. During my	university days, I j
SL/SL-26.txt	0 in Tianjin in the	university entrance examination
SL/SL-29.txt	ienced a meaningful	university life. My
SL/SL-30.txt	I got familiar with	school works and lea
SL/SL-31.txt	r-archaeology after	college entrance examination
SL/SL-32.txt	arkable mark in the	college entrance examination
SL/SL-33.txt	handong Province in	the university entrance examination
SL/SL-35.txt	life. My excellent	college entrance examination achievement
SL/SL-36.txt	hejiang Province in	the college entrance examination,
SL/SL-36.txt	tive character, and	college lifehas als

From the samples, we could see that the proficient users employ a variety of nouns as classifiers in their noun phrase use. These differences could not be measured by statistics but they are obvious when these specific samples are provided. In comparison, Table 9 represents the use of nouns as classifiers in the noun phrases of Chinese student learners. It is strikingly similar that many such cases focus on a few key terms such as "university," "college," or "school" which are closely related to school life. The high frequency of such words also reflects the life experience of most Chinese students---whose life are more centered around exam and school. This homogeneity is reflected in their language use as specific as the noun use in their writing.

Previous literature in studying the phrase use found that attributive adjectives as noun modifiers are more frequently used by lower-level students' writing. In addition, these student writers use much less premodifying nouns and less post-modifying prepositional phrases compared to more proficient users (Parkinson and Musgrave, 2014). This study of the comparison between Chinese EFL students' writing with the more proficient language users supported the findings of Parkinson and Musgrave (2014).

IV. CONCLUSION

This study explored the noun phrase use by Chinese EFL students by analyzing a similar task conducted by them and the more proficient users of English utilizing a coding tool UAM Corpus Tool. Findings of the study suggest that Chinese EFL students tend to use more pre-modifiers in general, including determiners, numerative and epithet and fewer post-modifiers compared to the more proficient writers. The use of prepositional modifiers is the most significant difference indicator for these two groups. The classifier use of these two groups is similar in numbers but qualitative differences are found. The study supports the hypothesis that language learners first learn to use pre-modifiers and then qualifiers/post-modifiers.

It is possible that classifiers are acquired later compared with other pre-modifiers as hypothesized in previous studies (Biber, Gray & Poonpon, 2011). EFL students can be encouraged to use more phrasal structures/qualifiers as a way to elaborate their writing, particularly prepositional phrases, which is a feature of advanced academic writing. The different use of noun modifiers in writings might be related with the life experiences of those writers, for instance, numeratives, classifiers. The language use is a reflection of the students' life experiences and even in the use of microlevel such as phrase level it is still found relevant.

Findings of this study contributed to the existing literature by showing that Chinese EFL learners tend to use more pre-modifiers than post-modifiers and therefore still need to improve their writing in their post modifier use. The study therefore could inform EFL writing, particularly academic writing in which the noun phrase is one of the characteristics. Another contribution of the study is the illustration of the UAM Corpus Tool, a new linguistics data analysis tool, which other scholars can now make use of in their scholarly endeavor.

Nevertheless, this study only discussed the noun phrase use differences between Chinese EFL learners and proficient writers; however, it should be also acknowledged that there are also inter-group differences within the Chinese EFL group. Future studies could further explore the inter-group differences and figure out the implications of those differences for EFL teaching and learning.

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