

Noun Phrase Complexity in Independent and Source-Based Writing

A Case Study of Chinese EFL Students

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ABSTRACT

A growing body of scholars have explored noun phrase complexity according to the hypothesized noun modifier development sequence of Biber et al. (2011). Nevertheless, few researchers have investigated how this linguistic variable vary in different writing types. In response, the study has compared the noun modification by three Chinese EFL students of different writing proficiency in integrated writing (writing based on a source text while responding to a prompt) and independent writing (writing based on personal experience and knowledge, without reference to any reading materials). Following manual coding and descriptive analysis, the authors observed overall positive role of integrated writing for improving noun complexity. In the integrated writing, the highest-proficiency writer modified the nouns in a more varied way, the writer of intermediate level reduced frequent repetition of the same chunks or collocations, and the lowest-proficiency writer employed certain advanced language features (of phrases as postmodifiers - abstract meanings and multiple prepositional phrases as postmodifiers) more frequently. The findings can inform writing test designers and instructors of the necessity to adopt integrated writing as a way to measure the phrasal complexity of students or test takers.

Keywords: *Integrated writing, independent writing, noun phrase complexity, noun phrase modifiers.*

1. INTRODUCTION

Complexity, accuracy, and fluency are universally accepted constructs for measuring the quality of L2 writing. Among them, complexity has gained traction from quite a few scholars. Nevertheless, the majority of them have solely focused on syntactic and clausal complexity primarily because those indices can be conveniently identified and tagged with automatic software or platforms. Thus, nouns have not been thoroughly examined when it comes to grammatical complexity measures [1]. The limited attention might be the result of the widespread belief that language learners master nouns quite early compared with other word categories and clausal features. However, human beings do not learn a language along a linear path. In other words, more fine-grained indices like noun phrase complexity deserve attention from the scholars with interest in writing of L2 writing.

A noun phrase refers to a string of words structured with an obligatory head, which can be pre-modified by word categories such as determiners and/or followed by postmodifiers [2]. Some scholars [3] have claimed that advanced English academic writing heavily relies on the use of nouns. The frequent use might boil down to the fact that nouns phrases can convey dense information and contribute to a concise writing style compared with clauses. The complexity of noun phrases is reflected in a wide array of modifiers. According to Biber et al. [2], the premodifiers encompass determiners (the dog), adjectives (beautiful girl), nouns (apple tree), and possessive nouns (teachers' bags), and the postmodifiers include noun phrases as appositives (College English Test (CET)), relative clauses (the apple that I bought from an old man), ed-clauses (the ice cream bought from the supermarket), and prepositional phrases (the eggs in the basket). Biber et al. [4] initially provided empirical evidence that clausal and subordination indices are not effective in capturing the complexity of academic writing, but phrases are so. The scholars intially judiciously

demonstrated the importance of complex noun phrase constituents and proposed the hypothesis that academic writing features a sequence of development stages.

The hypothesis of Biber et al. (2011) has provided a fresh perspective for successive scholars to explore writing development in a fine-grained and in-depth fashion. Inspired by the insight, noun phrase complexity has been investigated from different perspectives and in different contexts, lending support to the hypothesis [5-7]. Nevertheless, the majority of existing literature fails to take into account the impact from type of writing tasks. Undoubtedly, writing competency cannot be objectively assessed via a single task. Some standardized English tests such as TOEFL have combined integrated writing and independent writing for the sake of higher testing validity. Considering this, it is of significance to compare how the linguistic features of a writer vary in different tasks. Such research can help inform teachers and test developers of the impact caused by the choice of a certain task type and guide the development or implementation of the task [8].

According to Guo, et al. [9], a few studies concurrently investigating both integrated and independent writing have focused on writing process, rating scores, and inter-rater reliability. Considering few scholars [10] have compared the linguistic features in the two writing types, the study aims to examine how the noun phrase complex of EFL students differs in integrated and independent writing. In this study, integrated writing refers to a writing task where the writer integrates information from source texts when responding to the writing instruction, while independent writing means the writer draws on personal experience and knowledge without reference to any materials. Particularly, the researchers attempts to address the following question: How does type of writing tasks influence the noun phrase complexity of EFL students at different English writing proficiency levels?

2. LITERATURE REVIEW

While measuring writing complexity, a few scholars [11, 12] prefer syntactic indices ranging from the mean length of a sentence to the number of clauses per sentence. The traditional approach has been challenged by Biber et al. [4], who initially motivates quite a few SLA writing researchers to shift focus on noun phrase complexity. Thus, some scholars have presented a detailed analysis of the variable in the written language of second/foreign language learners. One strand of research is to associate the variable with writers of different proficiency levels. Based on the argumentative essays produced respectively by high-proficiency and low-proficiency university-level students in China, Lan et al. [5] observed the association between proficiency and all the relevant noun modifiers under study. The strongest link was observed in prepositional phrases, attributive adjectives,

premodifying nouns, and relative clauses. Díez-Bedmar and Pérez-Paredes [1] shifted the focus on Spanish young ELF learners from Grade 7, 8, 11, and 12. Following the corpus-based analysis, the scholars claimed the development of noun phrase complexity in pre-modifying slots. Unlike the mentioned two studies, the study of Ansarifard et al. [13] only focused on one discipline, Applied Linguistics, which enhanced validity because different discipline backgrounds might lead to mixed use patterns of noun phrases. According to the findings, the MA group varied significantly from the expert group in the use of premodifying nouns, -ed participles as postmodifiers, adjective-noun sequence as premodifiers, and prepositional phrases as postmodifiers, while no significant variation was found between the Ph.D. group and the expert writers. As noted, the findings of all these three studies completely or partially point to the validity of the hypothesized development sequence of noun phrase complexity.

Another common research line is to compare the noun modification features of EFL or ESL students with those of native speakers. In the study of Jitpraneechai [6], the argumentative writings by Thailand students were compared with writings of native speakers in terms of noun phrase complexity. The two groups were found to differ significantly in the use of both noun postmodifiers and nouns as premodifiers. In particular, the non-native writers heavily relied upon two categories of premodifiers, i.e., attributive adjectives and nouns. As for postmodifiers, they frequently employed prepositional phrases for locative and abstract meanings. Similarly, the study of Lan and Sun [14] revealed that Chinese EFL students are less likely to use nouns as premodifiers than native writers. Meanwhile, striking difference existed in appositive noun phrases, adjectives, prepositional phrases, nouns as modifiers. Although both of these two studies [6, 14] empirically demonstrated the importance of explicit instruction of noun modification, they failed to strictly control confounding variables. Jitpraneechai [6] controlled the topic (marketing), but no information has been provided regarding the disciplines of the non-native English students and the variety of the native speakers' English. Meanwhile, Lan & Sun [14] failed to control the effects of genres, which poses a threat to data validity.

Certain researchers are eager to identify the predictive power of noun phrase complexity for human rating. This perspective can inform the writing assessors of the association between this linguistic feature and evaluation and reveal the shortcoming of EFL/ESL learners. Considering the practical implications, Kyle [15] associated human rating scores with the complexity indices at the syntactic, clausal, and phrasal level. It was found that writing quality could be better predicted by phrasal complexity indices, including those related to noun phrases. In the following year, Xu [7] examined the correlation between NP complexity of Chinese advanced English learners and their scores. With a total of 120

integrated argumentative essays, the study performed the Pearson correlation analysis and observed a moderately positive correlation. The two pieces of evidence indicate that noun phrases occupy an important role in writing quality.

Woefully, the abovementioned studies fail to investigate NP complexity by considering the effect of other sub-constructs of writing such as writing type. As mentioned in the Introduction section, independent writing and integrated writing have been adopted in tandem to better evaluate writing quality. The comparison of the two writing tasks can be another promising research line in addition to the L1 backgrounds, English proficiency level, and rating scores. On the other hand, the majority of the studies reviewed fail to guarantee the homogeneity of writers. Thus, the researcher will address the issue by incorporating a small group of highly homogeneous Chinese EFL students from the program of Master of Linguistics in the University of Malaya. Furthermore, the researcher only collected the writing samples produced by each participant within a month, with a view of avoiding the time effect. Meanwhile, the highly similar writing samples suggest a small sample, so the authors adopted manual coding by referring to the methodology of Jitpraneechai [6].

3. METHODS

3.1. Datasets

The writing samples were collected from three female international postgraduate students from the program of Master of Linguistics in the University of Malaya, a top

university of Malaysia. All of them come from Chinese mainland, but from different provinces thereof. They took IELTS tests half a year before their enrollment with the university and respectively achieved 7 scores, 6.5 scores and 6 scores in the writing section. Their first language is Mandarin, and they majored in English when they were undergraduates in China.

The writing samples originated from the assignments for two courses delivered by the Faculty of Languages and Linguistics, University of Malaya, including the *Approach to Linguistic Theories* and the *Fundamentals of Linguistics*. The writers finished the two assignments at the first semester of their master degree. The instructor of the *Approach to Linguistic Theories* requested them to read a journal article and then write a critique essay. The students had to summarize the main content of the article and present a critical assessment of its pros and cons. This writing task represent integrated writing because source text can be consulted in the process of writing. As for independent writing from the course of the *Fundamentals of Linguistics*, the participants reflected on their learning journey and envisages their research project for graduation. To avoid the effect of different length, the authors randomly chose particular sections of the writings. In the end, the essays under study resemble each other in terms of length (Table 1). The grade of participant achieving 7 scores in IELTS was A in both writing tasks. The intermediate-level student received A- in the integrated writing task and B+ in the independent writing task. As for the writer with 6 scores, the grade for both writing types equaled B+. Evidently, the grades of the essays are overall positively related to their writing proficiency level.

Table 1. Details of writing samples

	Writer 1 (IELTS writing grade: 7)	Writer 2 (IELTS writing grade: 6.5)	Writer 3 (IELTS writing grade: 6)
Reflective essay	802 words	735 words	800 words
Critique essay	849 words	809 words	785 words

3.2. Data Analysis Procedures

As the sample size is small, the authors manually coded the writing samples according to the indices covered by the study of Jitpraneechai [6]. We counted each noun modifier category and recorded correspondence occurrences. Afterwards, we calculated the percentage of the counts for each noun modifier for the sake of comparative analysis. In particular, we paid close attention to the noun modifiers who exhibited marked proportion difference in integrated writing essays and independent writing essays. As the participants are of different writing proficiency, we only compared the

performance of each writer in the two writing types, ignoring inter-writer comparison.

4. FINDINGS

According to Table 2, the writer of the highest writing proficiency (Writer 1) employed more diversified ways to modify nouns in the critique essay. Except for only one category generally mastered at Stage 5 (i.e., of +ing), she made full use of all the modifying categories. Nevertheless, in the reflective essay, this writer did not use three categories, including of+ing, that + N. complement clauses, and pre-modifying possessive nouns. This difference suggests the benefits of integrated writing where a high-quality source text can be referred

to. As suggested by Cumming et al. [16], the writers dealing with a reading-to-write task can respond to the content of the reading materials at hand and will be consciously or subconsciously affected by the linguistic features thereof. Interestingly, no marked variation existed in the use of each noun modifier in the two essays produced by this advanced writer. The unexpected result might be closely associated with the writer's L2 writing proficiency and previous exposure to written English. Generally speaking, a writer with higher L2 proficiency can display varied patterns of noun modifiers, including those developed at later stages [5]. Considering this, it comes no surprise that the advanced writer in this study could maintain consistent and satisfactory performance in both essays. Besides, the writer had accumulated rich

experience in professional translation, which indicates that she might have learned to exploit a wide array of language devices including phrasal tools. In absence of a source text, she could still assess previous linguistic knowledge and writing expertise stored in long-term memory while drafting the reflective essay [17]. It is worth noting that the proportion of nouns as premodifiers in the reflective essay (29%) strikingly exceeded that in the other essay (20%). The unanticipated frequency can be explained by topic influence. In the reflective essay, the writer used a few terms with nouns as premodifiers to depict her understanding of how sentences are processed in sight translation. The recurring phrases include 'sight translation', 'target language' and 'source language'.

Table 2. The noun modifiers used by the three writers in reflective essays and critique essays

Stage	Noun modifiers	Writer 1		Writer 2		Writer 3	
		Reflective essay	Critique essay	Reflective essay	Critique essay	Reflective essay	Critique essay
2	Attributive adjectives	29 (25%)	40 (29%)	29 (25%)	40 (29%)	22 (21%)	48 (33%)
3	Participial premodifiers	2 (2%)	12 (9%)	2 (2%)	12 (9%)	0 (0%)	7 (5%)
	Relative clauses	3 (3%)	4 (3%)	3 (3%)	4 (3%)	7 (7%)	7 (5%)
	Nouns as premodifiers	32 (27%)	16 (12%)	32 (27%)	16 (12%)	33 (32%)	25 (17%)
	Possessive nouns as premodifiers	0 (0%)	5 (4 %)	0 (0%)	5 (4 %)	7 (7%)	7 (5%)
	Of phrases as postmodifiers (concrete/locative meanings)	2 (2%)	11 (8%)	2 (2%)	11 (8%)	6 (6%)	6 (4%)
4	Prepositions other than of as postmodifiers (concrete/locative meanings)	1 (1%)	3 (2%)	1 (1%)	3 (2%)	1 (1%)	4 (%)
	-ed participle as postmodifiers	1 (1%)	5 (4%)	1 (1%)	5 (4%)	2 (2%)	1 (1%)
	Ing participle as postmodifiers	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (1%)	1 (%)
	Multiple premodifiers in the NP: attributive	14 (12%)	11 (8%)	14 (12%)	11 (8%)	2 (2%)	4 (3%)

	adjectives and nouns as premodifiers						
	Of phrases as postmodifiers (abstract meanings)	10 (8%)	13 (9%)	10 (8%)	13 (9%)	7 (7%)	21 (14%)
	Prepositions other than of as postmodifiers (abstract meanings)	11 (9%)	7 (5%)	11 (9%)	7 (5%)	12 (12%)	10 (7%)
5	Of + ing	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (2%)	1 (1%)
	That + N. complement clauses	1 (1%)	0 (0%)	1 (1%)	0 (0%)	0 (0%)	0 (0%)
	Appositive noun phrases	6 (5%)	8 (6%)	6 (5%)	8 (6%)	0 (0%)	0 (0%)
	Multiple prepositional phrases as postmodifiers, with levels of embedding	6 (5%)	4 (3%)	6 (5%)	4 (3%)	1 (1%)	4 (3%)

As for the second writer at intermediate proficiency level, noun modifiers at the advanced stages (Stage 4 and 5) were employed more frequently in the reflective essay (41%) than in the critique essay (35%). At the superficial level, it seems that integrated writing is not a helpful tool in stimulating the use of more advanced and complex noun modifiers. But upon closer inspection on the writer's reflective essay, the authors noticed heavy reliance on some highly frequent or fixed collocations. The writer failed to flexibly replaced via language devices such as pronoun substitution, ellipse, and paraphrase. To give an example, the central term of her essay, "lexical tone contour" appeared for a total of six times. Thus, the percentage of attributive adjectives and nouns as noun premodifiers turns out to be quite high in the independent writing. Furthermore, noun as premodifiers was a frequent linguistic feature in this writer's independent writing, which might also be influenced by the topic of lexical tones in Mandarin. The writer kept mentioning Mandarin sentences, Mandarin learners, Mandarin phrases as well as Mandarin speakers. It can also be explained by the nature of reflective essay, which motivates the writer to proceed with writing based on her personal experience and knowledge. Therefore, the writer subconsciously used these familiar terms that

she had been sufficiently exposed to. On the other hand, the writer of an integrated writing task can hardly avoid the influence of the written materials within her eyesight and will imitate or directly use the language styles and structures, giving rise to a style of detachment [18]. In conclusion, the two essays of Writer 2 cannot judiciously demonstrate the positive relationship between more advanced noun modification and the source text available to the writer. Nevertheless, the writer has exhibited less reliance on some chunks or lexical bundles that they are familiar with and presented a more dynamic product in the integrated writing task.

As shown in Table 2, Writer 3 relied more upon attributive adjectives, participial premodifiers, prepositions other than of as postmodifiers (concrete/locative meanings), of phrases as postmodifiers (abstract meanings), and multiple prepositional phrases as postmodifiers, with levels of embedding in the integrated writing than in the reflective essay. Particularly, the proportion of attributive adjectives in the critique essay was higher by 11%. Although this category is developed at earlier stage according to the noun modifier development sequence hypothesized by Biber et al. [4], the writer with a quite low proficiency might have failed to flexibly retrieve words in mind in the reflective

essay. Notably, the writer used participial premodifiers frequently in the critique essay, but failed to use this linguistic device in the other essay. This suggests that reading-to-write task can opens more language possibilities for the writer and motives her to notice this linguistic feature. The more frequent prepositions other than of as postmodifiers and multiple prepositional phrases as postmodifiers, with levels of embedding in the integrated writing also indicate the role of such task in creative and flexible language use. However, the unexpected finding is that Writer 3 employed nouns as premodifiers more frequently in the reflective essay (32%) than in the critique essay (17%), which is advanced compared with attributive adjectives. According to Ansarifar et al. [13], more experienced writers preferred using nouns as noun premodifiers, which contradicts to the use of such linguistic feature by the three writers in this study. A closer look at the reflective essay of Writer 3 revealed that she had repeatedly used terms such as “drinking soup”, “cooking dinner” and “Henan dialect”. For other noun modifiers unmentioned in this paragraph, the proportions did not vary too much in the two essays, which might be related to the writer’s limited writing proficiency.

5. CONCLUSION

As multiple writing types have been concurrently adopted for writing assessment, it is worthwhile to investigate whether certain tasks can evoke the use of certain linguistic features [19]. In response, the case study has compared how three Chinese EFL students of different writing proficiency levels modified nouns in integrated writing and independent writing. Based on the findings, the integrated writing can be quite effective in motivating the writers of different writing proficiency levels to use noun modifiers in a more varied or flexible fashion, reduce heavy dependence on highly frequent language patterns, or adopt certain advanced noun modifiers. In particular, the writer with the highest proficiency did not exhibit obvious differences in almost each of the noun modifiers in the two writing types, but she modified the nouns in a more varied way in the integrated writing. The second writer employed advanced noun modifiers more frequently in the reflective essay as a result of topic influence and inflexible writing habit, which suggests limited positive influence from the integrated writing. However, the second writer did not heavily rely on certain familiar chunks or lexical bundles in the integrated writing. Meanwhile, integrated writing motivated the third writer of the lowest writing proficiency to diversify language and employ certain advanced language features, including of phrases as postmodifiers (abstract meanings) and multiple prepositional phrases as postmodifiers.

Nevertheless, the findings of this study should be interpreted with caution. Noun phrase complexity is not

categorically determined by writing type or writing proficiency, but complicated by an array of factors such as writing topic, writing habits, and language use experience. More empirical studies can be conducted to explore the interaction between noun modifiers and other factors concerned. In addition, the generalizability of the findings here has been affected by the small sample size, so future studies are expected to cover more writing samples. The study only presented quantitative data about noun phrase modifiers, while qualitative data collected from questionnaires or interviews are also conducive to revealing the intricate and in-depth cognitive factors behind the use of noun modifiers. In spite of these limitations, the study has revealed the positive role of integrated writing in diversifying noun modifiers, although the effect is not strong as a result of other factors that can hardly be well-controlled in reality. Definitely, the findings can contribute to the existing literature and exert profound for writing teaching and assessment.

AUTHORS’ CONTRIBUTIONS

Yao Peng and Xiliu Liu developed the research problem and research questions and analyzed the data together. Yao Peng drafted the report, while Xilin Liu collected and coded the data.

ACKNOWLEDGMENTS

The authors extend heartfelt thanks to the writers in the study. We also sincerely appreciate the reviewers for their invaluable comments.

REFERENCES

- [1] M. B. Díez-Bedmar, P. Pérez-Paredes, Noun phrase complexity in young Spanish EFL learners’ writing: Complementing syntactic complexity indices with corpus-driven analyses, *International Journal of Corpus Linguistics* 25(1) (2020) 4-35. DOI: <https://doi.org/10.1075/ijcl.17058.die>
- [2] D. Biber, S. Conrad, G. L. Longman, Longman student grammar of spoken and written English, Pearson Education Limited, 2002.
- [3] J. Parkinson, J. Musgrave, Development of noun phrase complexity in the writing of English for Academic Purposes students, *Journal of English for Academic Purposes* 14 (2014) 48-59. DOI: <https://doi.org/10.1016/j.jeap.2013.12.001>
- [4] D. Biber, B. Gray, Grammatical change in the noun phrase: The influence of written language use, *English Language and Linguistics* 15(2) (2011) 223-250. DOI: <https://doi.org/10.1017/S1360674311000025>
- [5] G. Lan, K. Lucas, Y. Sun, Does L2 writing proficiency influence noun phrase complexity? A

- case analysis of argumentative essays written by Chinese students in a first-year composition course, *System* 85 (2019) 102-116. DOI: <https://doi.org/10.1016/j.system.2019.102116>
- [6] N. Jitpraneechai, Noun phrase complexity in academic writing: A comparison of argumentative English essays written by Thai and native English university students, *LEARN Journal: Language Education and Acquisition Research Network* 12(1) (2019) 71-88.
- [7] L. Xu, Noun phrase complexity in integrated writing produced by advanced Chinese EFL learners. *Papers in Language Testing and Assessment* 8(1) 2019 31-51.
- [8] L. Plakans, Independent vs. integrated writing tasks: A comparison of task representation, *Tesol Quarterly* 44(1) (2010) 185-194. DOI: <http://www.jstor.org/stable/27785076>.
- [9] L. Guo, S. A. Crossley, D. S. McNamara, Predicting human judgments of essay quality in both integrated and independent second language writing samples: A comparison study, *Assessing Writing* 18(3) (2013) 218-238. DOI: <https://doi.org/10.1016/j.asw.2013.05.002>
- [10] A. Cumming, R. Kantor, K. Baba, U. Erdosy, K. Eouanzoui, M. James, Differences in written discourse in independent and integrated prototype tasks for next generation TOEFL. *Assessing Writing* 10(1) (2005) 5-43. DOI: <https://doi.org/10.1016/j.asw.2005.02.001>
- [11] X. Lu, Automatic analysis of syntactic complexity in second language writing, *International Journal of Corpus Linguistics* 15(4) (2010) 474-496. DOI: <https://doi.org/10.1075/ijcl.15.4.02lu>
- [12] L. Lei, The study on the syntactic complexity by Chinese English learners, *Journal of PLA University of Foreign Languages* 40(5) (2017) 1-10.
- [13] A. Ansarifard, H. Shahriari, R. Pishghadam, Phrasal complexity in academic writing: A comparison of abstracts written by graduate students and expert writers in applied linguistics, *Journal of English for Academic Purposes* 31 (2018) 58-71. DOI: <https://doi.org/10.1016/j.jeap.2017.12.008>
- [14] G. Lan, Y. Sun, A corpus-based investigation of noun phrase complexity in the L2 writings of a first-year composition course, *Journal of English for Academic Purposes* 38 (2019) 14-24. DOI: <https://doi.org/10.1016/j.jeap.2018.12.001>
- [15] K. Kyle, S. A. Crossley, Measuring syntactic complexity in L2 writing using fine-grained clausal and phrasal indices, *The Modern Language Journal* 102(2) (2018) 333-349. DOI: <https://doi.org/10.1111/modl.12468>
- [16] A. Cumming, R. Kantor, D. Powers, T. Santos, C. Taylor, TOEFL 2000 writing framework. Princeton, Educational Testing Service, 2000.
- [17] S. Bassnett, The translator as writer. The translator as author: Perspectives on literary translation (2011) 91-102.
- [18] L. Plakans, A. Gebril, A close investigation into source use in integrated second language writing tasks, *Assessing Writing* 17 (2012) 18-34. DOI: <https://doi.org/10.1016/j.asw.2011.09.002>
- [19] A. Cumming, R. Kantor, K. Baba, U. Erdosy, K. Eouanzoui, M. James, Differences in written discourse in writing-only and reading-to-write prototype tasks for next generation TOEFL, *Assessing Writing* 10 (2005) 5-43.